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Diseases of Women

**A Manual of Gynecology Designed
for the Use of Osteopathic Students
and Practitioners** ♡ ♡ ♡ ♡ ♡

BY

M. E. CLARK, D. O.,

**Professor of Obstetrics and Gynecology in the American
School of Osteopathy; Member of Operating
Staff of the A. T. Still Infirmary.**

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PREFACE.

At the request of a great many students and practitioners of osteopathy I consented to put in book form my lectures on osteopathic gynecology as delivered before the senior class at the American School of Osteopathy. Realizing the need of osteopathic literature on the subject and the importance of the subject to osteopaths, I have tried to make this book adaptable to the student, teacher and practitioner of osteopathic gynecology. In order to make it as practical as possible I have purposely omitted descriptions of surgical operations and the rare cases of deformity etc., which are seldom met with.

Being the first attempt to put in book form any systematic explanation of the subject as practiced and taught by osteopaths, I would beg you to overlook mistakes and the various faults that usually accompany the first writing on any new subject, namely, crudeness and incompleteness.

I have arranged the subject matter into paragraphs that are numbered and headed with bold type. This is of advantage for teaching and reference, in that it conveniently divides the different subjects, making it easier to find any special subject that is wanted.

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A new departure, new at least in osteopathic literature, has been made, in that illustrations have been attempted. I wish to thank Mr. E. L. Longpre a senior student, for his able assistance in correcting the manuscript and for drafting by pen sketches the illustrations for the cuts, of which some are original and others modified to suit. Credit is due Messrs. Lea Brothers & Co. for electrotypes and also Truax Greene & Co. for furnishing me with cuts of instruments.

Various authors have been consulted and whenever an osteopathic point was found it was incorporated in the subject matter. Cases treated by the author at the Infirmary have been collected and reports given from time to time. Also the obstetric practice in which I have been engaged has been helpful to me. I have been ably assisted by the father of osteopathy, Dr. A. T. Still, who has helped me and guided my teaching. Credit is also due Dr. C. E. Still who has given me many a good point and suggestion in my cases and the preparation of this work. Thanks are due to Mr. F. P. Smith, my stenographer, who has so faithfully helped me in the preparation of the manuscript.

June, 1901.

M. E. CLARK.

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INTRODUCTION.

1. **Gynaecology** is the science which treats of the diseases which are peculiar to women. Since woman possesses organs which man has not, and as the role she plays both physiological and social, differs from that played by man, we would expect to find her afflicted with a number of diseases peculiar to herself, which depend on her makeup, function and habits. As far back as history carries us we find mentioned certain diseases peculiar to women. Instruments have been found such as sounds and various forms of specula, which indicate that uterine diseases were recognized and that attempts were made to correct them very long ago.

Strange theories have been advanced as to the cause of these diseases. One extremest would have us believe that all female diseases were due to local inflammation; another ascribing them to constitutional conditions of which the local symptoms were only an expression. On account of the ignorance of the function of the female genital organs and their relation to disease I think they have been maltreated more than any other organs of the body. One

extreme has followed another; experiment after experiment has been performed and the latest fad or experiment is operation. If the patient has painful menstruation or a chronic abdominal pain an operation is at once advised. I am glad to say that the osteopath does not have to resort to such for relief in the vast majority of cases, but relieves the sufferer without unsexing her by some operation.

2. The Osteopath views these diseases from an entirely different and new standpoint or at least the method of correcting them is new. While some of the causes usually mentioned are recognized, other causes more potent which belong to the realm of osteopathy are regarded as the most important, and by removing these, permanent cures result. The osteopathic idea depends on proper adjustment of both the internal organs of generation and the bony framework in which they are located. Any displacement of either one tends to interfere with the normal blood flow and nerve force, both of which are requisite to health. Pure blood is moving blood and it cannot be pure and be stagnant at the same time. If blood is circulating properly, health must ensue, and that is our object in treating these diseases, to relieve obstructions, both mechanical and vaso-motor, to the proper blood flow.

3. Lack of Care on the part of the patient such as exposure during menstruation, overwork both physical and mental at the time of puberty are common exciting causes of female diseases. At the menstrual period there are vascular and nervous changes taking place which if interfered with, will be the

cause of various chronic uterine troubles. During puberty the development of the uterus and its appendages takes place, and if the nerve force that should be used for their development is directed into other channels by mental or physical work, the pelvic organs suffer.

4 Physiology. The proper performance of the function of the parts is necessary to health and any condition perverting the physiology would result in disease. In this class are included the barren and those who deliberately prevent or destroy the products of conception. The function of these organs is reproduction, and if the function is not performed there will be a disturbance of the health of the organs; for instance, fibroid tumors are usually found in nullipara above the age of thirty. Again those who deliberately prevent conception by the various artificial means, interfere with nature and impair the whole nervous system. Nature will not stand tampering with without rebelling. The least interference with her laws results in disorders which vary with the amount of interference.

5 In the Treatment of diseases peculiar to women, the perverted physiology is relieved in two ways, first, proper care on the part of the patient; second, correction of anatomical derangements. If the bony frame work is properly adjusted, health will follow in most cases. The anatomy of the organs themselves, the neighboring structures and tissues, the nerve supply to and from the organ, the blood supply and the lymphatic circulation are considered. To the osteopath the bony frame work in which they

are located is the most important, and on this account special attention should be given to the lesions affecting the sacrum, iliac bones, lumbar vertebrae and the coccyx. In addition, uterine displacements are corrected, since obstruction to nerve force, congestion or even inflammation result from them, which cause varied and complex troubles. Contracted muscles are relaxed whether the result of thermic influence or due to a bony lesion. Lesions affecting nerve centers of the uterus are adjusted since such impair their function. The nerve centers need very little artificial stimulation if their connection with the brain and uterus is not interrupted, since the body is a self running machine. The rules of hygiene and dietetics should be followed in these as well as in other diseases, that is, have the patient take plenty of outdoor exercise and permit her to eat anything that agrees with her, but caution her not eat too much.

DEVELOPMENT OF THE FEMALE GENITAL ORGANS.

6. **Some Knowledge** of the origin and development of the female genital organs is necessary to a proper understanding of the conditions in which they have failed to attain the normal.

7. **The Date** of first appearance of the genital organs is about the sixth week. The first organs to appear are the Wolffian ducts, one on each side of the body. Originally they are solid cords but afterward become hollowed out so as to form tubes. Shortly after the Wolffian ducts have appeared the Wolffian bodies appear. From the external surface of each Wolffian body a structure develops, known as the genital gland, which subsequently becomes either a testicle or an ovary. The two sexes cannot be differentiated before the eighth week. The upper end of the Wolffian body is attached to the diaphragm, the lower to the inguinal region by a ligament, which ultimately becomes the round ligament of the uterus. This is of interest because it shows that the round ligaments are not in reality ligaments, but consist of tissue almost identical with that forming the uterus. From the Wolffian body is developed the organ of Rosenmuller or the parovarium.

8. **Ovaries.** The point to be considered in the development of the ovary is its descent. Originally the ovary is developed in connection with the

kidneys and as it increases in size it descends, and on this account the blood vessels and nerve fibers are lengthened. In case of ovarian diseases we would expect the lesion to be in the lower dorsal region on this account. The ovary undergoes great changes in shape; at first it is an elongated flattened body, but later it changes its shape so that a transverse section has the appearance of a bean, and finally becomes pear shaped. In the early stages the ovary is represented by a mass of cells developed from the peritoneal covering of the Wolffian body, but soon a protuberance of connective tissue enters from behind into this cell mass. From this we find that the elements entering into the structure of the ovary are the cells which form the parenchyma or glandular element, and the connective tissue or stroma. From this cell mass the ova are developed. Their number is enormous, it having been estimated that the two ovaries together contain about seventy-two thousand ova.

9. The Mullerian Ducts. Shortly after the appearance of the Wolffian bodies there appears a funnel shaped invagination from the endothelium of the peritoneum at the inner side of the Wolffian bodies, which develops into the Mullerian ducts, and is fastened to these bodies by the mesentery. After the bodies disappear it becomes attached to the posterior abdominal wall and finally in the fully developed body, it forms a part of the broad ligaments of the uterus.

From that part of the Mullerian ducts which lies above the round ligaments of the uterus, are

formed the Fallopian tubes; from that part below, together with the lower end of the Wolffian duct, the genital cord or uterus. The tissue that separates these ducts is absorbed and the septum disappears in the lower two-thirds, thus forming the cavity of the uterus, while the insertion of the round ligament indicates the point of division between the tube and the uterus. The fifteenth week witnesses the fusion of the uterine horns and the formation of the cervix, enlargement of the perineum and development of the vagina. Sometimes these Mullerian ducts fail to coalesce and from this arises the condition of uterus bicornis or uterus bifida. In the new born child the cervix is nearly twice as long as the body of the uterus and its walls very much thicker. Sometimes this condition exists after puberty and the name "infantile uterus" has been applied to such condition. If on local examination of a woman above the age of puberty the cervix is very small, it is a diseased condition dependent upon error in development, or a lesion which has affected the nutrition center for the uterus.

During the first ten or twelve years of a child's life the uterus is physiologically dormant, but at the approach of menstruation the organ undergoes great vascular changes with a marked increase in size, which continues until the rest of the body has attained its limit of growth. In Fig. 1 the external organs of generation can be seen.

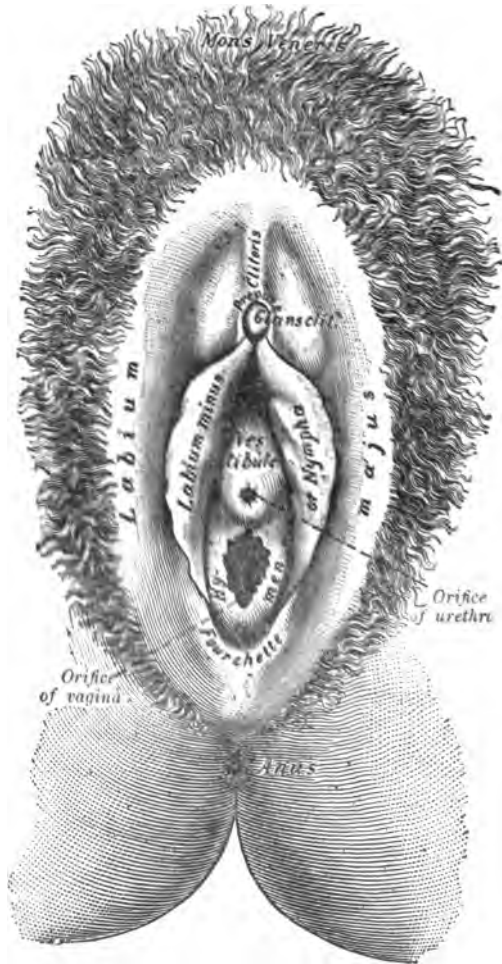


FIG. 1.

The Vulva. The external female organs of generation. (Gray)

THE ANATOMY.

10. Division of the Genitalia. The division of the genitalia are into the external and internal organs. The former with the vagina, form the organs of copulation; the later, the reproductive organs proper. To the external genitals belong the mons Veneris, the vulva and the vagina; to the internal, the uterus, Fallopian tubes and the ovaries.

11. The Mons Veneris is a cushion of fat which covers the pubes. It is covered with short crisp hairs which serve to protect from injuries and perspiration the more delicate parts which lie posterior to it. In cases of threatened abortion or hemorrhage from the uterus, stimulation produced by a quick jerk of these hairs of the mons Veneris will usually stop the abortion or hemorrhage. There are numerous nervous fibrils which terminate in the mons Veneris also a part of the round ligaments.

12. The Labia Majora. The labia majora are two folds of skin which surround the entrance to the vagina, uniting behind, just anterior to the anus and in front, in the mons Veneris. These folds are covered with short hairs which are continuous with those covering the mons Veneris. Numerous sebaceous glands are found which secrete a fluid

which serves to moisten and lubricate the internal surface.

The inner surface is rose color and forms a transition from skin to mucus membrane. In the adult nulliparous woman, the lower edges of the labia majora are in contact, cover all the other parts of the vulva and form a line running in an antero-posterior direction called the rima pudendi. In the aged there sometimes exist a flabby condition of these greater lips and separation results. The point of union posteriorly is just anterior to the anus and is very frequently lacerated during the first labor unless care is used. On either side the round ligaments are inserted into upper part of lips.

13. **The Labia Minora or Nymphae.** The labia minora are two folds of fine skin which lie between the labia majora, becoming much more prominent anteriorly. Anteriorly they bifurcate forming two folds, one going above the clitoris and forming its prepuce, the other below, forming the frenulum. Sometimes there exist adhesions of these two folds which result in a hooded clitoris, which is a cause of various reflex nervous disorders. In the Bushwomen of South Africa the labia minora become very long and extend, in some cases, as far as the knees, this condition being known as the Hottentot apron.

In the newborn child the labia minora extend beyond the labia majora on account of the non-developed condition of the greater lips. These lesser lips are very copiously supplied with sebaceous and mucous glands, and during sexual excitement their

secretion is markedly increased. In case of masturbation the lips are very red and irritable, sometimes very much hypertrophied. Sometimes hystero-epilepsy results from irritation or inflammation of these lips. They are abundantly supplied with sensory nerves which take some part in the sexual act.

14. The Clitoris. The clitoris is an erectile organ which is the homologue of the male organ, the penis. It is composed of the two corpora cavernosa and the glans clitoridis. It is held in position by a suspensory ligament, attaching it to the lower border of the symphysis pubis; about one inch posterior is located the meatus urinarius.

During the non-erectile state, only the glans is visible, but during the erectile stage the two crura which unite to form the clitoris proper can be clearly outlined and have the appearance of an inverted "V." There is an intimate connection between the clitoris and the nipples, both being composed of erectile tissue. Stimulation of the nipples will cause contraction of the uterus and erection of the clitoris. The clitoris is the seat of sexual excitement, and in cases where masturbation has been practiced the glans clitoridis will be found red, irritable and sometimes inflamed.

As mentioned above, this organ may be hooded; adhesions may exist, or in a condition of non-development, which may seriously interfere with the nerve force of the body. Stimulation of this organ produces contraction of the os uteri, while inhibition produces relaxation. Advantage is taken of this by the osteopath in the treatment of dysmenorrhea

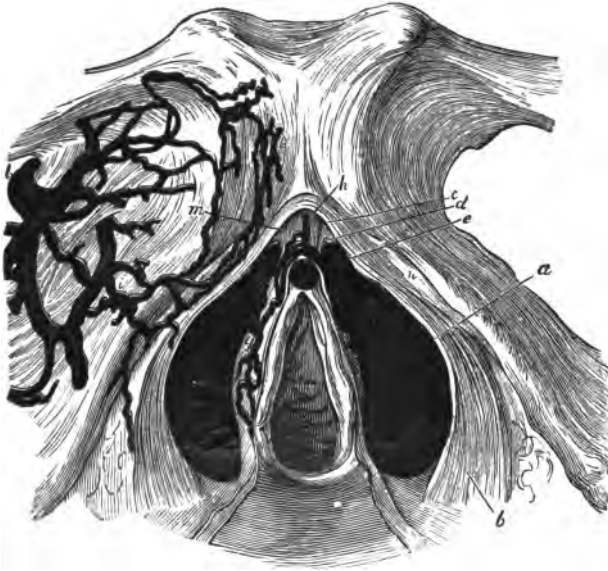
due to the contraction of the cervix lessening the calibre of the os, also during the first stages of labor, inhibition of which dilates the os.

The blood supply of the clitoris comes from the internal pudic by way of the dorsal arteries of the clitoris and the artery of the corpus cavernosum. The veins accompany the arteries, the dorsal vein of the clitoris being the principle one. This vein is the homologue of the dorsal vein of the penis and is one of the principle factors in erection.

The nerve supply comes from the dorsal nerve, which is the termination of the pudic nerve. This nerve terminates in corpuscles and very abundantly supplies the organ. Lesions of the lower dorsal region will affect this nerve, causing either an increased stimulation or inhibition, that is, increased sexual desire or loss of same.

15. Vestibule. The vestibule is a triangular space situated between the lesser lips, bounded anteriorly by the crura of the clitoris and posteriorly by the opening of the vagina. Near the center is found the meatus urinarius, and just below the meatus is a little mucous elevation which is a guide to the introduction of the catheter. Extending from the clitoris along either side of the vestibule are two large oblong masses about one inch in length, consisting of a plexus of veins enclosed in a thin layer of fibrous membrane. These bodies are called *bulbi vestibuli* or *bulbs of the vagina*, and are analogous to the bulb of the corpus spongiosum of the male. These are shown in Fig. 2.

FIG. 2.



The bulbs of the vestibule.—(Jewett.)

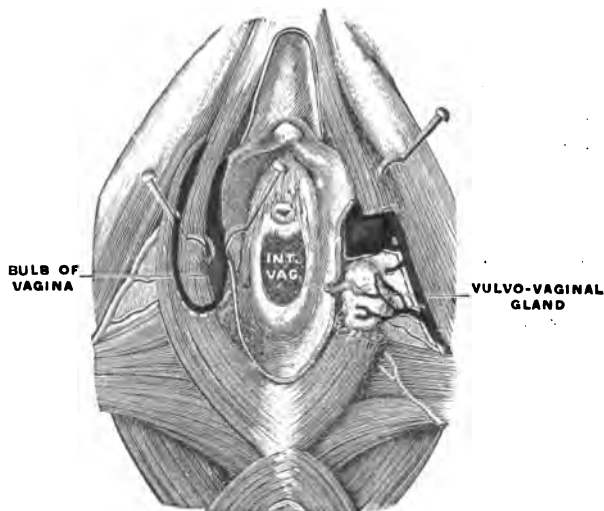
- a.* Bulb of vestibule. *b.* Muscular tissue of vagina. *c, d, e, f.* The clitoris and muscles. *g, h, i, k, l, m, n.* Veins of the nymphæ and clitoris communicating with the epigastric and obturator veins.

Sometimes these veins become enlarged and a tumor is formed, which becomes very painful in some cases. Mucous follicles are located over the vestibule and secrete mucous very freely under any persistent irritation.

16. Bartholin's Glands. On either side of the commencement of the vagina and behind the hymen

are found two bean-shaped, round or oblong bodies, which are analogous to Cowpers glands in the male; these are called the glands of Bartholin and are shown in Fig. 3. They are muco-serous and pour

FIG. 3.



The vulvo-vaginal gland or gland of Bartholin. (The dotted line indicates the limits of the bulb of the vagina —Testut)

their secretions upon the mucous membrane by long slender ducts, which open just external to the hymen. They constantly secrete a glairy fluid, but during sexual excitement this secretion is enormously increased. These glands are supposed to be affected in cases of sexual debility or where there is a flabby condition of the vulva or lower abdominal wall.

Sometimes in cases of difficult labor, inhibition of these glands will cause dilatation of the os uteri.

17. **Hymen.** The hymen is a membranous fold which closes to a greater or lesser extent, the entrance to the vagina. This membrane is usually perforated by one or more openings through which passes the menstrual flow. In structure it is a portion of the vaginal walls which have united to form this membrane. Sometimes in the young this septum is imperforate and amenorrhea or concealed menstruation results. The hymen is usually ruptured at first coition, and on this account it is of medico-legal interest; however, it may persist after copulation, so it can not be considered as a test of virginity. Care should be taken in the examination of a young girl that the hymen be not ruptured; in fact, it is seldom necessary to make a local examination of a young girl, and should be avoided as long as possible. Labor usually destroys the hymen and all that remains are several protuberances, which have received the name of *carunculae myrtiformes*.

18. **The Fourchet.** The fourchet is a thin fold of skin formed by the junction of the posterior ends of the labia minora. It encloses a boat-shaped depression, which is called the *fossa navicularis*. The point of interest regarding it is, that it is either very badly bruised or lacerated at the first parturition.

19. **The Vagina.** The vagina is a musculo-membranous canal which connects the uterus with the vulva. It is continuous above with the cervix and below with the hymen. The axis of the vagina forms

an angle of about sixty degrees with the horizon and is parallel with the conjugate diameter of the pelvis. It has two walls, one anterior and one posterior, which are held in apposition principally by the muscles of the pelvic floor, thus forming an air tight cavity.

The posterior wall is slightly longer than the anterior, being about three and a half inches in length, while the anterior wall is about two and a half inches. On transverse section it has the appearance an "H." The walls are covered with mucous membrane which, in the young and virgins, is thrown into transverse folds or rugae. Various glands are here located which secrete an acid mucous, which acts as a barrier to the passing of micro-organisms into the uterus. Sometimes this secretion is increased in quantity to such an extent that leucorrhoea results.

The vagina has a triple physiological function. During copulation it receives the penis, and during parturition it acts as a protection to the child and helps move it along the curve of Carus. To this is added the above mentioned function of the power of the normal vaginal secretion to kill bacteria and thus prevent disease of the internal organs which would result from pathogenic bacteria. When there is a weakness or the muscles of the pelvic floor, the walls tend to separate, and from this results various uterine displacements. A lesion of the sacrum, fifth lumbar or at the sacro-iliac synchondrosis will affect the innervation of the floor, and the floor drops downward and backward, thus separating the two vaginal

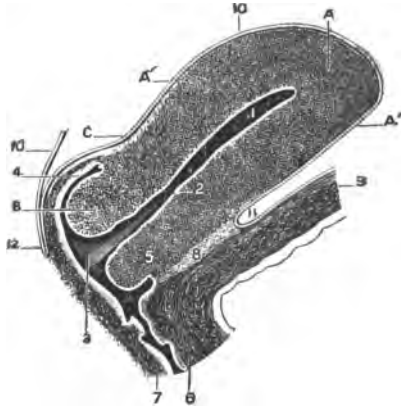
walls. When this occurs, air will enter the cavity which is normally air-tight, and this destroys the equilibrium of the pelvic contents. These points are of special interest to the osteopath in the treatment of prolapsus of the uterus.

The arteries come from the anterior division of the internal iliac or one of its branches, which include the vaginal, uterine, middle hemorrhoidal, vesicle and internal pudic. The veins accompany the arteries and communicate with the internal pudic. The nerves come from the sympathetic vaginal plexus, most of which terminate in end-bulbs. A practical point might be mentioned here in regard to the way a great many people sit. Instead of sitting on the tuber ischii, the weight of the body is supported by the sacrum, and this interferes with the nerve force to the pelvic organs by pressure exerted on the pudic nerve.

20. The Uterus The uterus is a pear-shaped body which is located in the true pelvis, with the larger end upward. It is bounded anteriorly and inferiorly by the bladder, and posteriorly by the rectum. It is divided into two parts, the body or corpus and the cervix or neck, the body being divided into the body proper, which is that part included between the cervix and the entrance of the Fallopian tubes, and the fundus, which is that part located above the entrance of the Fallopian tubes. It is a freely movable body, being anchored by elastic ligaments. It is moved backward when the bladder is filled with urine and forward when the rectum is distended. Its length

varies, the average being about three and one half inches. The portion which extends into the vagina is called the infra-vaginal portion, and that portion of the cervix above the junction of the vagina and the uterus, is called the supra-vaginal portion. The infra-vaginal portion extends about an inch into the upper portion of the vagina and can be encircled by the examining finger. This space or cavity around the cervix is called the anterior, lateral, and posterior fornices of the vagina. Fig. 4 illustrates the rela-

FIG. 4.



Sagittal section of the uterus to show the manner in which the peritoneum is attached.

- A. Body of the uterus. A'. Anterior surface. A''. Posterior surface. B. Neck. C. Isthmus. 1. Cavity of the body. 2. Os internum. 3. Os externum. 4. Posterior fornix. 5. Anterior lip of cervix. 6. Anterior vaginal wall. 7. Posterior vaginal wall. 8. Vesico-uterine septum. 9. Wall of the bladder. 10. Peritoneum. 11. Vesico-uterine pouch. 12. Cul de-sac of Douglas. (Testut.)

tion of the uterus to the vagina and the location of the fornices. The lower portion of the cervix is circular and is pierced in the center by an opening, felt as a dimple in nullipara, as a transverse slit in multipara, which is the os externum. If this slit were extended it would divide the cervix into an anterior and posterior lip. Normally the cervix is hard or of about the consistency of the end of the nose. If it is found to be soft, it indicates a diseased condition or pregnancy. In conditions of sub-involution the os is usually patulous.

The body is triangular in appearance and has three openings, one below, the os of the uterus, and two above, one at either corner formed by the entrance of the Fallopian tubes. It is flattened antero-posteriorly, the anterior and posterior surfaces being free, while the broad ligaments obscure the outline of the edges. The Fallopian tubes are attached to each upper corner; below, the attachment of the round ligaments and just beneath the round ligaments the attachment of the ovarian ligaments.

The cavity of the uterus is small in comparison to the size of the uterus. Its length is about two and a half inches. It is triangular in shape and connects with the various openings. At the junction of the cervix and body is a slight constriction which corresponds to the internal os. It is lined with the endometrium which is so arranged that it has the appearance of an arbor vitae. It is a curious coincidence that this arrangement of the tissues like a tree of life, should be formed in the womb, and that a somewhat similar appearance exists in the

cerebellum, the cerebral organ of the sexual instinct.

The walls are composed of three layers; the serous or peritoneal, muscular and a mucous coat. The muscular coat is also divided into three layers; longitudinal, circular and oblique. The longitudinal fibers predominate in the fundus, while the circular fibers predominate in the cervix. The oblique layer is arranged like the figure eight and the fibers, winding round the blood vessels, form a ligature of the blood vessels during contraction of the uterus.

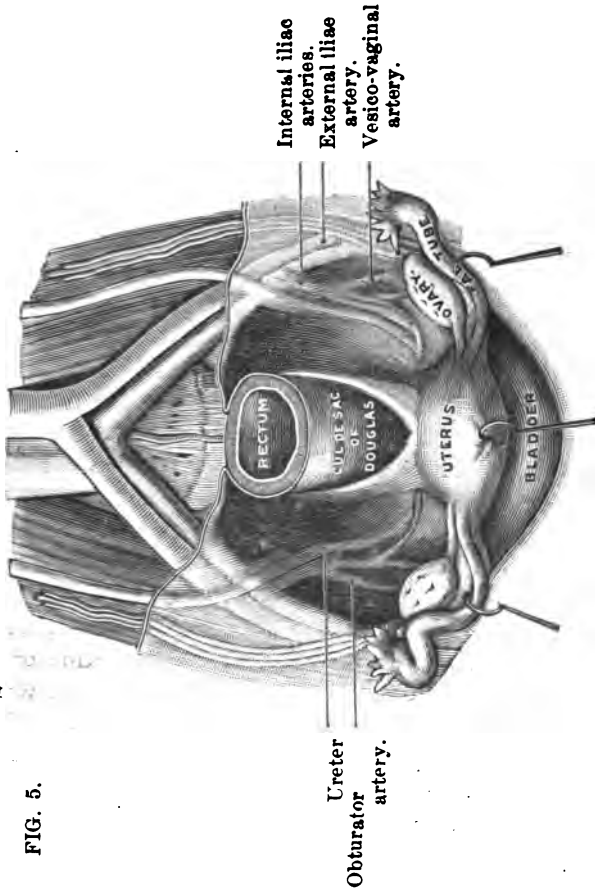
If the axes of the uterus and of the vagina were extended they would meet at right angles; however, this varies according to the distention of the bladder and rectum. In the genu-pectoral position the uterus, if in normal position, will be in a perpendicular line, the heavy end or fundus, down. In treating the various displacements which occur, advantage is taken of this, because it is like a pendulum, that is, it tends toward the perpendicular and very frequently the uterus can be replaced by placing the patient in this position and pulling the intestines from off the uterus. The cervix is regarded by some as a large mucous gland; injury or disease of which produces an abnormal secretion or leucorrhœa.

21. Ligaments of The Uterus. The ligaments of uterus are eight in number, two broad, two sacro-uterine, two round, vesico—and recto-uterine, which serve to anchor rather than support the uterus. Six of them are composed of folds of the peritoneum, the remaining two or round ligaments are musculo-fibrous in structure.

The vesico-uterine ligament is a fold of peritoneum which is attached anteriorly to the bladder and posteriorly to the supra-vaginal portion of the cervix and lower part of the corpus. Its function is to hold the lower part of the uterus in position. Its action is counteracted by the action of the sacro-uterine ligaments. In inflammatory conditions of this ligament, adhesions are likely to be formed which will irritate the bladder, thus resulting in frequent micturition.

22. Sacro-Uterine Ligaments. The sacro-uterine ligaments are two folds of peritoneum which are attached to the anterior surface of the second sacral vertebra and to the posterior surface of the uterus on a level with the os internum. They contain contractile fibers and are called the retractor muscles of the uterus. Between the two passes the rectum, as shown in Fig. 5. In distended conditions of the rectum these ligaments are affected, that is, they are irritated and tend to retract the uterus. These ligaments working in conjunction with the round ligaments, hold the uterus in anteversion, and if both are shortened, anteflexion will result. Also these ligaments prevent the uterus from being pulled down very far, and if there is a condition of prolapsus the tension exerted upon them by the weight of the uterus will result in an irritation of the nerves which make their exit at the second sacral foramen, hence the backache which usually accompanies these conditions.

23. The Recto-Uterine Ligament. The recto-uterine ligament is a fold of peritoneum which con-



The utero-sacral ligaments or folds of Douglas (Testut.)

nects the sacrum and rectum to the lower part of the uterus; it is in fact a part of the sacro-uterine ligaments. This fold of peritoneum which is placed between the rectum and uterus also helps to form

the pouch of Douglas. Adhesions sometimes exist between the two layers of peritoneum forming the walls of the cavity, thus obliterating it and fixing the uterus to the rectum.

24. Broad Ligaments. The two broad ligaments are sometimes called the pelvic diaphragm, from the fact that they divide the pelvis into two compartments. They are two folds of peritoneum which are attached to the sides of the uterus and to the walls of the pelvis in a line extending from a point midway between the sacro-iliac articulation and the ilio-pectineal eminence, downward and backward between the great sacro-sciatic notch and the obturator foramen to the level of the spine of the ischium. The upper edge and surface are free while the others are continuous with the peritoneum. They are composed of two layers between which pass the nerves and blood vessels to and from the uterus, also the ovaries, round ligaments, Fallopian tubes and lymphatic vessels are contained between the two layers.

Here is located a pampiniform plexus of veins which drain the ovaries and uterus. From the fact that the broad ligaments are attached to the edges of the uterus, any forward or backward displacement will necessarily twist these ligaments and compression of the vessels in the broad ligaments results. Inflammation of these ligaments results in ovarian or Fallopian tube disease or lateral displacement of the uterus, on account of their shortening, which is the usual result of inflammation. Most reflex troubles depending upon uterine disease, result from

a twisting or straining of these ligaments, that is, the displacement does not cause very much trouble unless it affects the nerves and blood vessels which are enclosed between the two layers of these ligaments. A great deal of the soreness of the abdomen which accompanies uterine disease, is due to a thickening and congestion of these ligaments, and by replacing the uterus the soreness will usually disappear within a short time.

25. Round Ligaments. The round ligaments are two in number and are attached to the upper corners of the uterus just below the entrance of the Fallopian tubes and terminate in the mons Veneris and labia majora. Their course is first outward, then inward and forward outside the bladder to the internal abdominal ring and then through the inguinal canal, over the pubic bone, where they terminate in the above mentioned places. They are composed of fibrous tissue and unstriped muscle fibers from the uterus. Some arteries and nerves run through their center, and on this account they are contractile.

In diseased conditions of the uterus which cause a weakening of its walls, this weakness extends to the round ligaments causing their relaxation. During fetal life the peritoneum accompanies them, but usually becomes obliterated at birth. Sometimes it is persistent, and congenital female hydrocele results. During pregnancy these ligaments become very large and vascular. Their function is to hold the uterus in anteversion and prevent retro-displacements resulting from coughing or straining at stool. Sometimes these ligaments lose their tone and the

tendency to retro-displacement increases upon any increase of intra-abdominal pressure.

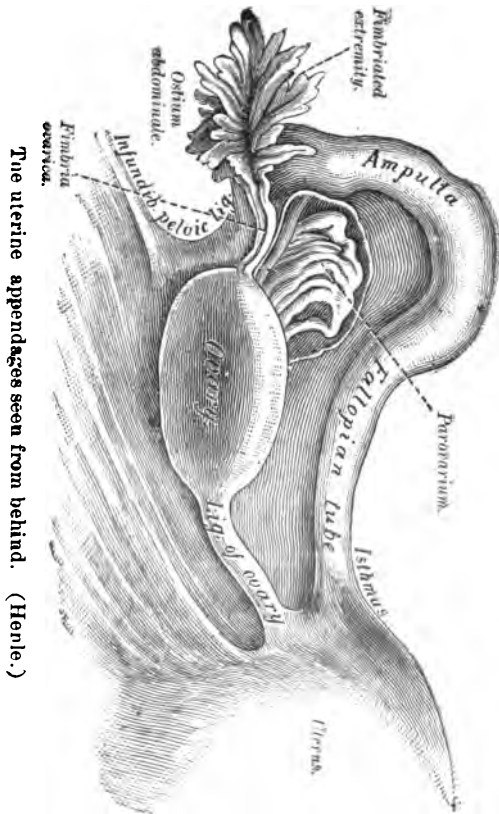
26 Fallopian Tubes. The Fallopian tubes, named after their discoverer Fallopius, are two tubes which connect the ovaries with the uterus. They are from three to five inches in length. The tubes start from each corner of the uterus, going first outward, then turn backward; finally they curve round the free end of the ovaries, sometimes entirely surrounding them. They have three coats; serous, muscular and mucous. Upon the mucous coat is located ciliated epithelium, which helps to convey the ova to the uterus. Each is divided into three parts, the isthmus, ampulla and fimbriæ. The isthmus or part attached to the uterus is the smallest part; the opening of the ostium internum is so fine that it barely admits a bristle.

The ampulla is the middle part and is called the receptacle of the semen, because impregnation is supposed to take place at this point. The fimbriæ or frimbriated extremity is the ovarian end of the tube in which is the opening called the ostium abdominale. This opening is surrounded by fimbriæ which give the tube the appearance of having tentacles.

One of these called the fimbria ovariana, anchors the tube to the ovary and facilitates the passage of the ovum to the tube. Some authors say that these fimbriae are erectile, and during the escape of the ovum, surround the ovary.

27. The Ovaries The ovaries are two almond-shaped bodies varying in size in different people and

FIG. 6.



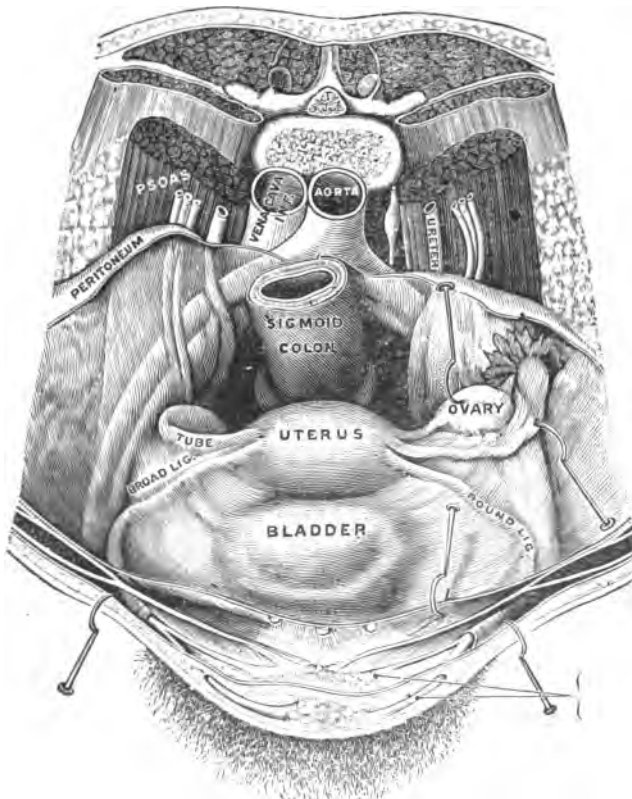
at different times in the same individual, which are attached to the posterior layer of the broad ligaments. They are about one and one-half inches long by about three-quarters of an inch thick. They are regarded as the most important of the pelvic organs. Without them there would be no menstruation, poor development of the uterus and the mammary glands, and in fact the other pelvic organs would be useless.

They are held in position by the infundibulo-pelvic ligaments which attach them to the pelvic walls, and the ovarian ligaments, which connect them with the uterus. The external landmarks are the superior spines of the iliac bones, the ovaries being located about two inches internal and one and one-half inches inferior to the superior spine of the ilium. The size varies according to the age of the individual and the state of the sexual activity. After the cessation of sexual life the ovaries atrophy, diminishing in size from one-half to one third. During pregnancy however, they are doubled in size.

They consist of two parts, the stroma or framework and the parenchyme. They are covered by columnar epithelium, sometimes called germinal epithelium. Immediately beneath this epithelial layer is the tunica albuginea which is composed of fibrous tissue which contains a few muscle fibers

The Graffian follicles are embedded in the connective tissue and contain the ova. During menstruation these follicles rupture, throwing out their ova which are transmitted by the ciliated epithelium and peristaltic muscular contractions to the uterus.

FIG. 7.



The pelvic viscera of women, seen from above (the left ovary and tube have been drawn up into the left iliac fossa. (Testut.)

In diseased conditions or congestion of the ovary there is some interference with the rupture of the follicle, and the ovarian form of dysmenorrhea results. As soon as this follicle ruptures it is filled with a yellowish fluid which is gradually absorbed, resulting in a scar, which is called a corpus luteum. If impregnation does not follow the rupture of the follicle, it is called a false corpus luteum, but if impregnation does take place it is called a true corpus luteum.

The ovary is a very common seat of disease and a favorite organ for operations. The function of the ovary is to secrete and expel the ova, hence any diseased condition affecting this function will result in sterility.

The blood supply comes from the ovarian artery which enters at the hilum; the veins follow the arteries and enter the pampiniform plexus in the broad ligament, from which the blood is carried by the ovarian veins to the renal on the left side, and inferior vena cava on the right. On account of the presence of the rectum on the left and the left ovarian vein entering the renal at right angles, and also the left having no valves, the left ovary is more commonly diseased than the right. The lymphatics empty into the lumbar glands. The nerve supply comes from the inferior hypogastric plexus and the ovarian plexus which receives branches from the renal and aortic plexuses. Fig. 7, illustrates the pelvic organs as seen from above.

28. The Parovarium. Connected with the ovary is a triangular group of small tubules known as the

parovarium, which is the remnant of the Wolffian body. It is rudimentary and has no function. It is of interest to gynecologists in that it is the seat of various growths, especially of the cystic variety.

29. The Female Urethra. The female urethra is a membranous canal from one, to one and one half inches long which forms an outlet to the bladder. The external opening is called the meatus urinarius, which is in about the center of the vestibule. This is surrounded with various glands of which Skene's gland is the most important. Sometimes it is the seat of a vascular tumor called a caruncle, which is very painful. In the introduction of the catheter if you are certain the parts are clean, inspection is not necessary, otherwise it is. It is the seat of various inflammatory conditions both simple and specific which give rise to pain, frequent micturition and vulvities.

30. The Bladder. The bladder is a hollow muscular organ located behind the symphysis pubis, and which acts as a receptacle for the urine. The symphysis pubis is in relation in front and the anterior surface of the uterus and upper surface of the vagina posteriorly. The female bladder is slightly different in shape and larger than the male. It has three openings, two for the entrance of the ureters and one for the urethra. At the triangle formed by the entrance of the two ureters is located the trigone, which is the most sensitive part of the bladder. The uterus partly rests upon the bladder and is changed in position by distention or collapse of that organ. At the upper extremity is attached the urachus or

ligament of the bladder, which is a remnant of fetal life. Sometimes the urachus does not close and the urine escapes at the umbilicus by way of the urachus.

The micturition center controls the action of the bladder. If pressure is exerted on the bladder the sensation is conveyed to the center and then transmitted back to the sphincter muscle which results in evacuation. On this account ante-deviations of the uterus result in frequent micturition. The bladder is an air tight cavity and should be kept as such, and the practice of washing out the bladder in case of cystitis is to be condemned in most cases, it being almost impossible to prevent the entrance of air during the operation. In the introduction of a catheter, care should be exercised as to the lubricant used, since something might be introduced which might form a nucleus around which a concretion may form. Glycerine and vaseline mixed in equal parts is regarded as the best lubricant.

31. The Rectum The lowest division of the large intestine is called the rectum. Although the word rectum means straight we find on examination that there are several curves which are to be considered. It enters the pelvis just in front of the sacro-iliac articulation; it goes first downward, backward and inward in front of the third and fourth sacral vertebrae to the median line. After it has reached the median line it turns forward and lies in contact with the lower portion of the uterus and upper portion of the vagina. Retro-deviation of the uterus can be readily felt through the anterior wall

of the rectum. It is capable of a great deal of distension, and sometimes an accumulation of feces gives it the appearance of a fibroid tumor.

The upper portion is covered with peritoneum, the middle, in front only, by a fold which forms the pouch of Douglas. The muscles connected with the rectum are the two sphincters and the levator ani, the latter pulling the rectum and perineum forward and upward. An interesting fact to be noted is that it develops from below upward, meeting the small intestine, which is developed in the reverse direction, at the cæcum. On this account the nerve supply comes from the lower part of the spinal cord, and advantage should be taken of this in the treatment of constipation.

Relations—The rectum lies between the two sacro-uterine ligaments and is in contact with the left ureter and left internal iliac artery. In front it is separated from the uterus by the pouch of Douglas and sometimes the small intestine. In distension of the rectum produced by constipation, the uterus is forced forward and the circulation interfered with. Again, in retro-deviations of the uterus, pressure is exerted upon the rectum, which may result in constipation, pain in the limbs, this being on account of the pressure against the sacral nerves, and also hemorrhoids may result. On account of the presence of the rectum on the left side and especially if there is constipation, the left ovary is more frequently affected than the right.

The blood supply is from the hemorrhoidal arteries, the veins accompanying the arteries. The

nerves are mostly from the sympathetic, but some come from the sacral plexus. The rectum acts as a receptacle for the accumulation of the feces. Their presence stimulates the sensory nerves which go to the defecation center and the center in return, sends an impulse back to the muscles which control the act of defecation. Sometimes lesions exist which tend to deaden the sense of irritability, hence there must be a greater irritant in order that the center may be reached, and constipation results. Again, the sensory nerves may be irritated thus keeping the center in a state of activity, and from this follows diarrhea.

In practice, the close sympathy that exists between the uterus and rectum is often overlooked. One organ reacts on the other, and on this account various rectal affections are the result of a diseased or displaced uterus, and the treatment should be directed to it instead of the rectum. This remark is especially applied to the condition of hemorrhoids, which we find very common among women.

32. The Pelvic Peritoneum. The pelvic peritoneum is a continuation of the abdominal peritoneum, which, like a cloth, covers the superior portion of the pelvic organs, folds of which drop down between the organs forming their ligaments. Beginning in front, the peritoneum extends from the abdominal wall to the top of the bladder, covering its posterior wall down to the level of the internal os uteri and forming the vesico-uterine ligament. From the posterior wall of the bladder it passes to the anterior wall of the uterus, covering the anterior

wall as far down as the cervix; it then covers the edges, forming the broad ligaments, and posterior surface of the uterus, going as low as the upper portion of the vagina, from which it passes to the rectum, thereby enclosing a space called the pouch of Douglas. The peritoneum covers the anterior portion of the middle third and surrounds the entire upper portion of the rectum. The peritoneum is perforated by the entrance of the Fallopian tubes and on account of this, disease may be transmitted directly into the peritoneal cavity. It has great absorptive qualities and in a case of retention of menses peritonitis may result.

In inflamed conditions of the uterus the inflammation may travel to the neighboring peritoneum and there set up a condition of perimetritis or local peritonitis, this usually terminating in adhesions. These adhesions are in the peritoneal cavity and care should be taken in their treatment lest there be hemorrhage, fermentation of the blood and diffuse peritonitis. The function of the peritoneum is to permit of free motion of the viscera surrounded by it.

33. The Pelvic Floor The pelvic floor is composed of muscles, fascia and connective tissue, which closes the lower opening of the true pelvis. It is usually divided into an anterior or pubic segment and a posterior or sacral segment. The anterior segment is triangular, being attached to the pelvic bones in front and includes the structures lying between the symphysis and the vaginal orifice; the urethra and anterior vaginal walls with

the intervening fibrous tissues, go to form the larger part of this portion of the floor.

The sacral segment includes the structures between the vaginal orifice and the posterior pelvic wall. Included in this are the perineal body, posterior vaginal wall, muscles and connective tissue. Both segments taken together comprise the perineum. The principle muscle is the levator ani, attached anteriorly to the symphysis pubis and posteriorly to the coccyx. It is a swing-like muscle, which, uniting with its fellow of the opposite side, forms the most important part of the pelvic floor. It is called by some the pelvic diaphragm; its action assisting in forcing the blood through the uterus, in defecation, and in holding the posterior vaginal wall against the anterior; in short, it pulls the perineum forward and upward.

The other muscles of the pelvic floor are from without inward; the transversus perinei, the ischio-cavernosus, the sphincter ani, the sphincter vagina and the coccygeus, the levator ani being located deepest. Although these various muscles have been dissected out, yet their function is practically the same, that is, they act together in pulling the perineum forward and upward.

The perineal body is composed of the tissues comprised between the rectum and the posterior vaginal wall. In it are inserted most of the muscles of the pelvic floor. Upon its integrity depends the apposition of the vaginal walls. In parturition this body may be lacerated through ignorance or carelessness, hence the weakening of the keystone

of the pelvic floor. I know of no instance where the osteopath has been guilty of permitting laceration of this body, this being one of the claims for the superiority of osteopathic obstetrics over all other methods. The perineum includes all the structures between the coccyx, tuber ischii and the pubes. Sometimes this is confused with the perineal body, but is a broader term and includes the perineal body. The pelvic floor is the principle support of the uterus and upon its integrity and tonicity depends the position of the uterus.

There is a great deal of difference in the tonicity of the pelvic floor in different people. For instance if I find the vagina large, a leucorrhœal condition and the tissues soft, I at once suspect a displacement of the uterus. If the pelvic floor is weak the two walls of the vagina will not be held in apposition and air will enter, which destroys the equilibrium of the intra-pelvic pressure. The innervation of the pelvic floor comes from the anterior sacral nerves principally from the fourth and a branch from the pudic.

34. The Pelvic Connective Tissue. The pelvic connective tissue surrounds the pelvic organs and fills in the spaces between the muscles that are found in the pelvic cavity. Inflammation of the uterus readily spreads to it and results in cellulitis or parametritis. Sometimes it is the seat of a deep seated abscess, which is very obscure and hard to diagnose. I once saw a case of pelvic cellulitis which had been treated for some months as malaria; but I should not think an osteopath would make a mistake like this.

35. The Bony Pelvis. The boay pelvis is composed of four bones, the two innomimates, the sacrum and coccyx. The cavity is divided into two parts, the true pelvis and the false pelvis. The portion of the cavity lying below a plane passed through the sacral promontory and the upper border of the symphysis pubis in front, constitutes the true pelvis; that part above this plane the false pelvis. The planes of the pelvis vary with the changes in posture of the body. In the erect posture the plane of the inlet forms with the horizon an angle of about sixty degrees.

The practice of wearing high heel shoes changes this angle and tends to change the position of the iliac bones. This in turn affects the muscles of the back, the blood supply of the uterus, and probably, the position of the uterus itself, and weakness and an achy condition of the back is a result. Frequently on examination one side of the pelvis or ilium is found to be slightly higher than the opposite one. Probably this is first noticed by the dressmaker and is regarded as a trivial condition, but to the osteopath it means a great deal.

The articulations are four in number, the two sacro-iliac, the coccygeal and the symphysis pubis. The sacro-iliac is the important one since all displacements of the sacrum and the iliac bones affect these joint. There is usually tenderness over the articulation, sometimes a thickened condition of the tissues covering it or an irregularity of the bones; this indicating a slip of the ilium. The symphysis pubis is formed by the junction of the two pubic

bones. In slips of the ilium, this joint will be impaired, and on palpation it will be noticed that the articulation is uneven, that is, one side is more prominent than the other. If the displacement is of short standing there will be tenderness, but if it has become chronic the tenderness is usually absent. This joint separates slightly during parturition. If the patient is above the age of thirty the labor is usually hard on account of the fixed condition of the joint. The sacro-coccygeal joint is movable, the coccyx being bent backward from a half inch to an inch and a half during delivery. In displacements of the iliac bones the sacro-sciatic ligaments and various muscles are affected.

In tilting of the sacrum in which the upper part is thrown forward and the lower part backward, the tip of the coccyx is drawn forward by the muscles attached to it. The sacro-coccygeal joint then becomes prominent and the angle more acute.

The pyriformis muscle may be drawn across the sciatic nerve causing a congestion of the nerve, which results in sciatica. I usually examine the sciatic nerve where a pelvic disorder is suspected; a congestion of the pelvic organs usually resulting in a congestion of the sciatic nerve, thus producing sciatica. The sciatic nerve is best palpated at a point just midway between the great trochanter and the tuberosity of the ischium.

GENERAL CAUSES OF DISEASE.

36. The Causes of female disease are divided into the predisposing and exciting. The predisposing causes are usually chronic; lesions being the most important. The exciting causes are acute, such as exposure during menstruation, falls, strains, overwork and emotional disturbances.

37. Heredity. Heredity is usually named as a predisposing cause of disease. The defect that may exist in the mother may be transmitted to a daughter, especially if there is a mal-formation or syphilitic disease. Again, if the mother is a sufferer from a chronic uterine disease, the weakness or predisposition to pelvic disease may be transmitted. I think this is the true explanation of the part heredity plays in disease; that is, the weakness, not the disease, is transmitted. On this account it is sometimes well to get a history of the case and to ascertain if a similar condition existed in the mother; if such is found, the prognosis is not so good. It must be also noted that children of parents advanced in life at the time of their procreation as a rule, are less vigorous than those engendered in younger years.

38. Arrest of Development. Up to the time of puberty the internal female organs are, or should be, quiescent. At the time of puberty there is a great change and increase in the nerve distribution to the pelvic organs. These organs become vascular and

commence to perform their physiological functions of ovulation and menstruation. On this account the nerve force should not be directed into other channels at this time, for if it is, there will be some interference with the development of these organs. If, at this period the young girl's nerve force, which is taxed to its limit in the full development of her organs, is deflected by hard study or hard work to other organs or parts, disease will result. The sympathetic or ganglionic nerves are the regulators of organic life and the great channel for nerve distribution to the organs. When in perfect action we have health; when impaired, disease; and when their influence is entirely suspended death follows. They carry nutrition; the smallest capillary being covered with sympathetic filaments. If this nutrition is used to develop nerve cells and muscle fibers instead of supplying the now developing pelvic organs, non-development, or other disturbances as stated above, will ensue.

Many a woman dates her trouble back to the commencement of menstruation, and I find in getting a record of these cases, overwork, either mental or physical, is one of the important causes. Too early development might also be mentioned here. This leads to menstrual disorders, principally menorrhagia. It may also excite ovaritis as a result of the repeated congestions of the ovary.

40. Constipation. Constipation is a common cause or accompaniment of female disease; the vast majority of gynecological patients suffering from it. On account of the proximity of the rectum

to the uterus an accumulation of feces gives rise to local trouble by pushing the uterus out of its place. Habitual constipation causes obstruction to the venous circulation of the pelvis and is a cause of congestive hypertrophy of the uterus, and a varicose condition of the veins of the rectum. The obstruction to the circulation is at first purely a mechanical one, but at last the coats of the vessels lose their tone and, having become habitually over-stretched, are very likely to remain in that distended condition even after the pressure has been removed. Again, the absorption of the gases and liquid parts of the feces affects the blood and headaches, neuralgia and a general tired feeling results.

41. **Dress.** A girl scarcely enters her teens before custom requires a change in her mode of dress. Instead of her clothes being supported by shoulder straps and buttons, the skirts are held up by a number of strings and bands about the waist. I have counted as many as ten different bands encircling the waist. Her waist is drawn into a shape by the wearing of corsets, little adapted to accommodate the organs of the abdominal and pelvic cavities, and as the abdominal and spinal muscles are seldom brought into use they become atrophied. The viscera are compressed and displaced downward and the action of the diaphragm interfered with, and the venous return, from the uterus to the heart, hindered. The uterus being vascular, this blood is collected in it increasing its specific gravity, which forces it downward. The ribs are forced downward until they, in some cases, touch the crest of the ilium.

This forces the diaphragm downward also, since it is attached to the lower ribs. The erector muscles of the back are weakened since the body is supported by artificial means. Degeneration and atrophy of these spinal muscles take place and the patient feels weak and exhausted without her corset.

If at the age of puberty while all articulations are subject to change, high heel shoes are worn, not only the shape of the feet is altered, but the inclination of the pelvis is changed and the normal curvature of the back deranged, a kyphosis of the lumbar region resulting.

42. Celibacy. The function of the female pelvic organs is to procreate and if this is interfered with or not performed, it is an unnatural state and a common cause of disease. Certain forms of fibroid tumors of the uterus are by far more common in the nullipara than in the multipara, this being the result of repeated menstrual congestions and ovarian hyperemia caused by sexual excitements. In cases of dysmenorrhœa the physician frequently advises marriage, probably when he is unable to cure the case. Marriage, when there is an existing uterine disease is usually contra-indicated, it only aggravating the disease, but in some cases of anteflexion of the uterus it is to be recommended.

43. Lesions From the osteopathic standpoint the lesions which are found along the spinal column and pelvic bones are the most important of the predisposing causes.

By a lesion is meant some abnormality either of the articulations or of the muscles; the bones being

partially or completely drawn out of place or the muscles contracted. There usually exists soreness at the point of lesion, irregularity of bones and disturbance of the organ or organs supplied by the nerves taking their origin at that point. These bony lesions along the spinal column may affect the nerves at one of two places; either at the deep origin of the nerve or at its exit. The way the organs are affected depends upon the character of the lesion, that is, the lesion may stimulate the nerve fibers or inhibit them. The lesions affecting the nerves to the pelvic organs are found from the ninth dorsal down, including the different bones of the pelvis. A lesion from the ninth to the twelfth affects the center which controls the blood supply to the ovaries. A curvature or bony displacement of the lumbar vertebræ principally of the fourth and fifth, or a slipped intervertebral disc will affect the vaso-motors of the uterus. A displacement of the sacrum or iliac bones will change the tension of the ligaments of the uterus attached to them, and derange the circulation through the broad ligaments. These are the true predisposing causes of female diseases.

It is easy for a competent osteopath to diagnose the various chronic diseases by the condition of the spine or pelvic bones. For example, if the fifth lumbar vertebra is irregular and sore to the touch, it indicates pelvic trouble. Again, if the ilium is more prominent on one side than on the other, it indicates another form of pelvic trouble or disease. On this account special attention should be directed to the bony framework, for upon its derangement de-

pends nearly all chronic diseases. This is one of the fundamental principles upon which osteopathy is built; it is the greatest point of difference between this science and the various other pathies.

If the bony framework is deranged, the organs located in the framework will of necessity be affected. If these lesions mentioned are found in a case of inflammation of the uterus, all the topical applications known will not cure, although they may temporarily relieve, until the abnormality is corrected. The exciting causes of uterine diseases act with difficulty if this bony framework mentioned is perfectly adjusted. The secretions will be normal, the circulation good, the lymphatics will act properly and the position of the uterus will not become pathological. Gonorrhœa, one of the specific diseases is not liable to attack the parts if the circulation and secretion are normal which is, as a rule, the case when the bony adjustment is proper.

44. Exciting Causes. Childbirth is one of the most important of the exciting causes of disease, especially if laceration has taken place. Tears of the vagina or of the perineum lay the foundation for prolapsus of both vagina and uterus. Laceration of the perineal body injures the keystone of the pelvic floor and so weakens it that it is impossible for the two vaginal walls to be held in apposition.

Laceration of the cervix, which is usually the result or administration of ergot or quinine causing too rapid delivery, prevents proper involution after delivery. From this results a congestive hypertrophy accompanied by a hypersecretion or leucorrhœa and

displacements with their accompanying aches and reflex pains. I am glad to say that the osteopath prevents these lacerations from taking place, therefore, preventing an inestimable amount of disease. Many cases of neurasthenia and hysteria result from a lacerated cervix which keeps the parts irritated and causes a constant loss of nerve force.

It is sufficient at present to call attention to the fact that the cervix is covered with erectile tissue and is therefore supplied with a great many blood vessels, which are enclosed in a net work of nerves from the sympathetic system. Too early rising after confinement before the uterus has contracted sufficiently, often causes enlargement and displacement of the organ. Again, if the patient remains in the dorsal position too long after confinement, retroversion usually results.

45. Treatment. The practice of introducing an instrument into the uterine cavity to correct a displacement, is sometimes the cause of inflammatory conditions of the uterus. The endometrium is a very delicate membrane and although a dull sound is used, the chances are that this membrane will be injured. The practice of curretting the uterus as is ordinarily practiced by the regular physician is to be more severely condemned. Unless polypi or cancerous growths are present, curretting is contra-indicated, because it leaves a raw bleeding surface which results in inflammation or perhaps in infection.

All intra-uterine treatments with sounds, currettes, tents, dilators and pessaries are fraught with

danger on account of the absorptive qualities of the uterine lymphatics. I have examined cases in which pessaries have been found embedded in the tissues of the vagina, they having been there several months. The practice of using pessaries irritates the mucous membrane and keeps it inflamed, preventing nature from healing the part.

Douches are the cause of disease if they are indulged in for any length of time. I have examined cases in which douches had been used and have found that the fornices have been distended, making quite a cavity around the cervix. Caustics applied to the cervix in the treatment of certain forms of disease are injurious and tend to prolong the existing disease. Astringents have also been used, but their use is not indicated except in severe cases of metrorrhagia. Frequent local treatment as is ordinarily practiced is an exciting cause of disease. They should not be given more often than once a week unless in exceptional cases. Often the nervous shock counteracts the good they do.

46. Gonorrhœa. Latent gonorrhœa is a cause of various forms of uterine disease or affections of the Fallopian tubes. The inflammation extends from the vagina through the uterus to the Fallopian tubes. This interferes with ovulation, menstrual disorders and sterility resulting. It manifests itself in a general weakness, backache and soreness over the tubes and ovaries and a chronic inflammation of the parts affected.

47. Exposure During Menstruation is a very common exciting cause of uterine disease. This occurs

very frequently in society people, they refusing to give up the pleasures of the ball-room even for a few nights during the month. I have seen many cases of menstrual disorders which could be traced back to dancing during their menstrual period, getting warm and then cooling off too suddenly. I have seen students sit in a cold class room while they were menstruating, catch cold, the flow stopping, perhaps the starting point of future disorders. Special care should be taken of one's self at this time because exposures usually result in the stopping of the flow, which is detrimental to the organism by causing local inflammations and systemic diseases from retention of the discharge.

48. Traumatism. The osteopath traces a great many troubles to falls, strains and injuries of the back. A fall backward if the bladder is distended usually results in a retro-displacement of the uterus. Unless this is corrected within a short time, the patient becomes a chronic invalid, or at least has chronic uterine trouble. Lifting a heavy weight will often strain the lower part of the back, thus impairing the nerve supply to and from the uterus. Reaching upward while in a strained position or the carrying of platters as do waitresses in hotels is a common exciting cause of female disease.

METHOD OF EXAMINATION.

49. Subjective Examination. When a patient comes into your private office for examination there should be some system or regularity followed in the examination, otherwise some important points may be overlooked. In the examination there should be regard for the patient's feelings, and it ought to be restricted to that which is absolutely necessary.

In the first place a number of points should be ascertained; the age of the patient, whether married or single; length of standing of the disease, and if she has borne children, the character of the labor, whether forceps or other artificial means were used. The next question amounts to this—have you any pain or soreness of any part? Sometimes it is well to ask the patient what is the matter? If there is pain ask her to locate it for you; try to get some measure of its severity, when it occurs, and the length of time it lasts. Try to ascertain the onset of the pain, whether it came on suddenly or gradually; very frequently the patient telling you that it commenced when she lifted a tub of water or when reaching for some article on a high shelf. Ask as to the menses, the date of their commencement, their regularity or irregularity, the quantity, if there is pain and when the pain is in relation to the flow; ask about micturition, whether it is painful or too frequent; inquire about the bowels, whether there is pain in defecation or constipation, hemorrhoids,

etc. Probably it is a good plan to let the patients describe their own cases, which they usually do with a little assistance.

50. Examination of the Abdomen. In order to make a satisfactory examination of the abdomen, all clothing over the part should be removed. The woman should then be placed in the dorsal position. By inspection the general size and contour of the abdomen and the presence of dilated veins or lineae albicantes can be ascertained. The enlargement produced by fat is different from that produced by ascites or fibroid tumors. Palpation of the abdomen is the most important form of examination. At first the physician should secure the patients confidence and after his hands are warmed, proceed to gently and slowly palpate the abdominal and pelvic organs. The patient being in the dorsal position, the limbs should be flexed on the abdomen in order to relax the abdominal muscles. At first the impression should be light then gradually increased until the deeper structures are reached. If the abdominal muscles are contracted it indicates some disease of the parts covered by those muscles; it following the law of Hilton, that the nerves supplying the joint or viscus, supply the superficial structures over the part. If soreness is located, ascertain what organ is affected, whether the uterus or its appendages. Soreness just above the pubic bones indicates cystitis, congestion or inflammation of the uterus; soreness on either side of the median line below the umbilicus indicates disease of the Fallopian tubes or ovaries. Soreness on either side of the

umbilicus indicates an enlargement of the lymphatic glands that drain the uterus. This is indicative of uterine inflammation. In such cases a soft tumor varying in size from that of a marble to a walnut is found at this point.

In diseased conditions of the uterus pulsation or throbbing of the arteries in the neighborhood of the uterus is frequently found. In case of ovarian trouble this pulse is found along the course of the iliac arteries. If this throbbing is found in the neighborhood of the umbilicus or immediately above, it indicates some intestinal trouble. If found at the pit of the stomach it is a symptom of stomach trouble, usually gastritis. This throbbing becomes very painful at times, even preventing sleep by its constant annoying and hard pulsation. I have seen cases where the entire bed was shaken by this throbbing at each heart beat. It is supposed to be caused by a local constriction of the artery due to vaso-motor irritation. Care should be taken in palpating just below the umbilicus, not to mistake the body of the fifth lumbar for an aneurism. Patients will come with a supposed aneurism of the iliac artery, there being found a localized tumor with pulsation. The tumor is the body of the fifth lumbar, the pulsation the result of pressure on the iliac artery. Sometimes tumors are found either uterine or ovarian, which are mistaken for impaction or vice versa; the character of the enlargement indicating which it is. If the tumor is irregular and nearly round it points to a fibroid tumor; if it is oblong and there is a history of constipation and reflex

gastric disturbances it points to an impaction of the colon.

By percussion is ascertained the solidity of the tumor. In ascites the percussion note is changed in different positions of the patient. If the abdomen is swollen and tympanitic it is due to gas on the bowels or peritonitis if it is also tender.

51. Examination of the Vulva. It is seldom necessary to use inspection in the examination of the vulva. As a general rule inspection of the genitals should be made when there is pain, soreness, itching, swelling of the vulva, or when the patient complains of something that has "dropped down." The patient should be placed in the dorsal position with the limbs flexed and separated. It is best to use an endoscope with a small electric light. By this, the parts can be thoroughly inspected with little exposure or embarrassment to the patient. Hemorrhoids, if present, will be the first abnormal condition to be noticed. The external forms which are usually fibrous in character can be seen as a bunch or protrusion around the anus. Separation of the greater lips then reveals the condition of the vulva whether or not there is inflammation, growths or a swollen condition. There may be tears of the perineum and labia produced by parturition. There may be irritable spots causing vaginismus. These irritable spots are located around the urethra and receive the name of urethral caruncles. If the patient is a young girl and masturbation is suspected, the diagnosis can usually be made by examination of the clitoris and lesser lips, they being found irritable and inflamed.

52. Examination of the Vagina. Vaginal examination should not be made in girls before or a little after the age of puberty unless by other methods you have failed to diagnose and correct the disease. In the case of unmarried women it should not be performed except under special conditions. If you have a patient belonging to either class, remember that the rectal examination is usually sufficient, and avoid if possible the vaginal examination. On the contrary, in the case of a married woman whose symptoms point to a pelvic disease, always make the examination. Again, examinations should not be made when the patient is menstruating unless there is an acute displacement causing painful reflex troubles; it being disagreeable and sometimes injurious. Also secure the patient's consent to be examined, never examining a woman without it.

53. Positions. The principle positions used for examining a gynecological patient are the Sims and dorsal. The other positions used are the erect, genu-pectoral and the Trendelenberg positions, that is, with the hips elevated. In the dorsal position the patient should lay with her heels about six inches apart and the knee widely separated. All bands and constrictions around the abdomen should be removed. Usually it is not necessary to expose any part in making the digital examination. This position is used in making the bimanual examination, and also used in making an examination with the bivalve speculum. For the digital examination the Sims position is to be preferred for the reasons named below.

The Sims position is a position in which the patient lies on her left side half turned over on the front. Both limbs are flexed, but the right limb is flexed slightly more than the left. The left side of the face rests on the pillow; the left breast touches the table and the left arm is placed behind the body. I prefer this position in examination, first, because the pelvic cavity may be explored higher up; second, by turning the patient into the dorsal position you can make the bimanual examination; third, you have the advantage of both positions without removing the finger, and fourth, the patient's face is turned from you. The Sims speculum, which is probably the best one for ordinary use, is used in this position.

The genu-pectoral position is used mostly in treating, that is, in replacing a retro-deviation, rather than for diagnostic purposes. The patient rests on her knees, the upper part of the chest, right side of the face and right fore-arm. The thighs should be perpendicular, the uterus then if in position, also assumes the perpendicular with the heavy end or fundus down. The tendency of the uterus to assume the perpendicular when the patient is in the genu-pectoral position is an important point in the treatment of all displacements. A great many displacements can be cured by the patient assuming this position once per day for some time.

The erect position is used in cases of suspected prolapsus, the amount of the prolapsus can be better ascertained if examination is made in this position. The patient should face the physician's left

side with the left foot resting on the round of the stool. The physician should sit on the stool at the patient's left and introduce the index finger of the right hand into the vagina.

The Trendelenberg position is seldom used for diagnostic purposes, but it is used in operations of the abdomen and used in treating a prolapsed condition of the bowels. In this position the intestines are drawn from off the pelvic organs, and is one to be recommended in ante-deviations of the uterus.

54. Vaginal Examination. In making the vaginal examination I make it a practice to place the woman on her left side or the Sims position for the above mentioned reasons, and then turn her over on her back for the performance of the bi-manual. The index finger of the right hand should be carefully lubricated with glycerine, vaseline or some other lubricant. With the left hand the clothes can be cleared away from the hips so as to make a passage for the examining finger, which is passed onward till it reaches the cleft between the buttocks; the finger is next passed forward over the anus, perineal body and fourchet until the pulp of the finger reaches the vaginal orifice. By doing this the clitoris is avoided, thereby preventing sexual irritation and contraction of the muscles of the perineum. The physician must be careful not to pass the finger into the rectum by mistake. This can be avoided if their axes are remembered, the axis of the vagina being upward and backward; that of the rectum being upward and forward. No force is required to pass the finger into the vagina of a woman whose hymen

has been ruptured; whereas, some force is necessary to overcome the resistance of the sphincter ani. The finger, now being at the vaginal orifice, should be carried backwards and upwards along the walls of the vagina until its upward limits are felt. While doing this the physician should note, First, the condition of the vaginal orifice, if there is loss of tonicity which makes it patulous, or the absence or presence of tender spots which produce a spasm or contraction; second the walls, the condition of the rugae, whether there is absence or presence of the same; examine for secretions, heat, tumors attached to the walls or foreign bodies such as pessaries that have been placed there for the purpose of treatment; also note the length and the condition of the walls and the condition of the anterior and posterior fornices.

Third, the cervix, size, shape, condition and consistency of the lips, they being of about the consistency of the end of the nose if healthy and about the consistency of the lips if diseased or if pregnancy exists. Examine carefully to ascertain if it is drawn to one side, if fixed or mobile or if split with cicatrices radiating from it to the vaginal roof. Note especially if one lip is lengthened or if there is an elongated condition of both lips; this indicating a flexion or an infantile uterus. Note the direction of the cervix and its relation to the vaginal walls, because the diagnosis between a version and a flexion depends upon the position of the cervix.

Fourth, the os, its size and shape; it being a dimple in the nullipara, a transverse slit in a multi-

parous woman. The cervix may be slit on one or both sides, thus destroying the os externum and more or less exposing the cervical canal. Bodies projecting through it should be noted, such as polypi, cancerous masses, stem pessaries or fragments of abortion. In the infantile uterus the os is very small, and in condition of subinvolution the os is patulous.

Fifth, the posterior fornix is concave when felt from below upward; normally it has the feeling of the inside of the angle of the mouth. Note whether this cavity is lessened by the presence of adhesions or some foreign body. See if any lump can be felt through it projecting from the pouch of Douglas. A body felt through the posterior fornix is usually a retro-flexed uterus, but may be a prolapsed ovary, feces or a fibroid tumor attached to the posterior wall of the uterus.

Sixth, the anterior fornix; note its shape, depth and if there is any body felt through it. If so, it is usually the anteflexed uterus or a fibroid tumor.

This fornix may be impinged upon by retroversion of the uterus, or the cervix and the vaginal wall may have grown together as a result of an adhesion, this sometimes obliterating both the anterior and posterior fornices. From this examination we have learned of the presence, position of the cervix, consistency of the vaginal walls and size of the external os, these only being preliminary to the bimanual examination.

55. Bimanual Examination. The bimanual method is one of very great importance in the examina-

tion of the pelvic contents. It is one that is used very extensively by the osteopath. It consists of palpation of the uterus between the hands, one internal and the other external. It is performed with the patient in the dorsal position with the limbs flexed. After making a digital examination in the Sims position, turn the patient into the dorsal position without removing the internal finger. With right index finger (sometimes second finger also) in vagina on the cervix and the left with the ulnar side superior to the uterus which prevents retro-displacement, then by approximating the two hands, the uterus can be felt as a lump or body between them. Sometimes in cases of anteversion it is hard to reach the cervix, and in order to lengthen the examining finger the remaining fingers of the hand should be tightly flexed and considerable pressure brought to bear on the perineal body. This causes no pain and by so doing the physician can reach at least one inch further along the cleft between the nates. The external hand should be steadily, not spasmodically depressed, the pressure being steadily increased until the deep structures can be outlined.

The object in the bimanual examination is to determine the position, size, and shape of the uterus, also to recognize any other enlargements or growths that may be in the pelvis. In order to do this successfully it is necessary to know what a normal bimanual is. The following is a description of the conditions found in a nulliparous married woman on vaginal and bimanual examination.

The ostium vaginæ is patulous and admits two

fingers; vaginal walls moist, rugous with no abnormalities. Vaginal portion of cervix normal in size; os uteri felt like a dimple looking downward and backward. No bodies are felt through the lateral and posterior fornices which are concave on the vaginal aspect and have the feeling on pressure, of the angle of one's mouth. In the anterior fornix a body is felt, which on bimanual examination is discovered to be the uterus lying to the front and not enlarged. The fundus and cervix meet at a very large angle. Bimanual exploration of the posterior fornix reveals nothing distinctly palpable. The patient complains of no pain during the whole examination and has no symptoms referable to the pelvis. In case there is inflammation of the vagina or of the uterus, bimanual examination is difficult and the rectal examination should be substituted. The examination is also difficult in stout nulliparous women where the abdominal walls are very thick. At first the bimanual method is unsatisfactory, but by perseverance it becomes more satisfactory in recognizing uterine displacements and pelvic growths. It is a very important examination and by practice wonderful accuracy of touch can be obtained.

56. Examination with the Speculum. The speculum is an instrument so arranged that the two vaginal walls can be separated, bringing the os, cervix and parts of the vaginal walls into view. There are various forms of specula which pattern after two kinds, the Sims and the bivalve.

The Sims speculum consists of two blades of unequal size running at right angles to a shank which

FIG. 8.



Sims Speculum.

unites them. The smaller blade is used for the examination of nullipara, the larger for examining women with large vaginae and for operating. It acts as a retractor, pulling the posterior wall from the anterior thereby admitting air to the vagina and exposing the upper part of the canal, the anterior vaginal wall with the cervix. To introduce the speculum the patient should be in the Sims position, which has been before described. If the opening is small the fore finger of the right hand should be introduced first, then the instrument which has been previously warmed and oiled, should be taken hold of with the left hand and the point inserted on the finger and gradually pressed into the vagina, keeping it well back against the posterior wall. Remember the axis of the vagina, it being toward the hollow of the sacrum, not in the axis of the body.

The advantages of this speculum are its easy introduction, its simplicity, the freedom from pain in

its use, the view it gives of the different parts in their normal position, especially the anterior vaginal wall, and the advantage it gives for manipulation of other instruments. The disadvantages are that it is necessary to have an assistant to hold it in order to make a satisfactory examination.

The bivalve speculum consists of two blades so hinged together that they may be separated by pressure on a lever. To introduce the bivalve speculum

FIG. 9.



Bivalve Speculum.

the woman should be in the dorsal position with the vulva exposed; the two lips are separated with the left hand; the point of the instrument after it has been warmed and lubricated, is introduced so as to conform with the external opening, but as soon as the point enters it should be turned so that the valves become antero-posterior. The instrument should be then lightly pressed inward, downward

and backward until it reaches the cervix. The blades are then opened and as soon as the os comes in view, are fixed with a screw. The os and cervix can be seen by the use of this instrument, but they are forced into a distorted position. There are various forms of these specula which differ in size, manner of separating the blades and the material.

Next comes the question—when should a speculum be used? In my practice I have very little use for a speculum and seldom use it. If I have a case of erosion of the cervix or some fungus growth that I cannot differentiate by digital examination from a laceration of cancerous growth, an examination by a speculum is indicated. Sometimes it is used in the introduction of a sound but I think it unnecessary. It is used by some physicians in order to tampon the vagina or introduce a pessary, but these should not be used except in rare cases by the osteopathic physician, hence the speculum is not a necessary instrument. The endoscope is used to illuminate the cavity of the vagina when a speculum is used and is very useful, since the patient can be examined in a dark room or at least not in front of a window. It consists of an electric battery connected with a one or more candle power lamp with a contrivance for attachment to the speculum.

I want to condemn the use of the speculum as is ordinarily practiced by the physician. The exposure and nervous shock in making the examination does more harm in most cases than it does good. Again, the practice of using it from one to six times each week, weakens the vaginal walls,

admits air into the uterus and has a tendency to produce displacements.

57. The Sound. The uterine sound consists of smooth nickel or silver plated copper wire, blunt at the point and with corrugated flat handle, as shown in Fig. 10.

FIG. 10.

Flexible uterine sound.



It can be bent into various positions so that it will accommodate itself to the various displacements of the uterus. It is used more for therapeutical than for diagnostic purposes. In diagnosis it is used to ascertain the length of the uterine cavity, the size of the canal, the mobility of the uterus and its position in the pelvis. For therapeutical purposes it is used to correct displacements, especially flexions. I think their use is abused in a great many cases. The uterus is lined with a delicate mucous membrane or endometrium and can be readily injured, or the wall punctured by the introduction of any foreign body such as a probe or sound. If the os is patulous a very blunt steel dilator like the one shown in Fig. 11 should be used if one is used at all, instead of the small copper sound. As far as their diagnostic use is indicated, the length of the uterus, the size of the os, mobility and position may all be ascertained by digital and bimanual examination. As regards

its therapeutical use I sometimes use it in flexions or acute displacements if I have failed by other methods, while other displacements such as versions and prolapsus can be corrected by the use of wire or manually.

FIG. 11.

Steel uterine sound or dilator.



To introduce the sound into the uterus the patient is placed in the lateral or semi-prone position with the thighs well up. The instrument is taken lightly by the handle in the left hand while the point of the forefinger of the right hand is carried up to the os uteri which is felt and its direction and the position of the uterus ascertained. This is important to know, because a flexion might exist and unless the sound were bent to correspond to it, the uterine wall might be injured. The sound after it has been warmed and lubricated is introduced along the finger with the concavity toward the perineal body and the handle directed backward. By following the course of the finger, the end of the sound comes in contact with the os, and with a little manipulation it enters the cavity of the uterus. It is then carried along the cervical canal and now the handle is turned with a general sweep so as to bring the concavity anterior instead of posterior, so that it will correspond to the uterine canal. It is

then gently pushed forward until it reaches the fundus uteri which is ascertained by a slight sense of resistance that is felt to the onward passage. If the introduction causes pain it shows that something is wrong and one should withdraw the sound or not introduce it at all. Again, in certain softened states of the uterus it would be possible to penetrate the wall and still cause very little pain.

Some physicians use a speculum to aid in the introduction of the sound. By exposing the os uteri by means of a bivalve speculum inspection can be used in its introduction. The speculum is in the way if the sound has to be turned, and besides it takes a longer time to perform the operation than without it. It has this advantage—the sound can be kept clean so no infection will be carried into the diseased uterine cavity. The usual difficulties experienced in passing the sound are caused by stenosis of the canal or displacements. If the sound meets with resistance it should be withdrawn or slightly turned; never use force in the introduction. If the patient is anxious for you to use a sound, be very careful lest there be pregnancy, the introduction usually resulting in abortion. As I said before, its use is contra-indicated in most of the cases and should not be used indiscriminately. The wire spoon invented by Dr. Still takes the place of the uterine sound as a therapeutical agent and should be used if possible in preference to the sound.

The Rectum. The results obtained by vaginal examinations are limited by the fact that the finger

cannot be pressed very much higher than the reflection of the vaginal walls which form the fornices, although they can be stretched the finger is too short to reach very high. This is partly overcome by the downward pressure of the upper hand of the bimanual, but in other cases where the bimanual is unsatisfactory and it is not practical to make the digital, rectal examination is substituted. In the case of virgins I always make the rectal examination first and if that is not satisfactory, and if the case does not yield to treatment, I then make the vaginal. The rectum should be emptied preferably by the use of an enema. The examiner should be sure that the finger nail is not too long or rough, the mucous membrane of the rectum being highly sensitive. The finger should be thoroughly lubricated, vaseline being most commonly used. The pulp of the finger should then be placed against the external sphincter and there held an instant until the resistance is overcome. Then gradually force the finger forward and upward, noting the condition of the walls, the sphincters, mucous membrane, the presence of piles, fissures, ulcers, etc. Next turn the pulp of the examining finger so that it lies on the anterior rectal wall, through which can be felt the cervix. If the uterus is in normal position this is the only part that can be felt through the anterior rectal wall. By feeling on either side of the uterus with pressure on the abdomen the ovaries can be detected. The object of the rectal examination is to verify the bimanual examination, to take the place of the vaginal and to locate rectal disorders. In cases of displacement

of the uterus the diagnosis frequently depends upon the rectal examination. In forward displacements the fundus is never felt on rectal examination, while in backward displacements it is always felt. In retro-deviations sometimes rectal treatment is given, while in the genu-pectoral position to force the uterus forward into its normal place. In cases of chronic constipation, prolapsus of the bowel or hemorrhoids, I usually make a rectal examination, since the cause of the trouble is frequently ascertained by this examination.

59. The Bladder. Sometimes it is necessary to make an examination of the bladder, which is accomplished principally by palpation. Disturbances of micturition, changes in the urine such as the presence of pus and triple phosphates, and the presence of soreness just above the symphysis pubis indicate cystitis or some other bladder trouble. Various instruments have been invented for the purpose of examining the inside of the bladder, but I regard them as useless in most of the cases where they are used. The bladder is a closed viscus and should be let severely alone and no instruments introduced except in cases of calculi in the bladder or retention of urine, in which case a catheter should be used to relieve the distension. A local urethritis is sometimes formed in cases where a cystitis or acidity of the urine exist. There may be a small undeveloped caruncle which becomes irritated by the urine and which causes marked pain on micturition. In such cases the pain will be referred to the meatus urinarius and a localized inflammation can be seen.

60. Examination of the Pelvis. In making an examination of the pelvis and lower dorsal region, first use inspection. I usually have the patient sit on the edge of the table with her back to me. Then after raising the garments so as to expose the back, first notice the median furrow, its depth, whether flattened, deepened or widened, and its direction. If furrow is deepened it indicates an anterior condition of the spine; if flattened or obliterated, a posterior condition; if direction is changed it indicates a scoliosis or lateral curvature. If the spines are very much posterior especially in the lumbar region, the skin covering them will be discolored, usually a yellowish brown color. This is probably the result of pressure on the spine where the patient leans against the back of a seat. In examining the patient in the sitting posture let her sit naturally, that is, do not tell her to sit erect or bend forward; the weak points showing best while she is in the natural position. If the patient does not sit naturally the strained condition of the muscles obliterates some of the weak parts. Compare the two iliac bones, notice if one is higher or more prominent than the other, the full side usually indicating the affected side. Note the prominence of the sacrum and the posterior spines of the ilium, also the crease between the buttocks, whether it is straight or deflected to one side. Note the inclination of the sacrum and the effect on the spinal column, whether abnormally curved or whether it is flattened indicating an absence of the normal curve. Now place the patient in the dorsal position; compare the an-

terior superior spines of the ilium, their height and prominence. Note the length of the limbs; it is best not to pull or stretch first one limb then the other to ascertain their lengths, but to let the patient lie naturally on the table.

61. Palpation. In palpating the pelvis I usually first sit behind the patient, she either sitting or standing. By placing both hands on the crest of the iliac bones their height and prominence can be best ascertained. Ask the patient if she has to pad one side of the pelvis or if she notices one side being higher than the other; frequently the patient discovers this in fitting a dress. The posterior spines are compared as to their height, width apart and prominence, also the different parts of the sacrum are felt. Feel for irregularities at the different articulations, and especially at the sacro-iliac synchondrosis. A knotted or lumpy condition can be felt at this point in a great many cases. It is indicative of pelvic disease and a slipped ilium. This thickening is probably the result of enlarged lymphatic glands. Note the condition of the fifth lumbar, whether displaced or whether a soreness exists, either one indicating pelvic trouble. Put some pressure over the sciatic nerve at a point immediately behind the trochanter, it being found tender in most cases of pelvic inflammation. Now place the patient the dorsal position, then by placing the hands on in the crest of the ilia note their height, direction of crest and whether or not a tenderness exists. Compare the muscles attached just below the crest; perhaps one side is full, the other shrunken.

Examine the symphysis pubis for irregularities or soreness, either one indicating a slipped ilium. Turn patient on side and examine the lumbar region and especially the lumbo-sacral articulation for displacements or tenderness. I rely a great deal upon the location of the tender spots, they indicating something abnormal; if in a joint, a displacement; if in a muscle an abnormal contraction. This is especially true in acute cases and indicates the organ affected. In chronic cases soreness does not always exist when there is a displacement, and hence cannot be relied upon, but in acute cases it always exists, and furnishes the best means for diagnosis.

In connection with the examination of the pelvis, palpate the lower ribs, note their obliquity, the intercostal spaces and points of tenderness; the displacement frequently causing ovarian trouble or even a worse form of disease such as hysteropilepsy. In palpating the ribs it is best to do it while the patient is sitting. The operator sitting or standing behind the patient, places the hands on the lower ribs, and compares the two sides at the same time; deviations being more readily found in this way.

DISEASES OF THE VULVA.

62. Vulvitis. Vulvitis is defined as inflammation of the vulva; this comprising inflammation of the greater and lesser lips, vestibule, clitoris and the other external genitals. In order to understand vulvitis it would be necessary to know what inflammation is, the changes taking place, symptoms and termination. Inflammation may be defined as an effort on the part of the organism to rid itself of some toxic element at the point where the inflammation occurs. This toxic element may be introduced from without, such as irritating discharges or gonorrhoeal poisoning, or it may arise from within from stagnated blood, which has undergone certain changes. There is a congestion, arterial if acute, venous if chronic, which gives rise to heat, redness, swelling, pain and disturbance of function if the inflammation is a typical one. In treating inflammations it is necessary to know which causes are operating, since upon this depends the cure. There are various forms of inflammation, they being classified according to their severity. In the simplest form we find the catarrhal inflammation, while in cases where there exists a great deal of toxic matter it is called the phlegmonous type.

The cause of vulvitis may depend upon lack of cleanliness, collection of dirt or smegma; the patient not cleansing herself properly after menstruation. This irritating matter gets into the folds of

the vulva; first causing irritation and finally resulting in inflammation. In people who are obese the friction produced by walking, especially in warm weather tends to irritate the parts leaving them in an inflamed state. Irritating discharges resulting from leucorrhœa or incontinence of urine are given as causes of vulvitis. In children the oxyuris or thread worm may migrate from the rectum setting up a pruritus which results in the patient scratching the part, leaving it red and swollen. From this may result pruritus vulvæ or itching of the vulva.

Gonorrhœa is given as a cause of vulvitis, this being found in the lower class of people. On account of the irritation and the character of the secretion it keeps the labia minora red and inflamed nearly all the time. Injuries, the results of traumatism, that is, blows or falls upon the parts cause acute vulvitis, and should be treated from a surgical standpoint. Sometimes pregnancy produces a swelling of the vulva accompanied by a severe itching, but this is rare. In parturition sometimes the vulva is bruised resulting in inflammation especially in cases where the external genitals are very small. The lesions found as a cause of some cases of vulvitis are usually a slipped ilium or a slipped lumbar vertebra, these affecting the vasomotor supply to the part.

The symptoms of vulvitis are those of inflammation, that is, heat, redness, swelling, pain and disturbance of the function. On account of the congested condition there is a hypersecretion of mucus, sometimes even pus is discharged, but this occurs

only in the worst form or phlegmonous type. It is accompanied by a certain amount of pruritus of the vulva, especially when the inflammation begins to recede. Often the habit of masturbation is contracted in relieving the itching and is very hard to overcome. Sometimes there is edema of the vulva in cases of vulvitis, especially if it depends upon pregnancy as the cause. Micturition is interfered with, it usually being frequent, although the inflammation in its early stages may occlude the urethral orifice, this resulting in the retention of the urine. The neighboring glands are swollen, congested and hypersecretion follows.

The treatment depends upon the cause that is found in the individual case. If the inflammation is severe, some emollient application should be used to relieve the heat and burning. The part should be kept clean and should be washed with some mild antiseptic such as a boracic acid solution. If there are bony displacements which are to blame for the trouble they should be treated. The blood supply should be controlled if possible, this being done to a certain extent by treatment applied to the lower lumbar region. If there is a mechanical obstruction to the venous return such as a displaced uterus or prolapsed bowels this should be corrected. When pregnancy is the cause a cure is not probable until after parturition. If the inflammation is of venereal origin, the application of a rose colored solution of permanganate of potassium is beneficial, sometimes even destroying the gonorrhœal germs, it being a germicide. If it is a very bad form of in-

flammation the patient should be kept as quiet as possible to prevent friction and irritation of the part.

63. Disease of Bartholin's Glands. Diseases of Bartholin's glands are seldom seen before the age of seventeen or after the age of forty-five, the disturbances therefore occurring during the years in which the sexual function is most active. Their causes depend upon incidents connected with the sexual functions such as excessive or violent intercourse, masturbation or accidents of pregnancy or labor. In cases where the glands are enlarged there is a hypersecretion of a glairy fluid and is a source of the discharge in leucorrhœa. Their function is to secrete a mucus which lubricates the external genitals; this is more marked during sexual excitement. There is no emission in the female during intercourse but only a hypersecretion, this coming principally from Bartholin's glands. Sometimes erotic dreams cause this hypersecretion, especially if the glands are congested and irritable. By placing the finger over the duct the enlarged gland can be felt, the causes which produce hypersecretion leading also to its enlargement. The orifice of the duct is surrounded by a red areola, giving to it the appearance of the bite of an insect.

Affections of Bartholin's glands interfere with sexual intercourse since the discharge, or rather hypersecretion, comes from these glands and in cases of loss of sexual desire these glands are usually atrophied. When there is increased desire the glands are large, irritable; even an erotic dream

causing a discharge of mucus from the glands. It is the analogue of Cowper's gland found in the male its function being analagous, that is, it secretes a lubricant. In cases where tonicity of the vaginal walls and vulva is lost, Bartholin's glands are usually at fault and leucorrhœa forms one of the symptoms. One has said that a flabby pendulous condition of the abdomen results from affections of Bartholin's glands. In difficult labor dependant upon a rigid os, these glands are inhibited, this helping dilatation of the os uteri. When the duct gets occluded it causes retention of the secretion; thus forming a cyst. This is diagnosed from hernia by its position, shape, size and fluctuation. Abscesses sometimes form in this gland and should be treated according to the rules of surgery. In the treatment of the diseases affecting this gland, remove the sources of irritation, and work on the venous return to relieve the congestion. There should be complete rest of the gland; sexual intercourse being forbidden. Frequently uterine or vaginal troubles such as a loss of tonicity are the primary causes and in such cases the treatment should be directed to those organs. Manipulation over and around the gland is beneficial and especially so in cases of congestion. Cysts can be reduced by opening up the duct with a probe or by direct manipulation over the part; in some cases this forcing the contents out.

64. Pruritus Vulvae. This affection consists of an irritability of the nerves supplying the vulva and gives rise to an intense itching and burning of the part. It is not a disease but a symptom, hence the

treatment should not be directed to it but to the cause. This irritation is either at the peripheral or spinal end of the nerve. The irritation at the spinal end is the result of a impingement or disturbance of nutrition of the deep origin of the nerve. The irritation at the periphery is due to some foreign element such as dirt or acid discharges.

The cause of this affection may be dirt or accumulation of smegma after menstruation and sometimes it is due to the oxyuris or thread worm which has migrated from the rectum to the vulva. Sometimes pessaries are the cause, especially so if they are ill fitted and irritate the vaginal wall, which causes an acid secretion. In vulvitis especially during the healing state, there exists a certain amount of itching, this indicating that the part is healing. Diabetes may cause pruritus on account of the irritating material found in the urine which is deposited around the meatus in the vestibule, giving rise to a local irritation. Any irritating deposits in the urine or an acid condition of the urine as found in acute rheumatism may cause the itching. Abnormal discharges from the vagina such as leucorrhœa is a common cause especially if it is a chronic form and the secretion has dessicated. The discharges from a cancerous condition will also produce irritation which gives rise to the itching. Frequently at the menstrual time or just before, or after it the patient will complain of itching of the vulva and in some cases it is almost unbearable. I had a case recently of this kind, which could only be relieved by a douche as hot as could be borne. Congestion of

the vulva will usually give rise to the itching; this congestion most frequently being the result of pregnancy. This itching often accompanies the menopause giving rise to various nervous symptoms. To the osteopath the lesions found in the region of the fifth lumbar are the most important. Also lesions are found at the junction of the sacrum with the ilium, which disturb the nutrition of the part.

This trouble is similar to pruritus ani or itching piles; the two sometimes are found in the same subject, the lesion being almost the same in the two affections. In the beginning the irritability is very slight and annoys the patient very little, sometimes existing only after exertion in warm weather, upon exposure to artificial heat, or during menstruation. The rubbing or scratching of the part aggravates the trouble, rendering the skin tender and the nerves more sensitive. As the disease progresses the irritation increases, the patient is bereft of sleep at night, avoids society and becomes melancholy; sometimes the affection even terminating in insanity. On account of the loss of sleep the nervous system is affected, sometimes nervous prostration ensues. In children masturbation frequently follows and when once contracted is very hard to overcome. On palpation soreness is found at the fifth lumbar sometimes radiating over the hip bones.

In treating this affection it is necessary to find the primary cause of the disorder. If due to external irritation such as an accumulation of filth, leucorrhœa, acrid discharges or parasites remove the

source of irritation by thoroughly cleansing the part. As a rule local applications do very little good because they do not reach the cause of the trouble. Treatment over the sacrum and fifth lumbar, correcting such lesions as are found is the most satisfactory method of dealing with this trouble.

65. Varicose Veins of the Vulva. A varicose vein is one that has distended to such an extent or for such a length of time that a part or all of the elasticity of the walls has been destroyed. This distention is due to obstruction of the venous return. In case of varicose veins of the vulva, it is due to obstruction of the veins draining the vulva, this obstruction usually being caused by pregnancy. The parts affected are the bulbs of the vagina and the labia majora. Sometimes these bulbs are enlarged and can be readily felt on palpation. This gives rise to a swelling of the vulva attended by a hypersecretion. The treatment consists of removing the obstruction and if due to pregnancy, little can be done until after parturition. If due to enteroptosis, the intestines should be drawn upward thus allowing the blood to drain from the vulva. Strong treatment in the back frequently helps the condition by strengthening the vaso-motor supply to the part.

There are various other affections of the vulva, but only their names will be given on account of their scarcity. I saw a case of atrophy of the greater lips accompanied by hypertrophy of the lesser, in a subject which was the victim of masturbation. Elephantiasis is found in tropical countries

but is rare in this country. Tumors such as fibroma, lipoma and rarely carcinoma, have been found affecting the vulva. Once in a while a condition called a hooded clitoris is found and is the cause of various nervous troubles such as epilepsy and other forms of spasms. It may be the result of non-development but usually the result of adhesions which bind the glans down. In either case it is a source of irritation and is the cause of various reflex troubles. To illustrate this I saw a case where there was spasmodic twitching of the limbs which came on daily, that was due to adhesions of the clitoris which on being removed gave immediate relief.

66. Vaginitis. Vaginitis or colpitis is an inflammation of the mucous membrane of the vagina. The mucous lining of the vagina resembles in structure that of the skin very closely, having few if any submucous glands. The vaginal secretion is acid and is germicidal in action, that is, during health. During the menstrual period, the puerperium and in case of leucorrhœa, the discharge is faintly acid or alkaline—a condition favorable to the growth of micro-organisms. Kronig asserts that all secretions alike contain no pathogenic germs. All secretions are equally germicidal, though the vitality of the germs differs. It takes twice the time to kill the staphylococcus as it does to destroy the streptococcus. The vagina infected with germs will become aseptic in two or three days. Any injection or douche which weakens or washes away this secretion, lessens the germicidal action. This is proven

by the investigation of various writers. In a series of experiments Kronig found that a solution of corrosive sublimate for irrigation, destroys the germicidal action, probably by precipitation of albumen, while plain water but lessens it. From this it is necessary to infer, that injections of corrosive sublimate or water are prejudicial. Menje in his investigations on the nonpuerperal woman introduced pyogenic organisms into the vagina in eight patients and found that the vagina cleansed itself from these organisms in periods varying from two and one-half hours to three days. I quote this because it illustrates the osteopathic theory that a mucous membrane is self cleansing, its secretions germicidal and washes impair its vitality. I have had a number of cases which conclusively prove to me that the above statements are true. The liquor amnii is another antiseptic fluid designed by nature to protect the internal organs. After a delivery of a child in which the fingers were covered with this fluid I have noticed that they were wrinkled and the skin drawn up. This is not entirely due to the amniotic fluid but to the vaginal secretions. I mention this to show how complete the body is in resources to protect itself and to show that disease especially vaginitis, usually comes from external causes, and that pyogenic bacteria are introduced by instruments or douches.

The varieties of vaginitis depend on degree of the inflammation, usually being divided into the simple and the specific. This classification into the simple and specific vaginitis depends on whether

the toxic elements arise from within or are introduced from without. Simple vaginitis depends upon some toxic element which has been produced by the changes that have taken place in the stagnated blood. Blood in order to be pure must be moving blood and if the rapidity is lessened, vitality is lowered, but if the flow is entirely stopped, fermentation and putrefaction follow. In the specific form the toxic element is introduced from without; the gonorrhoeal form being the most common.

67. The Causes of simple vaginitis are injuries to the walls by means of some instrument as in an attempted abortion, irritating discharges, injections too hot or too cold, or containing injurious chemical agents, caustics, decomposing compounds or pessaries that have been left in the vagina for some time. Any lesion affecting the vaso-motor center will cause congestion and unless corrected, will terminate in inflammation. The most common lesion is at the lumbo-sacral articulation or at the sacro-iliac synchondrosis. I saw a case recently where the lesion was at the fourth and fifth lumbar, but usually in those cases an endometritis complicates the vaginitis. In inflammation of the cervix uteri it may travel by continuity of tissue to the vaginal walls and there set up a secondary inflammation. Subinvolution following childbirth often is the cause of a chronic form of vaginitis, since the vaginal walls as well as the uterus involute after delivery.

The specific form is caused by gonorrhoeal infec-

tion. It is hard to cure on account of its tendency to spread to the uterus and Fallopian tubes and there set up a chronic inflammation.

The symptoms of vaginitis are those of inflammation. There is heat, sense of dryness and burning of the vagina. This extends to the urethra causing a frequent and burning micturition. At first there is little or no secretion, but in a few days there is a leucorrhœal discharge of offensive odor. Pains of a throbbing character are referred to the pelvis and groins. There is redness and excoriation of the vaginal opening. The labia are swollen, red and irritable, vaginal examination causes great pain and often cannot be tolerated. The inguinal glands are frequently sore and enlarged, their function being to collect the toxic elements resulting from the inflammation and prevent them from being thrown into the general circulation. The above symptoms vary with the degree of inflammation; they being lessened or some of them being absent in the simple form, while in the aggravated form they are exaggerated. The symptoms of the second form of vaginitis are similar to the simple form, but are more acute. The parts are in the beginning very tense, red, hot and dry, but after a few days a muco-purulent discharge appears. Its diagnosis depends upon the presence of the gonococcus of Neiser.

In making a microscopic preparation, obtain the secretion, spread in a thin film on a clean glass slide; allow to dry in the air then pass it through the flame of an alcohol lamp two or three times, being careful

to have the pus side turned up. A drop or two of dilute water solution of one of the aniline dyes, methyl blue being commonly used, is then applied by a glass rod and left on for two or three minutes, when it is then washed off with distilled water. The specimen should then be carefully dried, mounted in Canada balsam and studied with a high power oil immersion lens. When a patient comes to you suffering with some form of vaginitis, be careful as to the diagnosis you make and do not mistake a simple vaginitis for a specific, since social happiness may depend upon your diagnosis.

Treatment consists in first removing the poison and second restoring normal circulation. If there is any irritating discharge, treat the source of that discharge. If a lesion is found or there is a displaced uterus, correct the disturbance; in short, treat any abnormality which may affect the vasomotor supply of the vagina or interfere with the venous return. Washes and douches are usually prescribed, but should be used only for cleanliness sake. Local treatment over the sacrum and stimulation over the lower lumbar region will help, also treatment over the abdomen to remove the pressure exerted by the intestines. If the inflammation is of specific origin, use as a wash a warm rose colored solution of permanganate of potassium three times daily until the microbes are destroyed, this generally taking about a week. As a rule it is not policy for the osteopath to treat venereal diseases and they should be turned over to the specialist.

68. Vaginismus. This affection consists of a

peculiar hyperesthesia of the nerves of the mucous membrane of the vagina; irritation of which produces spasmotic contraction of the muscles surrounding the vagina. It is a very rare disease found in young nervous, hysterical women. It is not really a disease but only a nervous condition, sometimes local and sometimes general.

It is usually produced by some local irritation such as an urethral caruncle or a diseased hymen. Sometimes the remains of the hymen continue to be irritable for some time after it has been ruptured, this giving rise to great pain during an attempt to make an examination or intercourse.

If the patient's general nervous system is impaired the nervous form of vaginismus will be produced, there being no local disturbances. The hyperesthesia is general as is manifested by the nervousness and general tenderness. Vaginitis is a cause of this condition producing contraction of the sphincter muscle whenever an attempt is made to make a local examination. Lesions found in the lower lumbar region affect the innervation to the vagina and if the lesion irritates instead of inhibits the nerve, vaginismus will result.

The symptoms are those of dyspareunia and spasmodic contractions whenever an attempt is made to give a local examination. So soon as the finger comes in contact with the site of the hymen the patient will complain of agonizing pains and become very much disturbed in her nervous system. Should the examination be persisted in, the introduction of the finger will be found almost impossible and if

forced into the canal it is tightly grasped by the sphincter muscle. The affection gives rise to general nervousness and irritability, being a real distressing form of disease.

The treatment consists of strong inhibition of the nerves supplying the vagina. This is best applied to the posterior sacral region. Rectal tenesmus is a similar trouble and can be relieved by a similar treatment. Vesical tenesmus can also be relieved by inhibition of the nerves innervating the part. Sometimes this disease is treated by a dilatation of the vagina either by a glass dilator or the finger. By doing this the contraction is forcibly overcome, this being good only in a few cases. By the osteopathic method the constrictor muscles are relaxed by inhibiting the nerves supplying them, physiological dilatation resulting.

69. Cystocele. Cystocele or vesico-vaginal hernia consists of a descent of the bladder so as to impinge upon the vaginal canal. It is really a prolapsus of the anterior vaginal wall, which is the principle support of the bladder. Any part of the vaginal wall may prolapse forming a rectocele, enterocele or cystocele; the last being the most common.

Child birth is the most common cause of this condition, the wall being so enormously distended in some cases that its tonicity is lost and the bladder pushes it outward and downward. If the wall is bruised in delivery it will be weakened and a heavy distended bladder may cause a prolapsus. The bladder should be emptied soon after parturition on

account of its increased weight and the weakness of its support. Laceration of the perineum weakens the vaginal walls, hence may be the cause of either cystocele or rectocele. Straining at stool forces the pelvic contents downward, and if the support is weakened there is a tendency to prolapsus of the different organs. Subinvolution is a cause, since it weakens the vaginal wall and if there is an overloaded bladder it may produce cystocele. The osteopathic lesions associated with this trouble are located in the sacral and lumbar regions since the nerves supplying the vaginal walls originate there. Any lesion which shuts off a part of the nerve force, weakens the muscle which is supplied by that nerve. Since cystocele is the result of the weakening of the anterior vaginal wall we must go to the innervation for the cause, it being found in the muscular or bony lesions which inhibit the nerve force.

Frequent and imperfect micturition are the principle symptoms of this trouble. The bladder being forced downward produces an abnormal curve of the urethra which prevents the bladder from entirely emptying itself. The retained urine decomposes and sets up a cystitis. There is pain, a burning or scalding sensation, and vesicle tenesmus whenever an attempt is made to evacuate the bladder. On local examination a tumor will be found on the anterior wall of the vagina which can be removed by the use of a catheter, sometimes it will disappear on pressure over the part, especially so if the patient be placed in the genu-pectoral position. There is a dragging sensation or feeling of weight, this

being more marked if the bladder is not emptied frequently. Prolapsus of the entire vagina and sometimes the uterus accompanies this condition. I saw a case recently that had been diagnosed as cystocele, but on close examination it proved to be a prolapsus of the uterus and the vaginal walls. The cervix was forced down upon the anterior vaginal wall almost to the external orifice, producing a tumor, a sense of weight and interference with micturition.

The treatment consists in relieving the pressure and restoring the tonicity of the supports of the vagina. The pressure can be relieved by frequent evacuation of the bladder, if necessary, by the use of a catheter. Sometimes the folds in the vaginal wall must be straightened out in order to remedy the curve existing in the urethra. The supports of the bladder can be strengthened by correcting the lesions which interfere with their innervation and strong stimulation over the sacrum to increase their tonicity. Local treatment is indicated in some cases to push the bladder up and correct the prolapsed condition of the vagina. It consists principally in a circular motion of the finger, in other words a rimming out of the vagina. Astringent douches have been advocated; they will probably relieve in some cases but will not cure. Sometimes an operation is resorted to to produce narrowing of the anterior vaginal wall; this operation being called colporrhaply.

70. Rectocele. A rectocele is a tumor produced by the rectum forcing forward the posterior vaginal

wall. Sometimes other structures will force it forward, yet the tumor is still called a rectocele, although technically, rectocele is a tumor produced by the rectum. The causes are similar to those producing cystocele except that constipation takes the place of a distended bladder. Any lesion as mentioned above which affects the tonicity of the vaginal walls will produce either rectocele or cystocele if pressure is exerted upon them. In case of rectocele the pressure is exerted by a distended rectum.

Among the symptoms are found constipation, hemorrhoids, tenesmus, rectal irritation and sometimes inflammation. On vaginal examination the tumor can be found bulging into the vaginal canal. On rectal examination a fossa or depression will be found corresponding to the cavity of the tumor. This is especially noticed in the aged. In such cases there will be found on rectal examination, a cavity sometimes two or more inches in width. The feces collect there and the rectal wall is depressed, giving rise to chronic constipation.

The treatment is similar to that of cystocele, that is, endeavor to restore tonicity to the vaginal walls. Relieve the constipation if possible, that being a very important part of the treatment. In case the perineal body is torn it should be repaired since the walls will be weak so long as that injury exists. Local rectal treatments are advisable to remove the folds of the mucous membrane of the rectum. It gets rolled down upon itself and mechanically obstructs the the lumen by pulling down the internal sphincter muscles with it.

71. Other Affections of the Vagina. The vagina is the seat of various other affections such as innocent and malignant growths, papillae, injuries and abnormal discharges. In cases in which there is a twisted pelvis, displaced ilium or sacrum, the blood may become stagnated in the vaginal walls. This venous congestion gives rise to abnormal discharges which is called leucorrhœa. The walls are smooth and covered with a slimy fluid. Rugae are absent and the canal can be dilated to a very great extent. The tonicity being lost they tend to prolapse, and with it prolapse of the uterus, since they form one of the principle supports of the uterus. Along the vaginal walls are found transverse folds or wrinkles which have been formed by the relaxed walls rolling upon themselves. These not only show that the walls are weakened, but diseased and malnourished.

72. To Correct this kind of condition the nourishment to the part must be restored, which is done by correcting the lesion found. Do not diagnose by symptoms alone, they perhaps help, but examine the anatomy; look for some anatomical abnormality; this is the osteopathic idea. In cases of prolapsus of the vagina, the application of astringents only temporarily increase the tonicity; the walls receive no nourishment from them. They cannot build up a part that is weakened by malnutrition. It is treating a symptom, not a cause. Sometimes it is beneficial to introduce the finger and smooth out the folds which exist, but the principle treatment is to correct the lesion found.

73. Injuries to the Vaginal Walls occur in some cases of labor, this can be avoided in most cases by our treatment, that is produce relaxation of the constrictors so as to allow the fetal head to pass. Sometimes foreign bodies are introduced into the vagina, or the walls injured by the patient in the practice of masturbation or in the production of abortion. I once knew a case of a patient who made a practice of introducing a tallow candle into the vagina in masturbation; it melting, set up a peritonitis that proved almost fatal.

74. Douches. A douche consists of the injection of a fluid into the vagina or uterus. The fluid may be water, hot, lukewarm or cold, or it may be medicated. It is a practice that is indulged in by women for the sake of cleanliness or for therapeutical purposes, and has become such a common one that it is necessary to call attention to some of the evil effects that result from its use. Daily douches are recommended by physicians if there is pelvic inflammation or leucorrhœa. The theory is that the inflammation can be reduced and the leucorrhœal discharge stopped, they forgetting that these are only symptoms of some other disturbance. Douches in which there is alum or witch hazel are also advised for the above, to be used either one or more times per day. I have asked patients why they use the douche so often, they telling me that their physician advised it in order to cure the prolapsus or leucorrhœa, or whatever disease existed. Perhaps I will cause some criticism when I make the statement that they are seldom indicated, and in most cases are

positively harmful when used as physicians direct.

Let us again consider the secretion of the vaginal walls. It is acid, germicidal and will repel microbic invasion. Let us examine a mucous membrane; it is self cleansing, self purifying and will, if nutrition is not cut off, take care of itself. Again, what is the affect of water, especially lukwarm water as is generally used, upon the membrane? It washes away the secretion, dilates the vessels, slows the circulation through the membrane and impairs the secretion. It washes away the vitality from the parts leaving them in a lifeless condition. As an example, examine the hand of a washerwoman after she has had her hands in water for a little while; the fingers will be drown showing an impairment of the nutrition. If the practice of using douches is indulged in for some time, atony must follow with its prolapsus, leucorrhœa, weakening of the constrictors and a distended condition of the fornices. I can tell in most cases by a local examination whether the patient has used douches for any length of time. It causes a deepening of the fornices, leaving a cavity sometimes over an inch in width around the cervix. No wonder prolapsus uteri follows this condition.

In cases of putrid discharges, a douche is sometimes indicated, it depending on the individual case. This is given for the sake of cleanliness, not as a curative agent. As a rule, one is indicated after the menses have completely stopped in order to remove the odor which clings to the vagina and vulva, but not before, as the flow will be disturbed by it.

In case of malignant disease a wash is sometimes used if the odor is very marked. As a substitute for douches as therapeutical agents I would offer the idea of correcting the anatomical lesion which is causing the weakness or abnormal discharge, instead of applying water to the symptom.



AFFECTIONS OF THE UTERUS.

75. The Importance. The uterus on account of its location, function and the ease with which it is disturbed, is one of the most frequently affected organs of the body. It may be affected in various ways; displaced, inflamed, growths occurring upon it, all of which disturb the sympathetic system which is so intricately and abundantly distributed to and around it. The uterus, being the organ in which gestation occurs, it has a very close connection with the vital organs of the mother, since life and nourishment are carried from one to the other. In order to carry nutrition to grow a fetus, the nerve and blood mechanism must be very highly developed. Although this is not so markedly developed before pregnancy, yet the nerve distribution is about the same, a few new nerves are formed during the pregnancy, while the existing nerves are hypertrophied. I mention this in connection with pregnancy because that is the special function of the uterus; to prepare a place for an ovum, to develop and nourish it while in utero and then expel it at the end of the term. Anything which disturbs this function is a cause of uterine disease since it interferes with nature's laws.

Again, on account of the intimate nervous connection between the uterus and other organs, they may be affected when the uterus is diseased. All

organic life is run by the same force; this force to us, is the great sympathetic system which follows all arteries and veins, controlling the nourishment and function of each organ. If this system is disturbed in one place the next weakest point will suffer secondarily. For instance if the stomach is weakened by a lesion in the splanchnic area, a displacement of the uterus will affect the stomach causing various troubles, such as nausea, vomiting or formation of gas. Various other organs are affected sympathetically, that is, by way of the sympathetic system, the exciting cause being a disturbance of the pelvic organs to which the sympathetic system is most widely distributed, and with which the other viscera are so closely connected.

76. Relations of the Uterus. A displacement of the uterus will directly affect the adjacent organs or indirectly, as mentioned above, the visceral organs which are innervated by the same nerve force. The neighboring organs are the bladder in front and below, the rectum behind, the intestines above and on either side. The expulsive force acting on the rectum affects the uterus and bladder as well. Hence in straining at stool if the uterine supports are weak, there is a tendency to prolapsus of the uterus, this in turn affecting the vaginal walls, Fallopian tubes and ovaries, in short, a disturbance of all the pelvic organs; on account of this intimate relation existing between the different organs both nervous and anatomical, a displacement of one affects all, producing congestion and probably inflammation.

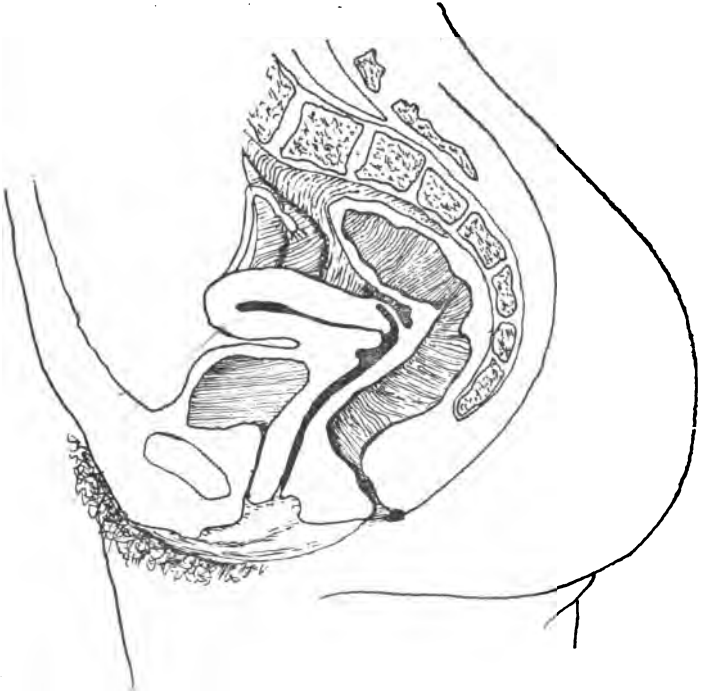
77. The Normal Position. In order to recognize

a displacement of the uterus it is first necessary to acquaint yourself with the normal position. It is common for works on anatomy and gynecology to represent the uterus as having a straight canal and lying midway between the symphysis pubis and the hollow of the sacrum, its axis corresponding to that of the inlet of the pelvis, that is, in a position of a very slight anteversion. The bladder and rectum are wrongly presupposed to be distended, thus forcing the uterus into the position which is seldom seen in health.

The normal position varies with the distention of both the bladder and rectum, especially with that of the bladder. When the patient is in an erect position and the bladder empty, the axis of the uterine canal lies at about right angles to the vaginal axis. A line drawn from a point midway between the umbilicus and the symphysis pubis to the hollow of the sacrum will fairly represent the long axis of the uterus, the fundus being about on a level with the brim of the true pelvis. The canal of the uterus is slightly curved with its convexity upward and backward.

With the patient in the dorsal position introduce the index finger of the right hand and it will, when carried up, come in contact with a conical shaped body projecting into the vagina, which is the cervix. It is firmer than the surrounding tissues, its tonicity varying in different cases, a congestion producing softening, a deposit of fibrous tissue producing hardening. Its direction will be downward and backward; it resting on the ball of the finger when

FIG 12.

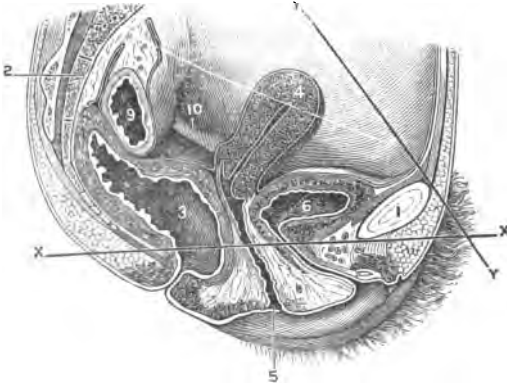


Normal Position of the Uterus.

well introduced. If the cervix is in line with the vagina, or in other words, if the end of the finger comes in contact with the end of the cervix it indicates a retroversion. If the end of the cervix is high and is reached with difficulty, it is probably an anteversion. In cases of flexion the cervix is in about the normal position.

The position of the body is determined by bimanual examination, that is, with the examining finger of the right hand in the vagina and with the other hand making pressure just above the symphysis

FIG. 13.



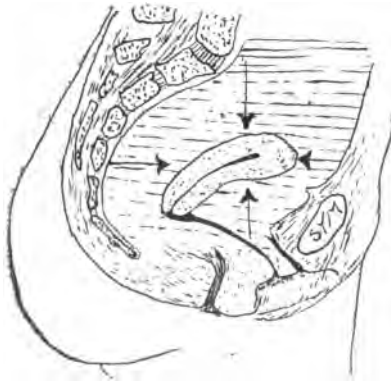
- x. Plane of pelvic outlet. y. Plane of pelvic inlet. 1. Symphysis. 2. Sacrum. 3. Rectum. 4. Uterus. 5. Vagina. 6. Bladder. 9. Sigmoid flexure of the colon 10. Uterosacral ligament. (Testut.)

pubis. By gently raising the uterus with the internal finger the impulse, if the uterus is in normal position, will be transmitted to the external hand, or pressure over the fundus, will be communicated to the examining finger. If the fundus cannot be felt between the two examining fingers it indicates a displacement, the particular form of which is determined by the vaginal or rectal examination. In thin subjects the uterus can be readily outlined by this method, but in obese subjects it is hard to lo-

cate the body and the diagnosis must be made from vaginal and subjective examinations.

78. Normal Supports of the Uterus. Several factors enter into the composition of the supports of the uterus, it being maintained for the most part by the pelvic floor of which the ligaments are regarded as a part. Normally the ligaments are in a state of relaxation and limit the normal range of the movements of the uterus; backward displacement of the body is resisted by the round ligaments; backward displacement of the cervix by the utero-vesical ligaments; downward and forward displacements by the sacro-uterine, and lateral displacements by the broad ligaments. These ligaments could not sup-

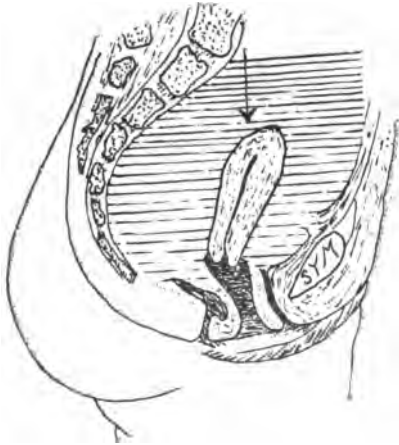
FIG. 14.



port the uterus since their insertion is on a level with their origin unless the organ is prolapsed. When there is a displacement, tension is brought to bear upon them, this resulting in an ache below the waist line.

The pelvic floor with its muscles and ligaments form the real support of the uterus. By securely closing the outlet it forms a closed cavity. In this cavity the pressure is equal in all directions as illustrated in Fig. 14. This has been represented by a pail of water; while the bottom of the pail is intact, pressure is as great upon the sides of the pail as on the bottom, but if the bottom were punctured, nearly all the pressure would be downward. If the

FIG. 15.



vaginal walls are held in apposition the intrapelvic pressure is undisturbed, but if the floor is weakened or the perineal body lacerated, air will probably enter the pelvic cavity, thus causing the pressure to be exerted downward, as shown in Fig. 15.

The vaginal walls being a part of the floor, also help to support the uterus. In considering the

supports of the uterus all of them must be considered together since they act together. Not the pelvic floor alone nor the ligaments support the uterus, but the pelvic floor, the ligaments, the intra-pelvic pressure, the action of the intestines, the action of the diaphragm and the intra-abdominal pressure, all unite to keep the uterus in its proper place.

79. Varieties of Displacements. The uterus may be displaced backward, forward, downward or laterally; the upper displacement is properly called an ascent or mal-location of the uterus. I have seen a few cases of this form, it being a rare kind of displacement. The backward displacements are retroversion and retroflexion. Forward displacements are called anteversion and anteflexion. The downward displacement is called prolapsus, or if the displacement is complete it is called procidentia. The lateral displacements are called lateroversion or lateroflexion, when to the right dextro, when to the left, sinistro-lateroflexion or version.

80. General Symptoms of a Displacement. The most common symptoms which belong to all displacements are backache, sense of heaviness in the pelvis, interference in walking or standing, pain referred to the pelvic organs and menstrual disturbances either dysmenorrhea or menorrhagia. Any displacement affects the pelvic circulation since the uterus is so vascular and the blood pressure very low. The ovaries are very commonly affected by any form of displacement. The characteristic pain or cramp in the region of the ovary is the most im-

portant of the symptoms resulting from ovarian disturbances. The reflex symptoms are headache, aching between the shoulders, nervousness, spinal irritation or tenderness, stomach troubles, neuralgias and forms of paralysis, hysteria and neurasthenia. These symptoms belong to nearly all displacements, while special symptoms indicate the particular kind of displacement.

FIG. 16.



Prolapsus Uteri.

81. Prolapsus Uteri. Prolapsus uteri is a condition in which the uterus sinks to a lower level in

the pelvis than is found in a normal subject, and approaches the vaginal outlet. There are several forms which are classified according to their degree. Where there is slight prolapsus, it forms the first degree. If the cervix approaches the vaginal outlet it is called the second degree, and if the uterus is outside the vaginal orifice it is called the third degree, or procidentia. These forms or degrees of prolapsus run into each other, it being impossible to differentiate between them unless it is a typical form.

It is the most common of uterine displacements as well as the first displacement mentioned in literature. Among the laity it is called "falling of the womb" and has been the subject of experiments varying from a prepared salve to a rubber or iron framework to support it. Some of the cases of prolapsus are obscure if examined in the usual way, but if examined in the erect posture the prolapsus as well as the degree can then be definitely ascertained. Prolapsus is nearly always accompanied by retro-displacement, it being almost impossible for the uterus to prolapse without a retroversion, since its axis is at right angles to the vaginal axis and must turn so that the axes will correspond. Retroversion is sometimes called the first degree of prolapsus.

82. Causes. Prolapsus uteri is due to one of two things; either a weakness of the supports or increase in size of the parts to be supported, although it may come on suddenly, as a result of a severe strain or fall, which suddenly increases the intra-

pelvic pressure. Weakening of the pelvic floor implies that the nerve supply is interfered with; a condition of malnutrition existing. The nerve supply is principally from the anterior sacral nerves, while the pudic also sending some branches to it. The pudic nerve being the nerve of sensation in coition, loss of sexual vigor from over indulgence or from a lesion affecting it will help weaken the floor, since it is partly distributed to it. Tracing the sacral nerves to their origin and noticing their relations and where they make their exit, it can be readily seen that a displacement of the sacrum, iliac bones, or coccyx will affect them either by direct pressure or indirectly by muscular contraction.

A weakening of these nerves causes a weakening of the muscles supplied by them since the strength of the muscle depends upon the amount of the nerve force going to it. Take for instance an insane man during a paroxysm; it taking several men to control him, otherwise, one man easily holding him during the quiescent stage. The man has the same muscles at each stage, but the explosion of nerve force in the one, increases to a marvelous extent the muscular power. Applying this to the pelvic floor the muscles may still retain their volume, but if their food or nerve force is shut off they weaken, letting to a lower level the parts which should be supported by them. This is the important cause of prolapsus and one not mentioned in medical literature.

The floor is frequently injured and weakened by laceration during delivery, this laceration usually

taking place in the keystone of the pelvic floor or perineal body. This is a condition that should not be permitted to happen in cases where no deformity exists, and I consider it carelessness or ignorance if it is permitted to occur. After the perineal body is torn it hinders or prevents approximation of the vaginal walls, permitting air to enter the pelvic cavity, which normally is air tight. Even in coition or digital examination no air enters on account of the vagina closing so completely around the part introduced. If this injury exists the walls are separated and the equilibrium of the pelvic contents destroyed, the pressure being exerted downward instead of being exerted equally in all directions. Laceration of the perineum weakens the pelvic floor since it sets up a congestion or inflammation which disturbs nutrition. The floor is engorged with venous blood, specific gravity increased and it sinks to a lower level.

Increase in weight of the uterus is a cause of prolapsus. In cases of subinvolution where the condition has existed for some time, the continual downward pressure will in time stretch and weaken the supports and prolapsus will result. If the patient, after delivery, gets up before involution is well under way, the uterus being already in a retroverted condition, will be forced downward, sometimes resulting in a serious prolapsus. In these cases there is also a weakening of the vaginal walls from subinvolution. If in cases of parturition the uterus is left in the hollow of the sacrum, the thickened ligaments will become permanently

stretched and they lose their contractile power, leaving the uterus in this retroverted and prolapsed condition.

In fibroid tumors of the uterus it may be forced down by sheer weight, although the tumor sometimes develops upward and draws the uterus with it. Pressure exerted on the pelvic contents by the wearing of heavy skirts or tight clothing produces congestion of the uterus, increases its specific gravity and as a result it is forced farther down in the pelvis. In enteroptosis the condition is similar, that is, increased pelvic pressure and interference with the venous return. Sudden falls or strains derange the intra-pelvic and intra-abdominal pressure and if the bladder is full at that time it may result in retroversion and prolapsus. One of the worst cases ward that I ever treated was the result of a back-fall, bringing on an acute retroversion and prolapsus. Straining at stool also increases the intra-pelvic pressure and tends to force the uterus downward. Neglect of the evacuation of the bowels and the bladder increases the tendency to prolapsus whenever the patient strains herself or carries a heavy weight.

Certain occupations in which the patient is on her feet a great deal and when there is malnutrition and poor air, there is a tendency to prolapsus of the uterus. This is proven by the number of school teachers and shop girls who have this form of uterine displacement. Waitresses in hotels, usually have prolapsus or a backward displacement on account of the way they carry the platters, this tilting

the pelvis and thus throwing the strain on the abdominal muscles, which increases the tendency to prolapsus. If the uterus is small and the outlet is large, such as is found in atrophy of the vaginal walls, it may be forced downward. This is a condition found in the aged and is supposed to be due to senile atrophy of the vagina. I recently saw a case of complete procidentia which had come on suddenly at the menopause; it caused comparatively little pain, she replacing the organ some ten to twenty times each day. The cervix was excoriated and appeared to be of a cancerous nature. This form of prolapsus yields very slowly to treatment on account of the age and the relaxed condition of the supports.

83. Symptoms. The severity of the symptoms do not depend upon the degree of the displacement, but on the nervous condition of the patient, mode of onset, amount of inflammation, length of standing and organs involved. I have seen cases of complete procidentia which caused very little pain, while a case of prolapsus of the first degree caused the patient great suffering, and almost unbearable pain and nervousness. If the prolapsus comes on gradually there are no characteristic symptoms in the early stages. If brought on suddenly the symptoms are acute and demand immediate attention. In ordinary cases the patient complains of sensation of weight or heaviness in the pelvis; this is increased by the patient standing on her feet or walking any distance. There also exists rectal and vesical irritation produced by the tension exerted

on the vesico—and sacro-uterine ligaments. Pain is referred to the interscapular region which increases when the patient uses the arms. The pain is sometimes transmitted to the limbs, either producing an aching or cramping of the muscles. Cramping of the calf of the leg is due to the disturbance of the pudendal branch of the small sciatic, it being reflected over the small sciatic to the calf of the leg where the nerve terminates.

Menstrual disturbances result from prolapsus; menorrhagia being the most common. The uterus is badly congested and the blood circulates very slowly. This surplus of venous blood finds escape at the menstrual time in the form of menorrhagia. Not only is the uterus congested but the circulation of the vaginal walls is affected. This interferes with secretion and produces a hypersecretion or leucorrhœa. Leucorrhœa depends upon congestion, and since congestion results from prolapsus it is easy to see how naturally leucorrhœa would accompany this form of displacement.

Prolapsus of the uterus produces a general weakness of the body. This is the result of disturbances of nutrition and loss of nerve force, and partly the result of worrying over the condition, as falling of the womb is a condition which is dreaded by all women.

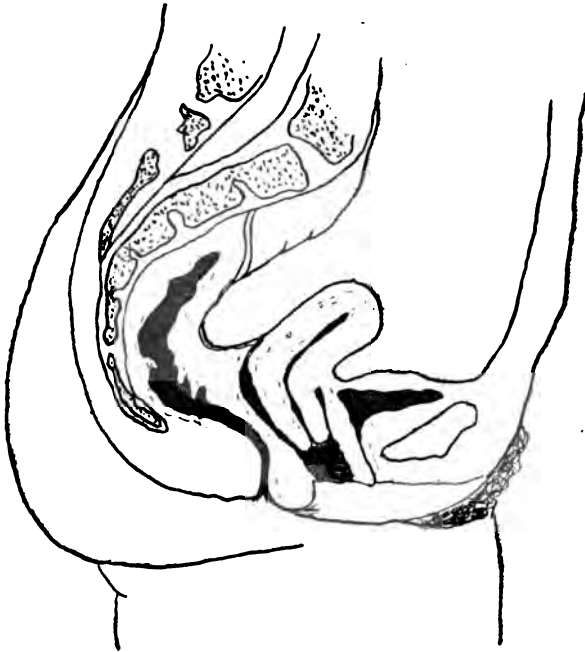
The patient is unable to exercise without getting greatly fatigued. There is palpitation of the heart, shortness of the breath and inability to lift anything heavy. Rectocele and cystocele often accompany prolapsus, especially if the vaginal walls are very

much affected. These conditions affect the rectum and bladder often causing painful and severe functional disturbances. In procidentia the exposed part may become chaffed and irritated from friction of the clothing in walking, causing extreme suffering and giving it a malignant appearance.

84. Physical Signs. The above symptoms are only indications of prolapsus, prompting us to make a local examination to clear up the diagnosis. Should there be the first degree of prolapsus, the finger passed up through the vagina will meet with the cervix low down and in a line corresponding with the vaginal axis. The body will be found backward, indicating a position of retroversion. If the second degree of prolapsus exists, the cervix will be found at the vaginal orifice, this is better ascertained in the sitting or erect posture. The body is turned backward and the upper portion of the vaginal wall rolled downward; the uterus is grasped by the sphincter muscles and in conjunction with the uterine ligaments a complete prolapsus is prevented, unless there is excessive weakness. Complete prolapsus is diagnosed by inspection and palpation. The os can be seen and the different parts of the uterus can be palpated, making the diagnosis certain.

85. Diagnosis. Any of the varieties of prolapsus may sometimes be confounded with polypi, inversion of the uterus or hypertrophy and elongation of the cervix, which produces a pseudo-prolapsus. In a polypus, the shape and consistency of the presenting body is different and there is the absence of the

FIG 17.



Pseudo-prolapsus caused by elongation of cervix.

cervix or os; inversion is diagnosed by the absence of the os and cervix, the larger end or fundus, presenting. The covering of the presenting part will be different; in prolapsus it is shiny; in inversion it is raw and irritable. Inversion is found immediately after childbirth, the history helping to make a diagnosis. In hypertrophy of the cervix, bimanual examination and the use of the sound will clear up the diagnosis. If the uterine canal is found

very much elongated it is probably a condition of hypertrophy of the cervix. The diagnosis really depends on locating the cervix at a lower level than normal and the fundus backward and downward, this being done by digital and bimanual examination.

86. The Effect on the Adjacent Organs. The organs adjacent to the uterus are the bladder, rectum, Fallopian tubes and the ovaries. The bladder is pulled down by the vesico-uterine ligaments and sometimes forms a cystocele. The tension exerted by the pressure irritates it and is the cause of frequent micturition. The urethra is bent on itself and will in some cases produce retention of urine or even cystitis. Tension is exerted on the rectum by the recto-and sacro-uterine ligaments producing an irritation called tenesmus. The Fallopian tubes are drawn downward, pulling the ovaries with them. This produces congestion of the ovaries and Fallopian tubes causing pain and menstrual disorders. The ligaments are put on a stretch and in the case of the broad ligaments between the layers of which passes all the blood to and from the uterus, a considerable vascular disturbance is produced usually in the form of a venous congestion. The tension exerted by the prolapsed uterus pulling on the different ligaments produces an ache which is communicated to the back, or pressure is exerted directly on the nerves causing neuralgia of the limbs. The vaginal walls are reduplicated, especially in the worst forms of prolapsus. The pouch of Douglas is pulled down and with it in some cases, a part of the small intestine, giving rise to a condition called enterocele.

87. The Prognosis depends upon the condition of the uterus and vaginal walls. In long standing cases, in which the entire system is poorly nourished a cure will be slow; in recent cases in which the tonicity of the floor or part of it is retained the prognosis is better. I regard it as one of the hardest of uterine displacements to cure; first, on account of the nature of the causes; second, on account of its position, allowing it to drop lower when the patient strains, it being acted upon directly by force of gravity. If the cause is apparent the prognosis is more favorable, but in a great many cases the cause is obscure making the prognosis obscure.

88. Sudden Prolapsus may come on from any violent effort in which the abdominal muscles are violently contracted. If the uterus is diseased or the supports weakened, a sudden displacement will usually take place if the patient has a fall or lifts any heavy weight. In an instant the patient feels that something has given away within her, becomes prostrated and suffers pain of an expulsive character. Sometimes the stomach will be affected reflexly causing nausea and vomiting. If the displacement is not replaced at once the pain will spread to the adjacent parts and inflammation, such as peritonitis, will set in with its attending evils.

89. Treatment. In taking up the treatment of prolapsus the prophylactic treatment will be considered first. The prophylactic treatment of prolapsus of the uterus is one directed to prevent its occurrence. In order to prevent prolapsus, the pelvic floor must be kept intact and the uterus prevented from becoming too heavy.

The first is accomplished by preventing laceration and injuries during child birth. Correct any bony displacements as soon as they occur, this preventing an impairment of the nutrition of the pelvic floor. Avoid use of warm water douches. Take plenty of exercise with deep breathing; respiration affecting to a marked extent the pelvic circulation. Avoid lifting heavy weights or straining the abdominal muscles, especially if the patient is not strong to begin with. The carrying around of a large overgrown baby has broken down the health of many a mother. Avoid wearing heavy skirts supported by bands encircling the waist. Avoid tight clothes, they interfere with deep respiration, mechanically obstruct the blood flow and cause weakening of muscles of both back and abdomen. Have the patient attend to the calls of nature; this will prevent displacements which would otherwise tend to occur. The straining at stool in a constipated condition of the bowels forces the uterus to a lower level, and if the constipation exists for any length of time the uterus will prolapse. Care should be taken that the patient does not walk too much, or stand on her feet too soon after delivery, this interfering with involution of the uterus and appendages. The object to be attained in the treatment of a prolapsus after it has occurred is first to replace it and second to keep it in position.

90. Replacement. Generally little difficulty is experienced in replacing a prolapsed uterus unless it is bound down by adhesions. If adhesions exist, and this can be ascertained if there is limitation of

motion in a certain direction or by feeling them, care should be used since a hemorrhage or inflammation will result if they are forcibly broken up.

In replacing any of the forms of uterine displacements have the patient assume a position so that the force of gravity will help in its reduction. In case of prolapsus, since there is also retroversion, place the patient in the knee chest position; the uterus then having a tendency to spontaneous reduction. The method I follow in these kinds of cases is to place the patient in the knee chest position thus causing the pelvic and abdominal viscera to gravitate toward the diaphragm, this relieving the pressure on the uterus. A hard unyielding table is best, the knees sinking in, hindering the the operation if a soft yielding bed is used, the object being to elevate the hips and depress the chest as much as possible. Use gentle manipulation over the abdomen for some five or ten minutes before attempting to reduce it. This allows the blood to drain out of the uterus, it always being full of blood when in a prolapsed condition. While in this position the index finger, or both index and middle fingers, are introduced as far as the vaginal junction. By separating the two vaginal walls, air enters the vaginal canal and by means of a slight pressure on the posterior part of the uterus, it will assume its normal position unless held by adhesions or caught behind the promontory of the sacrum. No violent or sudden force should be exerted, but a steady pressure by which it is gradually pushed into place. It is a good practice after it is replaced

to let the patient lay on the side of the face or abdomen for some time until the ligaments contract to hold it in position. The best time to correct this form of displacement as well as any retro-displacement is just before retiring. If it is replaced then, the patient can sleep on her face or side, thus keeping the uterus in position until morning at least.

Again, if the patient will assume the genu-pectoral position it will help to relieve the congestion, lessens the pain and assists in reduction of the displacement. In ordinary office practice it is useless to push the uterus upward by means of the end of the finger unless the parts are prepared to hold it, since as soon as the patient stands erect it drops down as bad as ever. Treatments as are ordinarily given while patient is in dorsal position are worse than useless, they even doing harm in some cases by constantly irritating the parts.

Another method is by means of the loop wire instrument invented by Dr. Still. (See Fig. 18). It

FIG. 18.



A wire loop for replacing the uterus.

consists of a wire, bent in such a manner that it will encircle the cervix attached to a handle which is almost at right angles to the larger end or part introduced into the vagina. It is introduced like a

speculum, and by inserting the right index finger, the cervix can be located and the loop of the instrument adjusted around it. After it is in position, turn the patient on the right side, that is, facing the operator and gently pull toward you. While doing this the air will enter the vagina between the two strands of wire which form the handle, they being slightly separated. On account of the angle formed by the handle its direction corresponds or is parallel with the uterine axis. By gently pulling the instrument toward you the uterus sinks farther down into the loop, and on account of this, displacements can be straightened and replaced by it. In its introduction remember the direction of the vaginal canal, otherwise you may find it difficult to introduce, or you may injure the anterior vaginal wall. After the uterus has been lifted up, hold it there for a short time until the blood drains out and then remove in the reverse manner of introduction. This instrument is to be recommended especially in the treatment of prolapsus since there is very little danger of injuring any of the parts, it being perfectly smooth.

The sound is used by some for replacing a prolapsus, but I think it should be avoided if possible, all other methods being employed before resorting to its use. The uterus can be replaced by using a sound, but I believe injuries or conditions even worse than a prolapsus have followed its use, such as puncturing the walls or bruising the endometrium.

The second indication in the treatment of prolapsus is to keep the uterus in position after it is

replaced. This can be done in one of two ways; first, by decreasing the weight of the uterus, and second, by strengthening the supports, the causes of the condition being, increased weight of the uterus and a weakening of the supports of the pelvic floor.

If the uterus is too heavy and pushes the floor downward, it indicates that there is a growth on it or that it is too full of blood; this congestion can be relieved by restoring perfect venous return. This is accomplished first, by correcting a prolapsed diaphragm. In this condition the lower ribs are involved, drawing the diaphragm down with them. This causes obstruction to the vena cava at the point of passage through it, and the blood is retained in the pelvic organs; second, lift up the intestines that have been wedged in the pelvis, this interfering with the circulation; third, work over the iliac veins and vena cava to remove any obstruction to the free venous return and; fourth, correct any lesions that are found which affect the vaso-motor supply to the uterus. Frequently a lesion is found at the sacrum or there is a twisted pelvis or slipped vertebra which interferes with the vaso-motor nerves, shutting off a part of the nerve force, thus causing a relaxation of the vessels supplied by them.

Tight clothing, especially constricting bands should be forbidden since they interfere with the return flow of blood; the weight of the clothes should be suspended from the shoulders by some kind of skirt supporter or suspenders. The patient should be on her feet as little as possible especially at the

menstrual period, since the uterus is more congested at that time than at any other. Any occupation involving being on the feet, reaching upward or lifting weights should be given up, at least for a while.

Attempts have been made to lighten an enlarged uterus due to hypertrophy of the cervix by amputating the cervix. This is a method which should not be resorted to since it is productive of so little good, and in a great many cases, of so much harm. It is treating the result of a disease, not the cause.

91. The Supports of the uterus can be strengthened in several ways. The osteopathic method is to locate the lesion that shuts off the nutrient supply to the structures composing the pelvic floor. All nerves must be free from pressure or else their function is deranged. This pressure usually occurs at the foramina where they make their exit, and slips of the vertebrae, however small, will bring pressure on these nerves, either directly by the bone itself or indirectly by muscular contraction. This shuts off part of the nerve force leaving the muscles without their proper tone.

A displaced sacrum is really the most important of bony lesions, interfering with the nerve supply of the pelvic floor. The form of the displacement that is most frequently found is a tilting or rotation; it throws the upper part forward and the lower part backward. The coccyx being movable, is drawn under or forward by the muscles attached to it. The iliac bones are slipped and the equilibrium of the pelvis affected. In general, locate the abnormality in the bony framework, since without

this the supports of the uterus cannot be permanently strengthened. Remember that each case is different, the above being only general rules. When these displacements are corrected, nutrition to the pelvic floor will be restored, and when this is accomplished the uterus will be, in a great many cases, drawn back into its place without a local treatment.

Artificial perineal supports have been used in connection with abdominal supports. By the application of pads suspended from the waist, firm pressure is brought to bear on the weak points of the pelvic floor. This theory will seem plausible at first, but after a second thought it will be seen that it is wrong. As soon as nature realizes that a part is supported artificially, atrophy of the natural supports will result since they would no longer be of use. Instead of increasing the strength of the natural supports, it weakens them and prevents their development, and when the practice is once begun it will be necessary to keep it up, since the parts grow weaker the longer they are worn.

92. **Astringents** applied to the vaginal walls have been used to strengthen them and thus support the uterus for a time. Tannin, alum and persulfate of iron have been used, but I fail to see how any curative value exists in their application. It is applying the treatment to the wrong end of the disorder; the symptoms instead of the cause. In order that the supports be strengthened, and this shall have to be accomplished if you realize a cure, they must be nourished and strengthened by a natural

process, or in other words, there must be a good blood supply. Since it is admitted by all that there is no nourishment in the astringents mentioned, they do no good except that they produce a temporary contraction of the mucous membrane of the vagina, and which soon disappears, leaving the walls flabbier than they were before the astringents were used.

93. Pessaries. The pessary, from a word meaning an oval shaped stone, is an instrument placed in the vagina to hold the uterus in place. There are a great many different kinds, both as to shape and material from which they are made. They are constructed so that they will encircle the cervix and by resting on the vaginal wall, principally the posterior, act as an artificial support. The same remarks might be applied to the use of pessaries that are applied to the use of perineal supports; they weaken the natural supports, and once their use is begun, the patient cannot get along very well without them. A great many cases come to the infirmary for treatment that have been wearing a pessary for years. The pessary is a foreign body. It will be a source of irritation if placed in the genital tract. This irritation disturbs the blood supply, producing congestion and in some cases inflammation. In cases where they have been worn for some time the patient invariably has metritis or vaginitis with a leucorrhœal discharge, which accompanies a congested condition of the genital tract. The question is often asked me, should a pessary be removed when a patient comes to an osteopathic physician

for treatment? This is a question that confronts us all and one that is hard to answer in some cases. Suppose a woman had worn one for years—what would be the condition of the vagina and uterus? They would certainly be very weak and flabby, especially the vaginal walls. In such a case I would advise the removal of the pessary if the patient can possibly do without it. Its presence hinders the strengthening of the parts, impairs nutrition and disturbs circulation and should be removed at once if a cure is to be hoped for. However, if the patient on removal of the pessary has too much pain, locally or reflexly, or by removal it produces great weakness or nervousness, it should not be left off too abruptly, but gradually get the patient to do without it by having her leave it off as long at a time as she can.

To the osteopath the pessary is unnecessary and its use not indicated. In cases where there is senile atrophy of the vaginal walls, there is prolapsus, but as a rule it does not produce as many and bad symptoms as it does in young subjects. I relieve these cases without resorting to the use of the pessary and if its use is indicated in any kind of case, it certainly would be in this kind. I have had patients at the infirmary who had worn a pessary so long without removing it, that it had buried itself in the vaginal walls and was partly destroyed by the discharges. If one is worn at all, it should not be for more than a day or so without removal. The stem pessary has been worn for prolapsus; it is so arranged that a stem is introduced directly into the

cavity of the uterus, and is retained in position by various bands which encircle the waist. This kind of a pessary is certainly a barbarous way of exciting endometritis and I am glad to say this is fast becoming obsolete.

Vaginal tampons are sometimes used by the osteopaths in cases where the uterus cannot be kept in place and the displacement causes extreme pain. They are made by taking a piece of absorbent cotton some four inches wide by eight inches long covered with glycerine and then folded into a wad about two inches long by one to one and one-half inches in diameter. A string is tied around it by which it may be removed. After lubricating the tampon and fingers with glycerine it is introduced without the use of a speculum while the patient is in the Sims position. One is usually sufficient, although two may be used. If it is a case of retroflexion it is placed in the posterior fornix. By temporarily supporting the uterus in this way the irritation is lessened and the uterus held in position and thus allowing the blood to drain out. Although they are rarely resorted to yet I think they are beneficial in some forms of prolapsus. If it is used it should not remain in the vagina more than twenty four hours without removal.

94. Operative means are sometimes resorted to by surgeons to cure prolapsus of the uterus; one method is to resect a portion of the vaginal walls, stitch the edges together and thus produce a narrowing of the vaginal canal. It also forms scar tissue in the walls which increases their rigidity.

This operation generally fails because it does not restore the normal angle between the vagina and uterus, and any pressure forcing the uterus downward will redilate the vaginal canal. The operation is called colporrhaply or elytrorrhaply. Another method is to stitch the uterus to the abdominal wall; the operation being called abdominal fixation or hysterorrhaply. The dangers are adhesions, uniting the uterus to the abdominal wall, dystocia or interference with pregnancy, and the immediate danger which accompany any operation in which the abdominal wall is opened. Other operations have been used among which is, Alexander's operation for shortening the round ligaments. These operations should never be resorted to on account of the risk, the uncertainty of a cure or even of being helped, until a fair trial has been given a case by osteopathic methods. The osteopath has a reputation of preventing operations, this being one way by which an improvement has been made upon surgery.

95. Anteversion of the Uterus. Anteversion of the uterus is a condition in which the uterus is turned forward to a pathological degree, the uterus normally being in a position of anteversion, but if this is increased so that the angle formed between the vaginal and uterine axes is less than a right angle accompanied by bladder symptoms it is regarded as pathological. (See Fig. 19.) If the uterus is in a normal position, its axis corresponds to a line drawn from a point midway between the symphysis pubis and the umbilicus, to the hollow of

increase in size, especially of the fundus of the uterus, while a flexion indicates atrophy or malnutrition of one side, and on this account I regard a flexion a worse condition than a version. In a version the tonicity of the uterus is retained to a certain degree, this permitting of a turning instead of a bending, such as we find in flexion. In version, the direction of the cervix is always changed as well as the direction of the uterine axis. In flexion the cervix is seldom displaced, but the uterine axis is bent on itself. Anteversion is often associated with flexion, the mobility at the angle of flexion usually being increased.

96. Causes. Any disorder that increases the weight of the uterus, unless there is at first a backward displacement, will produce anteversion. The most common cause found is the inflammation of uterus. Since an inflammation is always preceded by a congestion, we must find the cause of the congestion in order to treat it intelligently. This congestion may be produced, as mentioned under the head of prolapsus, by any obstruction to the venous return or vaso-motor disturbances produced by lesions affecting the vaso-motor centers of the uterus. In subinvolution there is congestion of the uterus; this sometimes producing an anteversion, but usually a retroversion or prolapsus is the result on account of its position and the relaxed condition of the ligaments following childbirth. Pressure on the uterus from above produces a disturbance in the circulation, increases its weight, this resulting in anteversion in some cases. Where there is a weak-

ened condition of the uterine supports, the uterus especially the fundus or heavy end, will sink to a lower level. I am treating a case of this kind. Multipara, patient anemic and very weak. The uterus is large and if the patient is on her feet for any length of time the fundus falls farther forward and downward and causes considerable distress until replaced. The anterior vaginal wall is very weak, this contributing to the general weakness and helping to cause the displacement.

Contraction of the utero-sacral ligaments pull the cervix and lower part of the body higher up into the hollow of the sacrum; and if there is a shortening or contraction of the round ligaments at the same time, anteversion will occur. Adhesions between the anterior wall and bladder will pull the fundus lower, since all scar tissue contracts during its formation. The causes of these adhesions can be traced back to a metritis or inflammation of the uterus, which as mentioned above, is the principle cause.

97. Symptoms. There are no symptoms characteristic of anteversion per se, they being associated with the complications produced by the displacement. As in all displacements there is a sense of weight, fullness and of distress in the pelvic cavity. Pain is present over the uterus and is reflected to the symphysis and lower lumbar region. The bladder is irritated by the pressure exerted on it by the uterus and frequent micturition is the result. This pressure, if exerted for any length of time, and especially if there is an inflamed condition of the

uterus, may set up a cystitis or inflammation of the bladder. Pressure of the cervix on the posterior wall of the vagina is frequently the cause of a leucorrhœal discharge, and the pressure against the rectum results in disturbances such as tenesmus or a painful, irritable state, which is exaggerated during defecation. Further, we may have a train of general symptoms which generally follows any long standing displacement or irritation of the pelvic organs, to wit; derangement of the digestive tract and the nervous system.

98. Diagnosis. The diagnosis is made by locating both ends of the uterus, there being little trouble in accomplishing this. On local examination the cervix can be felt high up in the hollow of the sacrum. The Sims position is to be preferred, since in this position examination can be made higher up than in the dorsal position, it being very difficult or impossible to reach the cervix with the examining finger in the dorsal position. The anterior fornix will be found to be enlarged, the posterior fornix is decreased or entirely obliterated, this depending on the degree of displacement. A hard body can be plainly felt through the anterior fornix; this is ascertained by a conjoined manipulation to be the body and fundus of the uterus. The fundus cannot be felt through the abdomen unless pushed up by the internal finger, it lying behind the symphysis pubis and on the bladder. The bladder should be emptied when the examination is made, since this will assist in the conjoined manipulation. The uterus will be found enlarged and of firm tex-

ture. The mobility should be tested and the presence or absence of adhesions ascertained.

The position of the cervix and the size and condition of the body will diagnose anteversion from anteflexion. If a tumor exists on the anterior wall the diagnosis can be made by locating the fundus by the bimanual method, it being in about its normal position, or if displaced, it will be displaced backward. In cases where there is much inflammation which prevents a complete examination, the examination with one finger in the rectum enables us in such cases to ascertain that the uterus is at least not in retroversion and lying back against the rectum. An anteversion may be mistaken for a retroflexion if only a vaginal examination is made, but a rectal or bimanual examination will clear up the diagnosis.

99. Treatment. The treatment indicated in most cases is one directed to relieve the congestion or inflammation of the uterus since these conditions are found in the majority of cases, sometimes as a cause and sometimes as a result of a displacement. If the uterus is turned forward it certainly will twist and put on a tension the broad ligaments, and since the blood vessels are located between the two layers, there is an obstruction to the circulation. In order to relieve this twisting the uterus must be replaced.

Replacement is generally accomplished by placing the patient in the dorsal position, introducing the index finger into the vagina and locating the anterior fornix. By exerting pressure through this,

the fundus can be pushed out of the pelvis high enough to be grasped by the external hand; thus having it between the two hands it can be readily pushed into place. This is readily accomplished in a thin subject, but in an obese patient you will have to rely on the vaginal treatment alone, since the uterus cannot be felt through the anterior abdominal wall.

In multipara where a local treatment should be avoided as long as possible, upward manipulation applied to the abdomen at a point just above the symphysis pubis with the hips elevated will often correct the displacement without a local treatment, but this applies better to an anteflexion than an anteversion. The wire invented by Dr. Still can be used to good advantage in cases of anteversion. By the additional reach obtained by its use, the cervix can be readily reached while the patient is in the dorsal position, and by pulling it slightly downward and forward, the loop, having been placed around the cervix, the uterus can be rotated into position. A sound has been used for replacing an anteverted uterus, but I think its use is not indicated since it is hard to introduce one without injury, and since the uterus in most cases can be readily replaced without it.

Just as soon as it is replaced the congestion begins to disappear and the bladder symptoms leave and the patient feels a great deal better in every respect. If the patient is kept quiet for a while until the ligaments contract it will probably remain in place, but if the patient gets up immediately it

will in most instances drop forward again with a renewal of the former symptoms. On account of this I am often asked the question—how often would you give a local treatment? It depends on the amount of pain and nervousness. If the displacement is causing severe pain, replace it; if it falls forward in a few hours, replace it again, but this time put the patient to bed, or at least keep her quiet until the supports are strengthened. Ordinarily I give as few local treatments as I can possibly get along with, perhaps one every week or ten days, this depending on the individual case.

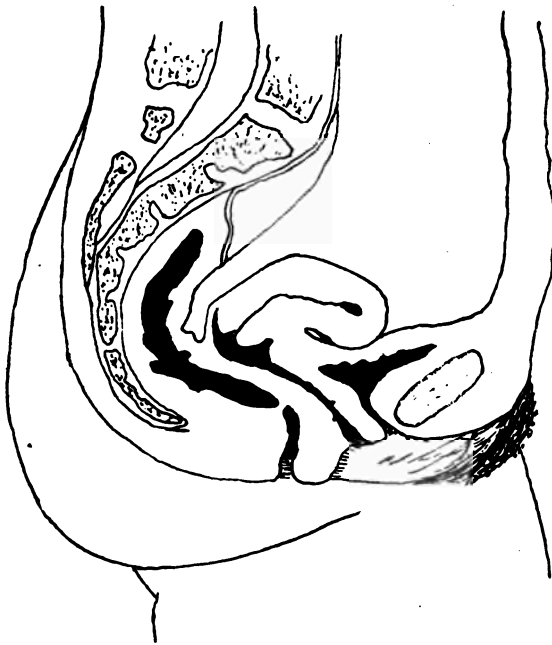
In addition to replacing the uterus the blood may be emptied from it by work along the veins leading from it. This is similar to the treatment given under prolapsus. In addition, correct the displacements found since they are the predisposing causes. They weaken the supports, impair the nutrition and interfere with the circulation; then the exciting cause, such as a fall or heavy lift more readily results in a displacement.

The prognosis in a case of anteversion depends upon the causes found and the condition and general health of the patient. If the patient is debilitated and very weak it will take some time to strengthen the parts, so that the uterus will be held in position. If the patient is strong and there is no loss of tonicity of the tissues the prognosis is good, since acute is generally effected by a replacement of the organ. Versions are more readily replaced and more quickly cured than flexions.

100. Antelexion of the Uterus. The canal of the

normal uterus is straight or slightly curved with the concavity forward. When it forms a more decided curve or angle accompanied by dysmenorrhea and vesical irritation it is called a pathological ante-flexion. (See Fig. 20). This condition is more frequently found in the nullipara than the multi-

FIG. 20.



Anteflexion of the uterus.

para, first, because the weight of the intestines and the abdominal pressure exerting a force on the posterior wall tend to exaggerate the normal condi-

tion of slight anteflexion; second, in pregnancy the uterus is carried backward and upward, so stretching the round ligaments that it prevents them pulling the uterus into its normal position which had existed before pregnancy; third, on account of the condition of the uterus during involution and the vascular condition of the different ligaments, the uterus remains in a higher position in the pelvis than it did formerly.

The usual seat of flexion is at the point of junction of the cervix and the body, or it may be at the upper portion of the cervix. The different classifications are based on the point of flexion, such as a corporeal, in which the bend is in the body, throwing the fundus forward and downward, the cervix being in position; cervical, in which the cervix is bent forward; and, corporo-cervical, in which both are thrown forward. The cervical form may be mistaken on vaginal examination for retroversion, since the cervix is in line with the vaginal axis, the diagnosis may be made by the bimanual or rectal examination. Sometimes there is a congenital form of anteflexion in which the cervix is small, elongated and the os very much reduced in size, which is called the pinhole os. These vary in degree from a slight bending of the uterine canal to that of a complete semicircle, the fundus and cervix almost touching each other. I remember having a case in which the uterus was bent into the shape of an inverted "U," the fundus pushing back the anterior vaginal wall.

The anterior wall at the point of flexion under-

goes a change in which there is a weakening of the muscle fibers. The posterior wall becomes thin on account of it being stretched to a greater degree. When the fundus is very heavy or large the displacement may become immovable, there usually being adhesions which hold it in that position.

101. Causes. The fundus is supported by the Fallopian tubes, round ligaments, broad ligaments, and the body of the uterus. The last mentioned support is the most important. On examination of a cadaver the broad ligaments are found to be flaccid and allow quite a flexion of the uterus to take place before they are made tense. If they were tense cords they would support the uterus, but such not being the case, they only act as lateral supports preventing too much lateral motion.

In the case of an ante flexion in which the fundus has dropped forward and downward there must be some trouble with its support, that is, with the lower part of the body of the uterus. This trouble is a softening of the uterine walls from metritis. This weakening is the result of some disturbance of the nutrition of the anterior wall of the uterus. In an inflamed condition of the uterine walls they are weaker, and the weight to be supported by them is greater. Every strain of the body, and every weight lifted, forces the uterus farther forward when once it gets a start in that direction. The walls having lost their elasticity on account of lack of nutrition, are bent farther and farther until a decided flexion exists. The farther it is bent the more congested the uterus will be on account of the

relation of the blood vessels to the broad ligaments. But to get at the primary cause of the congestion we must examine the venous return and the condition of the vaso-motor nerves which are distributed to the pelvic organs. A lesion affecting the vaso-motor nerves, as mentioned before, serves to dilate the vessels innervated by them, thus producing engorgement of the organ. There may be a prolapsed condition of the bowels from various causes, this obstructing the venous blood on its way to the heart. Any lesion or obstruction that produces venous congestion or inflammation of the uterus, especially in the nullipara, will usually produce a flexion of the uterus on account of the softening of the uterine walls. When the uterus is in normal position and it becomes congested from the causes mentioned above, and as it bends forward of its own weight, the intra-abdominal and pelvic pressure acting on the posterior wall will gradually exaggerate the condition.

A lesion at the sacrum predisposes to a flexion since it affects the nutrition of the uterus. Other lesions, such as a slipped ilium or a displaced lumbar vertebra are frequently found. These weaken the uterine walls, sometimes shutting off the nutrition of a part of the wall, and if this be the anterior wall, anteflexion will result.

Inflammatory changes behind the uterus often result in anteflexion. If you will remember the attachment of the sacro-uterine ligaments you can understand how a shortening of the same will draw the lower part of the body upward. (See Fig. 21).

FIG 21.



Anteflexion caused by contraction of the sacro-uterine ligaments.

This shortening of the ligaments is the result of inflammation; the inflammation was preceded by a congestion, this congestion resulting from several things such as localized poison as is found in gonorrhoea, causing a partial paralysis of the vaso-motor nerves or from the various bony lesions which affect the pelvis. These thickened bands or ligaments can be felt on local examination and care must be exercised in treating them since a forcible breaking up of them will often result in peritonitis.

A fibroid tumor on the fundus or posterior wall will either bend the uterus forward by the increased weight or force it forward by the pressure exerted behind by the growing tumor. This cause is almost entirely confined to nullipara. In the beginning of pregnancy, that is, up to the third month, the uterus anteflexes and forms from its anterior position and shape, one of the best of the early symptoms of pregnancy, the uterus being found to resemble in shape an inverted jug.

Unequal involution of the uterus during the puerperium is a cause of the acquired form of anteflexion. The placental site is on the posterior wall and prevents the posterior wall from involuting so rapidly as the anterior wall. Unequal development is the cause of the congenital form. Since the uterus lies dormant up to the age of puberty, and at that time undergoes a wonderful developmental change; any interference with its nutrition such as directing the nerve force through another channel, will result in a non—or imperfectly developed organ. This causes many cases of the so-called infantile uterus, which can be traced back to some accident at puberty.

102. The Symptoms. The symptoms of anteflexion of the uterus depend upon its impingement on itself and neighboring structures, narrowing or stenosis of the uterine canal, amount of the inflammation in and around the uterine walls and various reflex disturbances, affecting organs that are weakened by lesions. The impingement is on the bladder and the anterior vaginal walls, the pressure ex-

erted like that in anteversion, produces frequent micturition and sometimes a congestion or inflammation of the mucous lining of the bladder, which is then called cystitis. Pain occurs when the bladder is distended and sometimes the sensation of distress follows evacuation of the bladder. Some times the contraction of the utero-sacral ligaments draws the lower part of the body upward and backward, thus putting on a tension the vesico-vaginal walls. Impingement on the walls of the uterus at the point of flexion affects circulation, nutrition and secretion, and finally results in atrophy of the wall. This wall becomes weaker and thinner the longer the pressure exists, and finally reaches such a degenerative stage that it is very hard to correct.

The flexion also narrows or causes a complete stenosis of the canal. The secretions will then be retained and undergo changes and cause irritation of the endometrium, giving rise to abortion if impregnation should occur. Endometritis usually happens with its attending pains and reflexes. The collapse or obstruction of the uterine canal will prevent or interfere with the expulsion of the menstrual discharge, giving rise to dysmenorrhea or painful menstruation. In this kind of dysmenorrhea the pain ceases as the flow starts, but it is rare to get a typical case since endometritis is present in most of the cases. In this inflamed condition of the uterine canal the pain will be severe since the contraction of a muscle involving an inflamed canal will certainly be productive of pain of the worst type. I am inclined to the belief, that in

most cases of dysmenorrhea that the inflammation is the real cause of the pains. If the blood is prevented to escape it will coagulate, and in order to force this material through a narrow canal the uterus has to go into labor, and the pains simulate labor pains.

If there is little inflammation the pain will be in proportion to the amount of inflammation and from this we will conclude that the dysmenorrhea accompanying inflammation, is mostly due to the inflammation and only a part due to narrowing. I have seen cases in which upon examination with the speculum during menstruation, clots were forced out of an apparently very small os unaccompanied by pain, there being no inflammation of the uterus.

If the patient is married and has anteflexion, usually there is sterility. The spermatozoa are either unable to gain entrance into the uterine cavity on account of its obliteration upon flexion, or else the diseased condition prevents them becoming attached to the uterine wall. Since the leucorrheal discharge from a diseased uterus is acid it counteracts the alkaline spermatozoa. Anteflexion, if chronic, is accompanied by the usual reflexes such as backache, headache or in some, gastric disturbances and functional heart trouble. These reflexes rather depend upon the amount of inflammation present than upon the kind or degree of the flexion.

103. Diagnosis. Diagnosis of anteflexion of the uterus is made by a vaginal and bimanual examination. As the finger passes into the vagina and touches the cervix nothing abnormal, if it is a typi-

cal case, will be noticed. The direction of the cervix is not usually changed in an anteflexion. In some cases the anterior lip will be elongated or rather, the posterior lip of the cervix will be shortened on account of the tension exerted on the posterior uterine wall, this giving the anterior lip the appearance of being elongated, or of a small growth upon it. As the finger sweeps along the anterior wall of the uterus at a point just above the os interum, a protuberance will be met with, which is the body or fundus of the uterus, pressing against the bladder and the anterior vaginal wall. Keeping the finger upon the mass the hand should be placed upon the abdomen just above the symphysis pubis and made to compress the abdominal wall so that the two hands will be approximated. By this means the shape, size, and sensitiveness of the body can be ascertained.

To differentiate the body felt in the anterior fornix from a fibroid tumor, consider the form of menstrual disturbance and by the bimanual method outline the fundus, which would be posterior to the tumor. Sometimes the use of a sound is advocated. If the sound, on introduction, meets with resistance it is diagnosed as a flexion, if the other symptoms are present, but if the sound meets with no resistance and the uterine cavity is elongated, it is probably a growth. There is always danger in the use of a sound for diagnostic purposes, since one is very likely to injure the uterine wall not knowing the direction of the canal.

The position of the cervix will diagnose ante-

version from ante-flexion since in anteversion it is changed in direction, while in ante-flexion it is not. If in doubt after making the bimanual examination, make a rectal examination, since by this it can be ascertained that the uterus is not retro-deviated, since nothing but the cervix can be felt. On vaginal examination especially in the cervical form of ante-flexion, it may be mistaken for retroversion; but the diagnosis is cleared up by the bimanual method and by feeling the angle of flexion.

104. **Prognosis.** The prognosis of an ante-flexion as to straightening the canal is unfavorable, but relief can be promised in most cases. Since the inflammation and weakening of the wall at the point of flexion is the real cause of the disturbances, the flexure in itself need create no anxiety for it is not of great importance except that it may cause sterility.

105. **Treatment.** The points indicated for the treatment of ante-flexion are first, removal of the inflammation; second, strengthening of the uterine walls; and third, opening up of the uterine canal by reducing the flexion. It must be borne in mind flexions are unlike versions in respect to the rapidity in which they are formed. Versions may occur suddenly from a fall or violent strain, while flexions occur gradually from a weakening of the uterine walls. Therefore versions are susceptible of immediate relief, while as a rule, flexions are not, since they are the consequences of influences long kept up.

The removal of the metritis accompanying ante-flexion is accomplished by removal of the lesions

causing it. The bony lesions found must be corrected or else the local treatments will do no good. These lesions affect nutrition of the walls and, in order to cure the flexion the walls must be strengthened, this being done by correcting the lesions that interfere with the circulation of blood to the parts. Just as soon as this is accomplished the inflammation will disappear.

The uterine walls are straightened in the same manner and, in addition, by replacement of the organ. The pressure of a flexion increases the atrophy and weakness of the wall, and must be straightened out before a complete cure can be attained.

Replacement is effected by placing the patient in the dorsal position, introducing one or two fingers into the vagina, and pressing upward on the anterior fornix, through which the body and fundus can be felt. After it has been forced up as high as possible the fundus can then be grasped by the external hand. When this is done it can be bent into position very readily. The objection to this is, the difficulty in obese people of being able to feel the uterus through the abdominal wall. In such cases the physician will have to rely upon the pressure exerted by the vaginal finger, and in some cases it can be replaced in this way. It is best to have the hips elevated while replacing the organ, and after it is replaced the patient should rest for some time in the dorsal position.

Sometimes ante flexion can be corrected by external abdominal manipulation. I have taken cases of dysmenorrhœa dependent upon an ante flexion and

by elevating the hips and working deeply over the abdomen with an upward motion I have been able to straighten the uterine canal thereby starting the flow and relieving the pain. I make it a practice of giving this treatment first, in my cases of ante-flexion, since it removes the pressure exerted by the intestines, and certainly tends to correct the displacement.

If it is impossible to replace the organ by these means, resort is made to the use of a sound. The patient should be placed in the Sims position. After warming, lubricating and disinfecting the sound it can be introduced in the manner described in paragraph 57. It is a painful operation and should be done as slowly and gently as possible. Be careful to first diagnose the position of the uterus and then use no force in the introduction of the sound.

On account of the inflamed condition of the endometrium, any force used will injure the endometrium and bring on pain and hemorrhage. Unless the sound is clean it may carry disease to this weakened endometrium and set up a more severe endometritis. After the sound is in position the uterus can be moved at will unless adhesions bind it down. Be careful not to use much force since you have a greater lever power than you imagine. By simply bringing the handle forward, that is, toward the patient's limbs the uterus can be forced into place. After this is done it should be carefully withdrawn and the patient left in either the latero-prone or dorsal position for some time. It produces quite a shock to the nervous system and should not

be repeated within several days, even if found that the uterus has become displaced again. Also the sound should not be used after the tenth day following menstruation, if it can be otherwise avoided, since it is apt to bring on the menses. Frequently a leucorrhœal discharge will follow the use of a sound, but this only lasts for a short time and is due to the disturbance of the tender endometrium.

The use of a stem pessary has been resorted to by medical men, but I think their use is productive of more harm than good. It is a source of irritation to the uterus, increases danger of infection and instead of doing good, very frequently leads to a more serious metritis.

When ante flexion is irreducible and dysmenorrhœa and sterility exist on account of the obstruction to the uterine canal, surgeons have made an artificial opening by various operations such as an incision of the posterior lip, lateral incision, amputation of the entire cervix, etc. Operations should never be resorted to until it is evident after a careful and thorough trial that it cannot otherwise be cured or relieved.

106. Retroflexion of The Uterus. Retroflexion of the uterus is a displacement in which it is bent backward on itself in contra-distinction to ante flexion, in which it is bent forward on itself. Retroflexion is preceded in most cases by retroversion, that is, the uterus is first turned backward, then the intra-abdominal and pelvic pressure is exerted against the anterior wall, thus bending it further backward. (See Fig. 22).

FIG. 22.



Retroflexion of the uterus preceded by retroversion.

This displacement with the accompanying complex train of symptoms is one of the most important that comes to the gynecologist. It occurs less frequently than ante flexion, first on account of the natural anterior obliquity favoring the ante flexion, and second, the retroflexion is more thoroughly guarded against by the ligamentous supports, the round ligaments running as they do from the horns of the uterus to the vulva, tending very decidedly to pre-

vent a backward bending. They not only do this, but if softening of the walls from inflammation of the uterus occurs they would naturally draw it forward; yet if the softening is the result of metritis, the uterus descends and the round ligaments being composed of structure similar to the uterus, soften and stretch.

107. Causes. As in ante flexion, we find softening of the wall from metritis a very common cause. The inflammation extends to the round ligaments whose function it is to hold the uterus in normal anteversion. This weakens them and by their relaxation the uterus is bent backward by a very slight force exerted from the front or above. This metritis, as has been mentioned, is the result of a disturbed blood supply. Bony lesions affecting the centers which control the blood supply of the uterus cause a venous stagnation, blood undergoes changes, poisonous materials collect and the attempt of nature to rid herself of this poison is called inflammation. No constant particular lesion is found, but there usually exists a lesion at the sacrum, iliac bones or fifth lumbar, sometimes the second. After the uterine walls have been weakened by these lesions which shut off the nutrition, then the exciting cause, such as exertion, a fall backward when the bladder is distended, more readily produce a displacement.

It is rarely congenital, in which respect it contrasts with ante flexion. It is frequent in multipara (rare in nullipara) because the cause is especially related to the puerperal state. During the puerper-

ium the walls are large, vascular and very soft. The ligaments and all the supports are weakened on account of not having recovered their tone. If the bladder is over distended it will force the uterus backward, and if this becomes a chronic condition the uterus will remain permanently backward.

On examination of a patient shortly after her confinement we sometimes find that the uterus is

FIG. 23.



Fibroid tumor on anterior wall of uterus holding it in retroflexion.

lying back in the pelvis. The intra-abdominal pressure which, when the uterus is in the normal position is exerted on the posterior wall, now comes to act on the anterior wall, forcing the fundus back-

ward and downward. Each straining effort forces it a little further until by degrees it is retroflexed. The practice of putting on a tight abdominal binder after confinement tends to force the uterus backward, and this is especially true if the patient lies a great deal in the dorsal position during the puerperium.

A fibroid tumor on the anterior wall may by its growth, force the uterus backward thus producing a retroflexion. (See Fig. 23). Unequal involution of the uterus, when its placental site is on the anterior wall, causes the posterior wall to contract faster than the anterior, thus drawing the upper part backward.

Adhesions may draw the fundus backward or laterally, while the cervix is fixed by other adhesions. This results in a bad form of retroflexion. The adhesions usually follow metritis or a perimetritis, and the treatment should be directed to absorb rather than break them up. After considering all these causes the most important is the metritis which softens and enlarges the uterine walls. To the osteopath this usually means that there is some derangement of the bony framework which surrounds the pelvic organs, shutting off some of the nutrition or nerve force that should be transmitted through the numerous foramina.

108. Symptoms. The symptoms of retroflexion may be arranged in three groups; the first, including those which are more or less continuous; the second, those that are referred to the menstrual period; and the third, those connected with the

function of reproduction. Backache is one of the common symptoms attending any displacement, but especially retroflexion. It may be a dull constant ache or it may be an actual pain which is aggravated by muscular action and at the menstrual period. This ache is usually found in the small of the back, but sometimes occurs in the upper dorsal region between the scapulae.

Metritis, with its symptoms of heaviness and distress in the pelvis, is present. Tenderness is obtained by pressure over the uterus, that is, at a point just above the symphysis pubis.

Chronic peritonitis with its adhesions and exudates accompanies the metritis and fixes the uterus in its abnormal position. Endometritis is present with its disturbing secretions. Painful or difficult defecation results from either the inflamed condition of the uterus or the pressure of the uterus against the rectum. This gives the patient the sensation of a loaded bowel and the repeated attempts to empty it is often followed by tenesmus. Passage of the bowel contents through, and contraction of the sphincter muscles around, an inflamed and sensitive zone is necessarily accompanied by considerable pain. In most cases where constipation complicates retroflexion I think it due rather to the relaxed condition of the sphincter muscle and mucous lining of the rectum, than to any mechanical obstruction produced by the displaced uterus.

There is a weak, flabby condition of the sphincter muscles, and the mucous membrane prolapse. On making a rectal examination in these kinds of cases,

the finger will meet with a blind obstruction, the lumen of the bowel being very hard to discover. I have seen cases where the internal sphincters had prolapsed so that they approached the anal opening, thus occluding the bowel at that point.

Leucorrhœa accompanies this form of displaced uterus, if there is an existing endometritis. The blood supply of the mucous and other glands is impaired in quality, it being venous in character. If there were increased arterial supply the physiological secretions would be increased, but an increased amount of venous blood produces a pathological secretion, or leucorrhœa. If the case is chronic and the uterine and vaginal walls are softened, leucorrhœa is a constant symptom, but if it is a recent case it is usually not present.

Dysmenorrhœa, an important symptom of retroflexion, is due to the metritis or inflammation of the uterus, or to the obstruction at the point of flexion or, in some cases it is due to both. As mentioned under anteflexion, there would be very little pain if no inflammation accompanied the narrowed condition of the uterine canal. When there is both a narrowing, abstriction and an inflamed condition, great pain is experienced when the uterus contracts in its effort to overcome the obstruction to the exit of the menstrual flow.

This dysmenorrhœa is not so marked as that found in anteflexion, probably on account of the patulous condition of the os uteri from pregnancy, since retroflexion is most commonly found in multipara.

If there is much congestion, menorrhagia will be a symptom of this displacement. On account of the obstruction to the return flow of blood, the uterus becomes engorged and the menstrual flow is a safety valve whereby the uterus can rid itself of this extra amount of blood.

Sterility is sometimes found, being due to an altered condition of the os and cervix, increased mucus secretion, obstruction to the Fallopian tubes or prolapsus of the ovaries. If the fundus is bent backward very much the tubes and ovaries must be altered in position, sometimes to the extent of destruction of their function. Frequently the patient will tell you that she had a child several years ago, and after that she suffered with leucorrhœa, pain in the back, irregular menstruation, and since that, has never conceived again. In such cases a retroflexion is commonly found. After conception has taken place there is a further risk of abortion. Conception may take place in a retroflexed uterus which may right itself as soon as the fetus begins to grow and push the fundus out of the pelvis, which is about the third month. If the uterus does not right itself or if the mucous membrane is in a pathological condition which prevents the ovum from being firmly attached, abortion will occur.

The size of the uterus, that is, its length and cavity, is increased in retroflexion, the cavity measuring about three inches in length. The posterior wall at the point of flexion is thin and atrophied. (See Fig. 24). The abdominal pressure acting on the anterior wall, forces the fundus

FIG. 24.



Extreme retroflexion with softening of posterior wall at point of flexion.

lower and lower into the pouch of Douglas; sometimes it rests directly on its floor. The bladder is not always disturbed, but lacks the pressure of the uterus on it, this sometimes causing trouble.

The ureters are often compressed, this giving rise to renal trouble or a pain resembling the passage of a renal calculus.

The nerves going to the lower limbs may be affected by the pressure of the retroflexed uterus and give rise to pains in the lower extremities. There

may be only a sense of weakness with no particular pain, the patient complaining of feeling tired in the limbs after a slight exertion.

Abdominal pain, neuralgias in different parts of the body, nervous dyspepsia and neuasthenia will be present. Hysteria in all its peculiar and varied forms sometimes attends this condition.

Soreness is found along the sacro-iliac synchondroses, sometimes there being a knotty feeling in the muscles and lymphatics at this point. The fifth lumbar is frequently tender. The sacrum in some cases will be found to be prominent, indicating a turning at the sacro-iliac junction. Since the inferior hypogastric plexuses are located on either side of the uterus, the backward displacement will certainly disturb them in some way, by stretching the nerve filaments, either resulting in inhibition or stimulation of them.

109. Diagnosis. On vaginal examination the cervix is found rather low in the vagina, its direction being a little changed. If a retroversion complicates the flexion, the cervix instead of pointing to the hollow of the sacrum, points upward. On examination of the posterior fornix a firm body is felt in the pouch of Douglas; this is the fundus of the uterus. To ascertain this the cervix is moved at the same time. The angle on the posterior wall can be felt, but a fibroid tumor may exist in the posterior wall and in order to differentiate the two, the bimanual examination must be made.

First try and see if the uterus is in normal position, this being done by pressure exerted in the an-

terior fornix with the internal finger, and just above the symphysis with the external hand. If no body is found at this point it is indicated that the uterus is backward. Then place the internal finger behind the cervix well up in the posterior fornix, then with pressure exerted upward and in conjunction with deep pressure over the abdomen with the external hand, the retroflexion can be felt if the abdominal wall is thin and relaxed, otherwise it cannot.

If in doubt, a rectal examination should be made, the position of the uterus can then be palpated if there is not ascent of the uterus. This examination is necessary if the abdominal walls are contracted or very thick. Having found that the uterus is flexed, its mobility should be tested in order to ascertain as to whether or not it is held down by adhesions; whether the fundus is caught under the promontory of the sacrum; or, if it is freely movable. To ascertain the mobility, pressure is exerted upward on the body of the uterus; it should yield readily if not fixed by adhesions, but if held down by the promontory of the sacrum, considerable force is necessary to move it. By examining the posterior surface of the uterus either through the posterior fornix or the rectum, the adhesive bands can be felt. I have felt them almost as large as a wheat straw and very tense if an attempt was made to push the uterus forward. If they exist they must be either absorbed or broken up before a replacement can be effected.

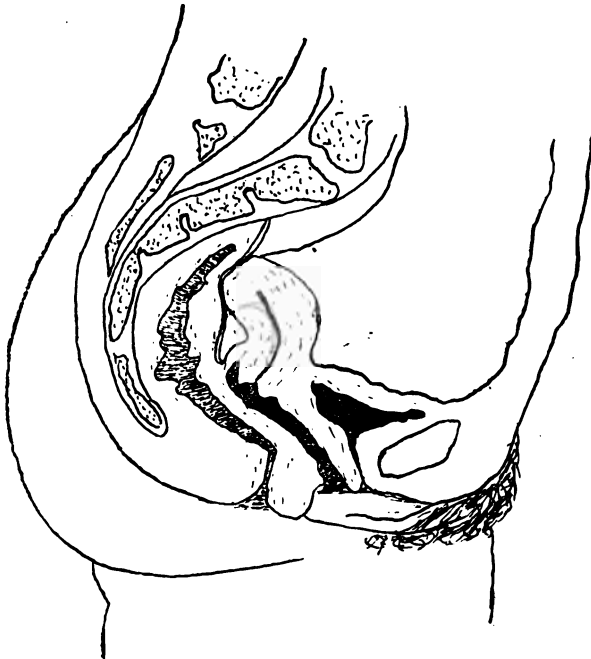
The sound is sometimes used to differentiate be-

tween a flexion and a tumor on the posterior wall, but its use should be deferred until all other have methods failed.

Care should be taken not to mistake a fecal impaction for a retroflexion. The fecal matter felt through the posterior wall of the vagina may also be mistaken for a tumor, especially if the patient has chronic constipation, in which condition the feces are very hard.

A deposit in the pouch of Douglas may at first

FIG. 25.



Retroflexion of the uterus.

be mistaken for the fundus, but locating the fundus at a different place clears up the diagnosis. Sometimes the ovary prolapses into the pouch of Douglas or an ovarian cyst may be found in this region; this can be diagnosed by its elasticity and softness, and the subjective symptoms.

110. Prognosis. The prognosis depends upon the amount of inflammation, length of standing of the case and whether it is reducible or not. If it is one of recent occurrence and where there is not much loss of tonicity the prognosis is good, but if of long standing and there is a metritis or atrophy, it is poor. If the flexion cannot be entirely overcome, relief can usually be given a patient by removing the inflammation and tenderness.

111. Treatment. The treatment of retroflexion consists of three things; first, replacement of the organ; second, keeping it in place after it has been replaced; third, relief of the symptoms where replacement is impossible. The first thing to notice is the amount of inflammation and whether or not the uterus can be replaced. The obstacles to replacement are fibroid tumors, adhesions and inflammatory conditions, which make the parts too sensitive to be moved. These conditions must be overcome or at least partially reduced before the uterus can be replaced. The treatment for fibroid tumors will be given in another paragraph. Adhesions are best treated by producing absorption of them, which is done by correcting the disturbances of the circulation. They are the result of an inflammatory exudate and the inflammation is the result of a disturbed

blood supply. Gentle force can be used to break them up, but care must be taken lest the inflammation be increased or a hemorrhage result, which would bring on peritonitis. If there is a great tenderness in and around the uterus, it can be lessened by gentle treatment around the uterus; principally above it. This lifts up the intestines and helps the drainage of the blood out of the uterus. Direct manipulation, unless very light over the point of inflammation, is not indicated and makes the condition worse.

112. Replacement. There are several methods employed in replacing a retroflexed uterus. The one method that I use a great deal is to place the patient in the Sims position and introduce one or two fingers into the vagina, two being better and are used if possible. The fundus being felt through the posterior fornix, by a gentle steady pressure exerted against it, it can be gradually straightened from its retroflexed condition. After it is raised up it can be grasped by the external hand, if the abdominal wall is thin, and then having the uterus between the two hands it can be readily replaced.

If the uterus moves upward when an attempt is made to get the vaginal finger behind it, resort will have to be made to a rectal treatment. Through the rectum the entire fundus can be felt and by pressure exerted directly on it, through the anterior rectal wall it can be bent forward far enough to be grasped by the external hand. Again, the recto-vaginal method is used in stubborn cases. This is done by placing the index finger in the vagina and the second

finger in rectum. Then by steadying the cervix with the index finger the fundus is pushed forward by the rectal finger.

The wire repositor invented by Dr. Still, can be used in replacing this form of displacement. The instrument is introduced and the loop adjusted around the cervix. By lifting directly upward when the patient is in the dorsal position or pulling directly forward when the patient is in right latero-prone position, the uterus will be partly forced through the loop of the instrument and will be almost entirely straightened. Then by exerting pressure as in replacement of prolapsus, the uterus can be brought in position. The patient should then rest for a while on her side or chest, until the uterus adjusts itself to the changed relation.

The genu-pectoral position is really the best one to use in replacing retro-deviations. Gravity aids in the operation and usually very little artificial help is necessary. With one or two fingers in the vagina pressure if exerted on the posterior uterine wall, or in some cases the posterior wall is retraced, admitting the entrance of air which forces the uterus downward, sometimes into its normal position. The reason for this is, that when a patient is in the genu-pectoral position, the weight of the intestines is taken from the pelvic viscera on account of the retraction of the intestines. This leaves a partial vacuum in the pelvic cavity and by admitting air into the vagina the uterus will be forced downward from atmospheric pressure. Sometimes it is necessary to use the rectal treatment in connection with

this since the uterus may not be replaced by entrance of air, it having been forced or rather, bent downward. If the fundus has been caught behind the promontory of the sacrum it can be loosened by the rectal treatment. As in all attempts to correct any backward displacements, the patient should rest, for a while after the treatment, on her side or chest.

The sound is the last resort and is used after the above methods have failed. If the patient has a very thick or contracted abdominal wall, resort to the sound will probably have to be made, since it is very hard to manipulate the uterus where such conditions exist. After a proper preparation of the sound, the patient should be placed in the Sims position; with the right index finger locate the os uteri. Then with the sound in the left hand with the concavity backward and bent at the proper angle, it is pushed, without rotation, directly into the uterine canal. After it has been introduced the sound is rotated by carrying the handle through a wide arc so as not to injure the internal mucous membrane. The handle is then gently and gradually brought backward, thus forcing the uterus into place. The replacement can certainly be effected in this way, but the most careful precautions will not prevent this method of procedure from producing irritation of the endometrium.

After all, the hands are the best repositories in ordinary cases. The bimanual method has several advantages over all methods. First, it is safer and more convenient and not so likely to be followed by endometritis; second, the lever action of a sound is

avoided whereby an undue amount of force may be used, and third, the operator feels every move; the operation being constantly under his control, and on noting points of resistance he stops before too much force is used.

113. How to Keep the Uterus in Place After Replacement. As in anteflexion, the uterine walls must be strengthened, but in addition, in the case of retroflexion, the round ligaments must be shortened to hold the uterus in position after it has been replaced. By correcting bony lesions that cause a weakening of the uterine walls or their supports and by relieving the congestion; by removing the obstruction to the proper return flow of blood before the attempt is made to replace it, it will probably be held in position after it is replaced. Usually it does little or no good to replace the organ before its supports have been strengthened, although in some cases it helps to relieve the congestion and inflammation which may exist. Frequent local treatments to replace the uterus, as practiced by a great many, are wrong. They keep the parts irritated and do not strengthen the supports but rather weaken them.

The patient should be instructed not to let the bladder get distended or else the uterus will be forced back into its former position on account of the weakness of the round ligaments. Coition is contra-indicated before the normal tonicity has returned to the parts. Assuming the genu-pectoral position several times daily is very helpful in this kind of cases. Avoid wearing tight clothes or

bands for they force the weakened uterus backward. Strains, lifting of weights or falls, readily displaces the uterus again, and should be avoided on account of the weakness of the round ligaments. The most important is to correct the bony lesions found, since they are the real, the predisposing causes. The uterus must be nourished and strengthened, but this would not result if these lesions shut off the blood supply. They must be corrected if a permanent cure is expected or if the uterus is to be kept in place after it is replaced.

Pessaries have been recommended but I never use them in this kind of displacement since it can be corrected a great deal better without them.

Operations have been devised whereby the uterus is fixed to the abdominal wall, or the round ligaments shortened. The first is performed in two ways, either by an abdominal incision which is called abdominal hysterorraphy, or through the vagina, this being called the vaginal hysterorraphy. The other operations for shortening the round ligaments is called Alexander's operation. Only mention will be made of these operations since operative gynecology is not practiced by the osteopathic physician.

It seems that our modern gynecologists treat all forms of retroflexion alike, regardless of the many different causes producing them. Pessaries are introduced or operations performed, which are some times far more dangerous and cause more trouble than the original disturbance that they have attempted to correct. At the conclusion, the woman

is told that the uterus is now in place and that her symptoms ought to leave. The woman not caring where the uterus is, so long as she is free from pain, suffers on unless the cause has been removed. I know of no kind of cases that so strictly belong to the osteopathic field, since we cure so many cases where others fail. The cause of trouble in the individual case must be found and corrected or else the routine treatments are in vain, or at least are only palliative and serve to give temporary relief only.

FIG. 26.



Retroversion of the uterus. (Second degree.)

114. **Retroversion.** Retroversion is that form of

displacement of the uterus in which the fundus is turned backward and the cervix forward changing the uterine axis but not bending the canal. (See Fig. 26). It is frequently associated with retroflexion and the causes that produce the one will produce the other in a great many cases. It is recognized as an early stage of prolapsus, in fact it is called the first stages of prolapsus uteri. Sometimes it is rotated so far backward that the fundus lies in the hollow of the sacrum with the cervix pointing upward. In this displacement the intra-abdominal pressure is directed on the fundus or an-

FIG. 27.



Retroversion of the uterus. (First degree.)

terior wall of the uterus which exaggerates the condition and promotes prolapsus. It is a form of displacement which most frequently comes on suddenly, or in rare cases it may come on gradually. It is the forerunner of retroflexion. The uterus is first retroverted, then its position weakens the support of the fundus and it gradually bends backward and downward.

FIG. 28.



Backward rotation of the uterus from distended bladder.

115. **Causes.** The most frequent causes are those which put a sudden strain on the round ligaments. If a patient should suddenly slip or lift a weight while in a stooped condition it very frequent-

ly brings on an acute retroversion. I have seen cases that resulted from coughing or suddenly turning over in bed. Sudden falls on the buttocks such as would result from some one pulling a chair from beneath a patient in the act of sitting down, will cause it in nearly every instance. Jumping from off a bicycle, alighting very hard on the feet or any jar of the body has a tendency to produce this kind of uterine displacement. This is especially true if the bladder is distended at the time of the strain or fall. I have known confirmed invalids who dated

FIG. 29.



Direction of abdominal pressure on uterus in retroversion.

their trouble back to the time when they strained themselves by carrying a bucket of water. I have a patient at present who had a backward fall on the ice resulting in a retroversion which has made her an invalid.

These displacements the more easily occur if any bony lesion exists which has weakened the parts. If the bony pelvis is properly adjusted and there exists no displacements, retroversion is not likely to occur, or at least it will occur with difficulty, even if there is a fall or heavy strain, when it is once thrown backward, the abdominal pressure tends to force it still further backward and downward. (See Fig. 29.)

These lesions so weaken the supports that the exciting cause the more readily acts. Hence those bony lesions such as a slipped innominate, sacrum, coccyx, of lumbar vertebra should be considered of very great importance as causative factors in retroversion, as well as any other form of uterine displacements.

A weakening of the utero-sacral ligaments permits the lower part of the uterus to sag down and be rotated backward. If a distended condition of the bladder, exists as shown in Fig. 30, it increases tendency to backward rotation. The non-return of the uterus to its normal form and position during the puerperium is a cause of retroversion in multipara. A little thought will explain the occurrence of this displacement during the puerperium. In the first place the two factors, increased weight and relaxed supports are present. Then permitting the

FIG. 30.



Distension of the bladder forcing the uterus back.

patient to lie on the back too much, or permitting the nurse to put on a tight abdominal bandage, the uterus is kept or forced backward against the sacrum.

116. Symptoms. The symptoms are very similar to those of retroflexion, rectal disturbances, deranged menstruation, abnormal secretions and the reflex phenomena. Since it usually comes on suddenly there will be the sensation of something having given away, backache and reflexed disturbances such as nausea, headache and pain in the abdomen.

Instead of dysmenorrhea, menorrhagia more frequently prevails. The cervix may irritate the bladder and cause frequent micturition, but this is the exception rather than the rule.

The pressure exerted against the rectum increases the tendency to constipation or interferes with the rectal circulation causing hemorrhoids in a great many cases.

FIG. 31.



The position of the uterus changed by an impacted rectum.

Leucorrhœa is present on account of the congestion of the uterine and vaginal walls. In recent cases the pain is very frequently referred to the re-

gion of the stomach, small intestines, gall bladder or to some organ even higher in the abdominal cavity. There is cramping of the abdominal muscles and tenderness over the entire abdomen.

117. Diagnosis. The diagnosis is made by locating the cervix low down in the vagina and pointing toward the outlet or symphysis pubis. The finger passed into the posterior fornix discloses a hard, round mass, continuous with the cervix and resting against the rectum. By the bimanual method the fundus is not found in its normal position, that is, it is not found on palpating the anterior fornix.

By the rectal examination the fundus and body are plainly felt resting against the rectum. The uterus is found to be rigid and fixed in its position. I have seen a great many cases where the uterus entirely occluded the lumen of the bowel and had to be forced forward before the finger could be introduced into the rectum. A fibroid tumor on the posterior uterine wall may cause rectal symptoms, but the direction of the uterine axis as demonstrated by the position of the cervix and fundus, depth of uterine cavity and the conjoined examination will clear up the diagnosis.

118. Treatment. Simply replacing the retroverted organ is frequently sufficient unless the condition has existed for some time. This is performed in the ways similar to those mentioned under the head of replacement of retroflexion.

Pressure exerted against the posterior uterine wall by means of the index finger, either through the posterior fornix or anterior rectal wall, is a

FIG. 32.



Retroversion with adhesions fixing it to the rectum.

method I most commonly use. If it cannot be replaced in this way I place the patient in the genupectoral position and introduce one or two fingers into the rectum and push the fundus and body forward. Sometimes simply admitting air into the vaginal cavity will cause it to resume its normal position, unless there are adhesions, or it is caught behind the promontory of the sacrum. "The Old Doctors" wire can also be used in this form of displacement. If these methods fail a sound is commonly used; the replacement being accomplished

by this method. To keep it in place let the patient rest either on her face or side as long as possible after the treatment. In chronic cases strengthen the supports, particularly the round ligaments by osteopathic treatment. This treatment is directed to the reduction of lesions both bony and muscular. Prevent the patient from walking or standing too much or doing any work, whereby strain will be thrown on the abdomen, until after the supports have been strengthened.

119. **Latero-Flexion.** Sometimes by inflammation of one of the broad ligaments cicatricial tissue will be formed, this contracting and drawing the uterus to that side. It can be readily diagnosed by locating the fundus and cervix by the bimanual method. On vaginal examination the broad ligaments on the affected side will be found tender and tense and the fundus can be felt drawn to that side.

120. **Latero-Version** is a condition similar to latero-flexion, but in addition the cervix is drawn to the side opposite to that to which the fundus is drawn. It is also caused by adhesions or growths that are sometimes found between the layers of the broad ligaments. No special symptoms follow these displacements, it being indicated by a cellulitis or inflammation of the broad ligaments on the affected side, this being indicated by tenderness and heat found. Latero-versions can be readily recognized by bimanual palpation. They are treated by producing absorption of the inflammatory exudates and restoring a normal circulation to and through the broad ligaments.

121. Complications of Uterine Displacements. Nearly all forms of displacements set up an inflammation either in or around the uterine walls. Metritis, cellulitis, peritonitis, oophoritis and salpingitis are the most frequent complications. These complications may be either primary or secondary conditions.

The menstrual disorders depend on the amount of blood in the uterus, the amount of inflammation, the degree of contraction or relaxation of the uterine walls and the size of the internal and the external os.

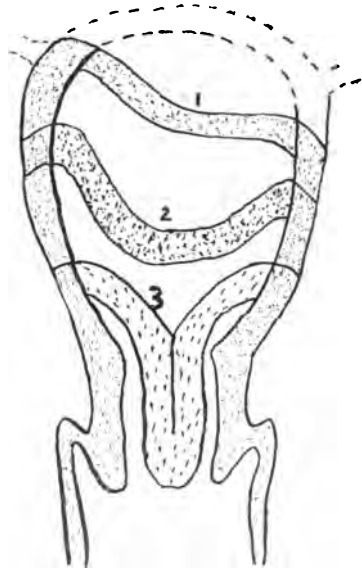
The weakest abdominal or thoracic viscus will be affected reflexly, producing a functional disturbance in that organ.

122. Remember that it does very little good to replace the displaced uterus when the supports are soft and weak, but first direct the treatment to build up and strengthen the supports; that a version is usually of sudden occurrence, while a flexion is a gradual one; that temporary relief can often be given by simply lifting up the uterus; that in case of syncope the patient can frequently be aroused by local treatment when all other methods have failed; that a chronic pain below the waist line, or headache in the top of the head, point to uterine disturbances; that 90 per cent of women have some form of uterine trouble which is the cause of most of their pains and aches.

123. Inversion of The Uterus. Inversion of the uterus is a partial or complete turning of the organ inside out; so that the endometrium forms the covering membrane and the peritoneum the lining of the

cavity, if the inversion is complete. A partial inversion is one in which some part of the uterine wall, usually the fundus, is depressed in a way similar to that of a dent in a hat. In complete inver-

FIG. 33.



The different degrees of inversion.

sion the uterus is turned completely wrong side out. It is the condition that is usually associated with child birth, but some times it results from other conditions such as senile atrophy of the uterus.

124. Causes. In order that inversion be produced there must be a dilatation of the uterine cavity, the weakness of a part or all of the wall of the uterus,

and some force must be exerted, such as the abdominal pressure or tension from below in the form of an adhered placenta or polypus that is attached to the mucous membrane lining the upper part of the uterine cavity. The dilated or distended cavity, is most frequently found immediately after parturition, and being one of the most essential causes we find inversion most frequently occurring at this time. In order that the cavity exist or be formed there must be a thinned and weakened condition of the walls of the uterus. This weakness follows an over-distention of the uterine cavity. This results from hydrops amnii or twin pregnancy, or is caused by some interference with the nutrition of the walls. If there is traction from below such as pulling on the umbilical cord during the third stage of labor, or if the pressure of a polypus occurs while the walls are in this weakened condition, a partial inversion will result. If there are violent contractions during the third stage of labor it may, like invagination of the intestines, force the fundus down into the uterine cavity. This may occur in the latter part of the second stage of labor, that is, immediately following the expulsion of the child.

Frequently it is caused by the improper management of the third stage of labor. When there is inertia, that is, the uterus not contracting sufficiently to force the placenta loose, traction exerted on the cord is likely to produce inversion, especially if the attachment of the placenta is to the fundus.

A short cord is sometimes the cause of inversion. A weakened condition of the uterine wall at

the placental site permits of a partial inversion at that point.

Inversion not associated with parturition is some times the result of a fibroid tumor, forcing a weakened wall in. A polypus attached to the lining of the fundus may, by setting up uterine contractions, be forced downward and will pull the uterus with it. In cases of senile atrophy or where there is a circumscribed metritis, that part of the uterus may partially invert. I have seen cases where there were a great many disturbances at or following the menopause, which were due to a partial inversion.

The essential element, which is the predisposing cause in inversion, is an atonic state of the uterine walls, favoring relaxation of the muscle fibers. This leads to a partial prolapse of a portion of the wall and is associated with a regular contraction of the muscular tissue. The prolapsed portion is treated by the uterus as a foreign body; it excites uterine contraction which ends in expulsion, or a partial expulsion of the prolapsed part. The cause of this atonic state of portion of a the uterine wall in chronic cases can be, in most instances, traced back to a lesion in the bony framework which interferes with the nutrition of the uterine walls.

125. Symptoms. A tumor is felt in the vagina simulating a polypus, frequently a hemorrhage, constant or periodical, bearing down pains which increases on walking, and vesical and rectal disturbance. These symptoms vary with the degree of inversion and the cause of the trouble. If it is a complete inversion which follows delivery, all these

symptoms are exaggerated and the hemorrhage may be fatal, but if it a chronic case the reflex pains are the principle symptoms. In acute forms the patient collapses from loss of blood in most cases. In chronic cases there is an anemic condition and reflex circulatory disturbances such as tinnitus aurium and chronic headaches.

126. Diagnosis. Inversion following delivery will be suspected from the severe pain, the hemorrhage more or less continuous, and the absence of the fundus of the uterus upon the placing of the hand upon the lower part of the abdomen. The uterus can be seen as a raw looking tumor lying between the labia with the large end, the more prominent.

Apart from obstetric cases it is usually very difficult to diagnose a slight inversion, but very important like any other diagnosis.

In recent cases complete inversion is diagnosed from prolapsus by locating the os at the lower end of the protruding mass. The tumor is narrow at the base and wide at the upper part, while in inversion it is just the reverse. The covering of the protruding tumor will assist in the diagnosis, since in prolapsus it is smooth and shiny; in inversion it is the mucous membrane raw and bleeding, if it is a recent case.

A polypus may protrude which simulates an inversion. The color, consistency and mode of onset help, but a complete diagnosis is made by a rectal and bimanual examination, revealing the uterus to be in the pelvic cavity.

127. Treatment. The treatment differs in the two forms of inversion. When it immediately follows child birth all that is necessary is to replace the organ, it being comparatively easy in such cases. Pressure exerted directly against the fundus will usually accomplish the re-inversion. Sometimes one finger is placed in the rectum in order to assist in the operation, since in this manner the cervix can be reached and the os be helped to dilate. In irreducible cases an operation is resorted to by which the os is artificially enlarged or part of the fundus amputated.

Following reduction the uterus should be made to contract in order to prevent too much hemorrhage. This is done by work directly over the uterus through the abdominal wall or if it cannot be accomplished this way, an astringent solution is injected directly into the uterine cavity.

In chronic cases not immediately following parturition, a dull, blunt sound can be introduced into the uterus to push up the partial inversion. Care should be exercised in this or else the weakened uterine wall will be injured, and also as large a sound as can be introduced should be used since it lessens the liability of injury.

Since these changes are due to atrophy and weakening of the uterine wall the treatment should be directed to strengthen them in addition to replacing the prolapsed condition of the wall. When the inversion is produced by pressure from a growth such as a fibroid tumor, the treatment should be directed to reduce the growth or the pressure exerted by it,

since that is the cause of the trouble. In cases of partial inversion that occur in multipara after they have passed the menopause, little can be done on account of the thin and weakened condition of the uterine wall. Strong stimulating treatment applied to the back, to correct the muscular as well as the bony lesions, is beneficial, and if the case is not one of too long standing or one in which the walls have become very much weakened, the condition can be helped if not cured.

TUMORS OF THE UTERUS.

128. Definition and Classification. Gould defines a tumor as (1) any enlargement or swelling of a part; (2) "a new growth not the result of inflammation or hyperplasia." The latter definition includes the true tumors. In structure a tumor consists of tissues which resemble the normal tissues of the body either in a mature or immature state. Thus a tumor may be composed of muscle fibers, connective tissues, fat etc., or of cells like those constituting the epithelium. They are homologous when they resemble or continue to grow in the tissue in which they originate, merely displacing the surrounding tissue. They are usually innocent tumors. The heterologous tumors originate in one tissue and retaining the type of that tissue, invade another tissue. They are generally malignant, the epithelioma being a type. Innocent tumors are generally composed of matured tissues of the body, while the malignant on the other hand usually consist of cells like those of the more lowly organized or immature tissues.

129. Fibroid Tumors of the uterus are innocent tumors which occur in or on any part of the uterus, but most frequently attack the fundus. In structure they resemble both fibrous and muscular tissue and should properly be called fibro-myomata.

The pure myoma is rare and the muscular fibers exist only in the early stage. In the majority of cases the fibrous tissue preponderates and increases in amount the longer the tumor exists. These

FIG. 34.



Fibroid tumor on posterior wall of uterus,

tumors are the most frequent of uterine growths and occur most commonly between the ages of thirty and forty-five. Their growth is very slow, the rapidity depending upon the vessel union with the uterus.

Fibromata increase in size only during the sexual activity and remain stationary or undergo atrophy after the menopause. They seldom if ever originate in the uterus before puberty or after the menopause. I have seen in the young, localized enlargements in the lower part of the abdomen which had been diagnosed as fibroid tumors, but they turned out to be some form of bowel trouble, such as impaction, or an enlarged lymphatic gland.

Fibroid tumors are rarely found alone in the uterus there usually being several, irregular, and varying in size. As high as fifty different growths have been found.

Their size varies from that of a pea to that of a tumor weighing fifty or sixty pounds or even as high as one hundred and forty-five pounds as reported by one author. They are most frequently located in the posterior wall of the fundus; less frequently in the anterior wall and sides. It is a common saying that a woman is always looking for a tumor, and I have seen them apparently disappointed when told that they did not have one.

130. Structure. They are composed of the same elements as the uterine walls, namely, muscle fibers, connective tissue and fibrous tissue. The proportion varies, but in most cases the fibrous tissue predominates. The tumor feels hard to the touch and has a glistening appearance on section. It is surrounded by a covering or capsule, thus admitting of the operation called enucleation. The number of blood vessels penetrating its substance depends on the amount of fibrous tissue present,

since the greater amount of fibrous tissue present, the fewer vessels.

If the muscle fibers predominate the tumor becomes vascular and grows rapidly. The structures immediately around the tumor are very vascular and sometimes the engorged vessels can be felt through the abdominal wall. Nerves have been traced into the substance of the tumor, but there seems to be no sensation in the tumors except where they are covered with a mucous membrane.

131. Varieties. Three varieties of fibroid tumors have been recognized—submucous, interstitial or intramural, and subperitoneal. At first they are intramural, that is, located in the uterine wall, but as they develop they usually approach one of the two free surfaces, thus producing the other two forms.

Submucous fibroids are the most important clinically. On account of their position, nature regards them as foreign bodies and tries to expel them by uterine contraction. This simulates labor and causes the most excruciating pain, especially if the tumor becomes pedunculated. They lie usually beneath the mucous membrane and as they are enlarged, project into the uterine cavity. When they hang free they are called fibrous polypi. The uterine contractions excited by their presence leads, in some cases to pedunculation of the tumor or even its expulsion from the uterine cavity. I have record or numerous cases in which the osteopathic treatment produced expulsion of the tumors belonging to this class. Again the hemorrhage is most marked in this kind of fibroid tumor on account of the congestion of the mucous membrane.

The intramural or interstitial form remains in the substance of the uterine wall and does not become pedunculated. This is a form in which the greatest number is found.

The subperitoneal form grows outward and upward into the peritoneal cavity. It usually has a pedicle and upon the length of the pedicle depends the mobility of the tumor. It may ascend and carry the uterus with it, thus producing elongation of the uterine cavity or it may have a long pedicle, fall down from the abdominal into the pelvic cavity, and produce pressure symptoms. Sometimes the pedicle becomes twisted, this producing a disturbance of the circulation to the tumor. If this occurs gradually, nutrition will be shut off and cessation of growth follow, but if it occurs suddenly, gangrene may set in and result in a fatal peritonitis. This form can be distinctly felt and clearly outlined through the abdominal wall after it has grown any length of time.

132. Causes. The cause of fibroid tumors depends upon disturbed circulation which results in a deposit of material by the blood from which new formations grow. They are developed during the fruitful age of the woman. From this we would reason that their formation is related in some way to the development of the sexual apparatus. They are most commonly found in the sterile, whether as a cause or result I do not know. The repeated congestion of the uterus coincident with menstruation without any period of rest, is a very probable cause. Each organ must have its period of rest and if this

engorgement of the uterus is not relieved by a physiological process, such as pregnancy, it will predispose to deposits and new formations. The function of the uterus is to provide a place for gestation and if this is interfered with, disease, especially of this form, is very likely to result. Sexual activity and irritation accompanied by the use of means to prevent conception is certainly an important cause.

In looking over the record of cases that I have treated I find that in most cases there was a slipped innominate, or a rigid spinal column in the lumbar region or both. If the symphysis is carefully examined, soreness and irregularities will be discovered, which is indicative of a slipped ilium. The vaso-motors controlling the uterine circulation are in the lumbar region and a rigid spine or posterior curvature occurring in this region will affect the centers. The blood supply is deranged. Blood that is formed for another part of the body is switched off and its contents deposited in the vascular uterus. Each part of the body has blood formed especially for it, and it seems reasonable to me that if blood carrying food that was not intended for the uterus, should get into the uterus, its load would be deposited after repeated attempts, regardless of the so-called selective process which each organ is supposed to have. If the patient first has these bony lesions, then the causes above mentioned may the more readily act. If the first of the above mentioned causes were true, why does not every sterile woman between the ages of thirty and forty-five

have a fibroid tumor? I know from experience that these lesions are the most important as causative factors, because I have cured cases by correcting these lesions.

A displaced uterus is frequently a forerunner of this tumor. The formation of some of these tumors can be traced back to a fall or heavy lift, but this has particular reference to those of quick formation. I sometimes compare them to an excrescence on an oak or an exudate on a cherry or peach tree. There must have existed some disturbance to the supply of nutrition to that part from some sort of injury. The circulation of the sap must have been disturbed in some way. So it is with a foreign growth on the uterus. It is a result of a disturbance to the circulation, and this disturbance is in most cases the result of a bony lesion in the above mentioned places.

133. Symptoms. Fibroid tumors like other pathological growths of the uterus usually produce no symptoms until they are quite well developed. A great many people do not know that they have a tumor until told so by their physician since if the tumor is small there are very few noticeable symptoms. The most important symptom is that of hemorrhage. This comes on gradually, instead of suddenly as in cancer of the uterus, at first as an increase of the menstrual flow, which is called menorrhagia. After a time this may amount to a flooding or there may be irregular hemorrhages or metrorrhagia. This hemorrhage does not come from the tumor, but from the thickened mucous mem-

brane lining the uterine cavity. In some cases the loss of blood threatens the patients life. I saw a case recently in which there had been flooding for some six days. The patient was anemic, ears and lips colorless, pulse rapid and weak and there was a condition of almost complete syncope. The hemorrhage will not be so marked in the subperitoneal form as in the other forms, but there is usually a menorrhagia. In the submucous form the hemorrhage is greatest and threatens the patients life on account of the loss of blood.

Pain is present in the form of a backache or dysmenorrhea. If it is a submucous form, the pain will resemble labor pain since the uterus is contracting in the effort to expel the foreign body, which in this case, is the tumor. The pain is brought on by the tumor becoming pedunculated, the pressure on the cervix exerted by it, bringing on the pains. The backache is referred to the upper portion of the sacrum and lower lumbar region. The increased weight of the uterus causes a sensation of discomfort, which is described as a fullness or weight in the pelvis, or a dragging down sensation. This pressure on the nerves produces pains in the limbs, sometimes sharp or shooting, sometimes that of weight or pressure. Tension on the various ligaments produced by the increased weight of the tumor causes the backache, which is almost unbearable in some cases.

Pressure on the bladder causes frequent micturition. Pressure on the neck of the bladder may produce symptoms of cystitis, caused by retention of

the urine. Pressure on the veins produces hemorrhoids and varicose veins of the limbs. Pressure on the rectum produces constipation, or a diarrhea if there is a congestion of the mucous membrane of the bowels. Pressure on the ureters leads to kidney trouble, such as hydronephrosis or albuminuria. Pressure on the uterus results in displacement, this being in the direction of least resistance. Sterility is usually present, sometimes as a cause, sometimes as a symptom. Abortion may be induced by the presence of the tumor and labor seriously complicated either by causing a mechanical obstruction or post-partum hemorrhage.

134. **Physical Signs.** In the case of large tumors no difficulty will, present itself since the results obtained by inspection, vaginal examination, abdominal palpation and conjoined manipulation will be so decided that it will definitely settle the character of the case. Inspection will show enlargement of the abdomen; this not being symmetrical in a majority of cases. Abdominal palpation discloses a large, hard, solid mass, though in some cases it may be soft. Sometimes this may closely resemble pregnancy but there will be an absence of the usual symptoms of pregnancy. If irregular hard lumps are found it is a good diagnostic sign of fibroid tumors. In the vaginal examination the tumor, if on the anterior wall, can be felt through the anterior fornix as a hard irregular mass. This mass is diagnosed from the fundus by locating the fundus in some other part of the pelvis; also it is harder and is productive of menstrual disturbances such as menorrhagia. If

the tumor is on the posterior wall it can be felt in the posterior fornix or be outlined by rectal examination. By using the bimanual method the size, location and hardness of the tumor can be learned. The uterine canal is elongated, which can be learned by the use of a sound. This is not to be recommended on account of the danger of bringing on an inflammation or hemorrhage.

135. **Differential Diagnosis.** A very large fibroid tumor may be mistaken for pregnancy. It can be diagnosed from normal pregnancy by the absence of the usual signs of pregnancy. In extra-uterine forms of pregnancy the diagnosis is more difficult. The character of the enlargement, history growth and symptoms must be considered. In pregnancy the enlargement is symmetrical the os patulous and the cervix soft. In fibroids the enlargement is frequently irregular, cervix hard and os not patulous unless there is a great deal of inflammation and the growth very slow.

The tumor is diagnosed from a displacement of the uterus by its size, consistency it being more dense, irregularity and by finding the fundus by the bimanual method. It is diagnosed from cancer by the age, it appearing before the menopause, absence of laceration, this being a common cause of cancer; absence of odor, a slower hemorrhage, it being sudden in cancer, absence of constitutional symptoms such as emaciation and the cancerous cachexia, and the character of discharge, it being first of a watery then of a purulent nature in cancer. Sometimes in an incarcerated polypus or one in which the pedicle

has been suddenly twisted there will be some of the symptoms of cancer but can be diagnosed by locating the tumor and noting its size, shape and consistency.

An impacted bowel may be mistaken for a tumor, but this should not occur if the symptoms of an impaction are remembered and the shape, size and consistency of the tumor be noticed. A case of fibroid tumor was recently brought to the Infirmary which had been diagnosed as an impaction and the patient had exhausted the supply of purgatives which had been prescribed by the physicians. The pressure of the tumor above, produced constipation and impaction, and the cause was overlooked on account of the symptoms.

An inverted uterus may at first be diagnosed as a pedunculated fibroid, but the history, symptoms and absence of the uterus in the pelvis cavity as ascertained by abdominal examination will clear up the diagnosis. An ovarian or uterine cyst is recognized by the fluctuation, softness of the tumor, rapid growth and absence of hemorrhage.

136. **Prognosis.** The prognosis as to a cure depends upon the length of standing of the case, degree of hardness and size of the tumor, mode of onset, age of patient and the lesions found. If the case is of short duration, and is not of a fixed size, that is, if it gets softer and larger at times, prognosis is favorable. If there is a solid and firm tumor of slow growth, the size of a croquet ball, the prognosis is unfavorable. If the onset is sudden and tumor is of rapid growth and soft, and the patient is near

the menopause the prognosis is favorable. If a marked lesion is found and the case of not too long standing a cure is probable. I have taken cases in early stages of the growth and have stopped the progress and in some cases have even cured them. If the patient is near the menopause the prognosis is favorable, since in a great many cases the tumor undergoes spontaneous absorption at that time. If it occurs during gestation it grows very rapidly on account of the increased vascularity and in some cases they will undergo atrophy during involution of the uterus. They seldom end fatally but are very chronic, causing the patient to suffer at least until the menopause is reached.

The prognosis as to relieving the symptoms is favorable. By osteopathic treatment the pressure symptoms, hemorrhage and the various aches can be lessened unless the case is a very unusual one.

137. Treatment. The question is often asked whether a fibroid tumor can be cured by osteopathic treatment. I will answer by giving results of cases treated at the Infirmary. Cases of short duration, tumors that were soft and not very large, have either been cured or the progress of their growth stopped in every case that I have seen. In cases where there was a great deal of fibrous tissue of long standing, and necessarily very hard, I have not seen one in which the tumor was absorbed, but in most cases the symptoms were wholly or partially relieved.

In the curative treatment the bony lesions that are found must be corrected. This is the funda-

mental and primary step. By the correction of these lesions that disturb the circulation, the nutrition of the tumor is shut off and absorption begins. It can be compared to the treatment of a goitre or an enlarged tonsil. The absorption follows the correction of the lesion unless there is too much fibrous tissue already formed, which is very slow of absorption. The question arises, is absorption produced by increasing the arterial blood supply or lessening it? I think it is produced by restoring a natural blood supply to and from the organ. Since nature tends toward the normal, any little help that can be given, increases the power of nature to throw off foreign elements and restore the normal circulation to and around the part. As mentioned before, if this disturbing factor, the lesion, be corrected, nature, unless the process has gone too far, will certainly assert herself and restore the parts to their normal condition. In addition the tumor should be loosened and softened by lifting or pushing it out of the pelvis in order to free the circulation. This can be done by working directly over the tumor through the abdomen or by the use of the wire repositor of Dr. Still. By doing this every few days the tumor becomes softened and absorption is increased. The local application of drugs will not do this, nor will the internal administration of same do any good.

In cases of extreme backache accompanying the tumor, pressure over the perineum with the palm of the hand will temporarily relieve the pain. The patient should be kept from standing, or walking

very much, since this increases the pressure or tension and makes the condition worse. In cases of menorrhagia in which the flow is arterial in character, the patient should be put to bed with the foot of the bed elevated, and treatment given to contract the uterus. This is ordinarily accomplished by strong stimulation over the lower lumbar region or clitoris. Hot injections, ice packs or astringent solutions of sulphate of iron, alum or witch hazel can be injected directly into the uterine cavity, when the other methods fail. On account of its action on the smaller blood vessels its use seldom fails to stop or check the hemorrhage. The custom of packing the vagina is not very successful, it only results in preventing external hemorrhage while the internal still continues.

138. Operations. About the first thing that a surgeon advises in the case of a fibroid tumor is an operation, and I think many lives have been sacrificed on account of a too free use of the knife. I know of a great many cases where hysterectomy was performed by eminent surgeons for a very small fibroid that was causing very little inconvenience. In a large per cent. of these cases the operations are successful, but the patient dies. Why risk a patients life by operations when the symptoms are not severe nor point to a fatal termination?

The osteopath believes in surgery; it is a distinct, separate science, but it should be a last resort after other methods have failed. Operations for the removal of fibroid tumors are recommended if the case

cannot be cured by osteopathic treatment after a fair trial has been given. If the symptoms are severe enough and cause the patient constant pain, or if the patient is not near the menopause an operation is usually advisable. They are not advised if the tumor is small, and the symptoms mild, or if the patient is near the menopause, for in a majority of cases the growth will stop or the tumor will undergo atrophy at that time. For the different kinds of operations, and the methods used, a work on surgical gynecology should be consulted.

Curetage is sometimes used in cases of the submucous form of fibroid tumors, by means of the sharp curette as shown in figure 36. In this way the lining membrane of the uterus with the tumors are removed. This should not be resorted to until osteopathic treatment has failed, on account of the hemorrhage, danger of infection, and on account of the small amount of relief that usually follows the operation. I have several reports of cases of this kind that have been cured by our treatment.

139. Polypi. A polypus is a pedunculated tumor attached to a mucous membrane. Those found in the uterus are of the mucous or fibroid variety, the latter being the more common. The fibrous polypi spring from the muscular wall of the uterus, most commonly from the body since that is the usual seat of fibroid tumors. They are similar to fibroid tumors as to consistency, appearance and structure; in fact they are fibroid tumors with a pedicle. In size they vary from that of the end of the finger to that of a goose egg or even larger. As they enlarge the uterine

cavity is dilated and the pressure exerted on the cervix sets up uterine contraction, which, in a great many cases cause its expulsion. They are sparingly vascular but are congested and enlarged during menstruation. This enlargement increases the uterine contraction and is a favorable time for their expulsion on account of the dilated condition of the os uteri. After it has been expelled from the uterus, it still retains connection with the uterus by a long pedicle.

A mucous polypus is soft and pulpy and rare y reaches a size larger than that of an almond. They are developed from the mucous membrane lining the cervix and appear in groups. They are extremely vascular and bleed readily on irritation.

140. Symptoms. Hemorrhages are the first symptoms on account of the location of the tumor, it being on or near the mucous membrane. It, like hemorrhage from fibroid tumors, begins as a menorrhagia, but afterward it becomes irregular and assumes the form of a metrorrhagia. It comes from a congested mucous membrane and in the mucous form, from the polypus itself.

Leucorrhœa is present as a result of the congestion of the endometrium. Dysmenorrhœa is very marked in cases where the polpi cause pressure on the cervix. It is similar to, or even worse in some cases, than parturition. In some cases the presence of a polypus has caused various reflex symptoms of pregnancy such as pigmentation of the breast and morning sickness. Sterility is caused partly by the obstruction produced by the polypus

and partly by a diseased condition of the endometrium which accompanies these cases and produces an abortion.

141. Diagnosis. If the tumor has dilated the external os so that it protrudes into the vagina, it can be recognized by the finger on vaginal examination. Then by encircling the cervix with the finger and examining the body through the fornices the pedicle, and the size of the tumor can be readily ascertained. By the use of a speculum the tumor will appear of a bright color which contrasts with the dark red color of the cervical mucous membrane. Sometimes it is advisable to introduce the finger directly into the uterus, thus exploring the uterine cavity. The polypus can be plainly felt, making the diagnosis certain.

The polypus may be mistaken for an inversion especially if very much hemorrhage is present. The presence of the fundus in the pelvic cavity as ascertained by bimanual palpation, the slowness of the onset, the consistency of the tumor it being harder, and the shape and appearance of the polypus, are sufficient to diagnose a polypus from an inversion of the uterus.

The prognosis as to danger to life depends upon the amount and character of the hemorrhage. On account of its location a polypus may set up a great deal of hemorrhage which may not only produce anemia but fatal symptoms. The prognosis as to relief without an operation depends on the character of the polypus, and should be guarded. The operation for the removal of the polypus is simple and

and seldom terminates fatally if performed properly.

142. Treatment. The treatment of polypi depends upon their size, where they are attached, length of pedicle and amount of hemorrhage. If the tumor is small or of a submucous variety it can easily be cured by osteopathic methods. This is accomplished by directing more arterial blood to the uterus and causing uterine contraction. These contractions will in most cases produce expulsion of the tumors. The treatment to accomplish this should be in the lower lumbar region or at the sacro-iliac synchondroses, since the lesions affecting the uterine circulation are found at these points.

Torsion is sometimes used. The polypus is grasped either by the hands or forceps and twisted. Removal is advocated in most cases if the hemorrhage is marked or the tumor large, obstructing the os and causing dysmenorrhea.

143 Cancer of the Uterus. Cancer is a malignant disease which attacks most frequently the cervix uteri, mammary glands and face. It takes its name from the word meaning crab on account of its tentacles, which make it a very deep seated disease. Carcinoma is a term used for a true cancer, although sarcoma and malignant adenoma are commonly called cancers. It undermines the constitution and in most cases rapidly leads to death. It is the disease above all other diseases that a woman dreads, and rightly too, since its termination is so fatal and its course so painful and distressing. Even if extirpated, it tends to recur in a worse form and hastens the death of the patient.

144. Varieties. There are three varieties usually named; the medullary or encephaloid, the scirrhus and the epithelioma. They differ in degree and in the elements of which they are composed. The encephaloid is the softest and it is the most fatal, that is, its progress is most rapid and produces death earliest. The scirrhus is hard on account of the preponderance of fibrous tissue, but is rarely found attacking the uterus. The epithelioma attacks the squamous epithelium of the cervix, causes an atypical multiplication of the cells which invade the deeper tissues. Another classification is made according to the part of the uterus affected, into cancer of the vaginal portion, cancer of the cervix and cancer of the body of the uterus.

145. Causes. The causes of cancer are not very well known, although certain constant factors are found accompanying the disease. Heredity has something to do with causing cancer, but unless acting in conjunction with other causes it is not sufficient of itself to set up a cancerous process. It will act as a predisposing cause, that is, it may weaken the pelvic organs and then the exciting cause can the more easily and readily act.

Age has considerable influence upon the frequency of the disease. It occurs most frequently between the ages of forty and sixty, it seldom occurring before the menopause. At this age the vital powers are lessened, this favoring the attack. Anything that tends to lower the vitality increases the liability of the disease. Repeated pregnancies are important causes, cancers being most frequently

found in multipara who have born at least five children, as is demonstrated by statistics.

Laceration of the cervix is the most important of the exciting causes, and I doubt if cases of cancer of cervix are found without being preceded by a bruise or laceration. This causes a constant irritation, a congestion and a weakening, followed by a lowering of the vitality of the cervix. It is similar to an epithelioma of the lip which is caused by a jagged tooth or the proverbial Irishmans' pipe.

Cancer of the breast commonly arises in a similar way. First a bruise, a local swelling, patient getting scared and then irritating the part by manipulation, the surgeons knife and then the formation of the cancer proper.

The cervix bears the brunt of coition and parturition. It is also bruised by the use of instruments introduced into the uterine cavity. If the predisposition is there, whether it be heredity or otherwise, the irritation resulting from the bruising in some cases results in the cancerous formation. I should regard cancers as caused by a disturbance of the lymphatic and venous circulation, but principally by a disturbance of the lymphatic. It is the result of an injury of the lymphatics, and from this results the watery discharge. The disturbance to the blood supply is shown by the fungus-like appearance of the new growth and the raw and angry appearance of the cervix. This disturbance is produced by the local irritation which had followed the laceration, or else it is due to a lesion affecting the vaso-motor centers of the cervix.

The local injury is not sufficient to cause the disease, or else every woman who has been lacerated or had the cervix bruised would have a cancer. There must be something else in addition, and the bony lesions impinging on the nervous connection with the uterus is to me, a very plausible cause. It is the more plausible when cases are taken and cured which have been diagnosed as cancers, by correcting these lesions. In these cases the pelvic circulation was improved and the symptoms either abated or, in some cases entirely disappeared. The cause of cancer is a mystery to medical men, there being various theories attributing it to various imaginary micro-organisms, but none as yet have been found. To the osteopath the disturbances of the lymphatic and venous circulation are the most important causes, and all his efforts should be directed to restore the normal flow of lymph and blood to and from the part.

146. Symptoms. The early symptoms are few and mild, not prompting the patient to seek advice of a physician. This is one reason why it is so hard to cure, since it is rare to get a case in the early stages. At first the symptoms are local but soon begin to affect the constitution and undergo the general health.

Hemorrhage is one of the first local symptoms noticed. It, like hemorrhage found in fibroid tumors, appears first as a menorrhagia. The patient, on account of her age, she being near the menopause, usually attributes this to the change of life, thinking it to be one of the symptoms. She finally con-

sults a physician if it becomes too profuse, and a well developed cancer is frequently found. In other cases the hemorrhage comes on irregularly and independent of the menstrual period. This comes from rupture of the dilated vessels and the ulcerative process by which the blood vessels are opened. It may appear suddenly after an exertion as straining at the stool or after coition.

With the progress of the disease the hemorrhage increases, it coming on in gushes and in some cases threatening the patients life. Sometimes the patient tells you that the menstrual flow never entirely ceases. This is an important point if found in a patient who is in the change of life or who has just passed the menopause. Since cancer appears most frequently just after the menopause, any unusual hemorrhage should be properly examined as to its cause and source, since the earlier the disease is recognized the greater the probability of a cure.

The discharge of carcinoma is of a watery nature and of a very fetid odor after ulceration has set in. I have examined patients by means of a speculum when drops of water could be seen to collect on the cervix. The amount varies, but usually a drop is secreted every few minutes, so that after a while there is quite a marked watery discharge. This is a symptom which is seldom found in other uterine diseases and is regarded as one of the important symptoms of cancer. There is no odor connected with the early stages and is most frequently found accompanying the papillary epithelioma or the "cauliflower" excrescence. After there is ulceration

the discharge becomes most offensive and increases in amount as the ulceration becomes more marked. The odor is very nauseating, very penetrating and clings to the examining finger for some time, regardless of the efforts to remove it. The discharge is called carcinomata ichor or 'cancer juice.'

Pain is not an important symptom in the early stages of cancer, but in the later stages becomes very constant. After ulceration begins, sharp lancinating pains are felt in the pelvic region, and sometimes shooting through to the back and reflected down the limb. Sometimes it is a dull gnawing pain which is located in the small of the back or deep down in the pelvis. Occasionally this pain is reflected to the mammary glands, setting up a reflex functional disturbance of the glands. Local peritonitis, which accompanies nearly all those cancerous conditions of the uterus, is also productive of pain which is localized. The adhesions which are present prevent the diffuse form of peritonitis in most cases.

The disease may extend to the neighboring organs producing erosion or disturbance in them. The bladder becomes irritable, frequent micturition is present and in some cases cystitis, and painful urination. The kidneys, on account of the pressure on, or the extension of the disease to the uterus, are frequently affected. There may be hydronephrosis, uremia or organic disturbances of the kidney.

Constipation is present on account of the pain associated with defecation, dryness of the feces resulting from the watery discharge and weakness of

the expulsive forces on account of the extension of the disease to the rectum. Diarrhea follows in some cases where the rectum is irritated by the invasion of the cancer. The lymphatic glands in the lumbar region are enlarged and tender, and care should be exercised in treating the abdomen lest there be bruising or injury of these glands.

147. **General Symptoms.** In addition to the local symptoms mentioned, there are certain general symptoms which are secondary to the local trouble. The most marked are: emaciation and general debility. In the early stages the patient may be apparently healthy, but after there is much ulceration the skin becomes anemic and of a straw color; there is progressive loss of flesh and the patient has a careworn appearance. These facial symptoms are called cancerous cachexia or cancerous facies. The appetite is deranged and there is anorexia, nausea and sometimes vomiting. There is sleeplessness, anxiety, anemia and a general loss of energy.

148. **Physical Signs.** In making a local examination it is well to protect the finger by lubricating it with glycerine. This prevents contamination and assists in the removal of the fetid odor which clings to the finger.

In a typical case the cervix is soft and friable, with the rim of the cervix hard. The mucous membrane is found to be partially everted which gives it a rough or cauliflower appearance. There is proneness to hemorrhage on the least irritation by the examining finger and particles of the growth can be readily broken off with the finger nail. The rough

irregular surface is felt. With the speculum the cauliflower fungus-like bleeding mass can be seen. Particles are frequently sloughed off and discharged per vaginam.

The microscopic examination reveals a fibrous stroma with alveoli which contain irregular cells of an epithelial type. In cases of advance standing where the vaginal examination is too painful and productive of hemorrhage, a rectal examination can be made. The uterus is felt to be fixed and the fungus-like mass outlined. A speculum should be used in most cases where a cancer is suspected, since inspection is the best method to diagnose the disease.

149. Differential Diagnosis. Diagnosis of cancer is sometimes very hard and is sometimes mistaken for other diseases, but other diseases are more frequently mistaken for cancer. A great many cases that come to the Infirmary that had been diagnosed as cancers, turned out to be something else, such as a simple tumor, laceration or ulcer.

It is diagnosed from fibroid tumors by the hemorrhage; its amount and onset. In fibroid tumor it is gradual in its onset, not so constant nor profuse except in some cases of the sub-mucous variety. In a fibroid there is absence of a fungus-like mass, of fetid odor, of friability, and the disease appears before the age of forty-five. There is absence of constitutional symptoms and it runs a much more chronic course than in cancer. The enlargement is different as to size, location and appearance. Fibroid tumors are usually located on the fundus, develop

slowly and produce enlargement of the abdomen while cancers are found on the cervix, develop fast and produce no enlargement of the abdomen.

A polypus in which there has been sudden torsion of the pedicle, may be mistaken for a cancer on account of the discharge, odor, and the hemorrhage. The other symptoms of cancer are absent. On examination of the cervix no growth is found, but on examination of the uterine cavity the tumor can be felt.

An erosion or ulceration of the cervix is most frequently mistaken for cancer. Consider the odor of the discharge, length of standing, constitutional symptoms, and amount of pelvic disturbances. On examination of the ulcer it is not like a cauliflower in appearance, not friable and is localized and yellowish in color; cancer being red.

A laceration that has not healed may give rise to symptoms of cancer, but the history, absence of characteristic cancer symptoms and locating the rupture of the cervical wall by the examining finger and by the use of the speculum, the laceration can usually be recognized. In laceration the splits in the cervix radiate from within outward and are regular, but in cancer the fissures are irregular, sometimes running crosswise of the cervix.

To summarize the diagnostic symptoms of a cancer, note the rapid progress of the disease, age of patient, she being above forty years of age, evidences of heredity, presence of the characteristic symptoms and signs of malignancy such as pain, hemorrhage, fetid discharge, pelvic and reflected

pains, fixation of the body of the uterus, involvement of adjacent parts, tendency to resist treatment and to recur after removal, and the cachetic appearance of the patient. The physical signs that are found by examination with the finger and speculum, evidences of metastasis and growths elsewhere, and the microscopical appearance of portions of the cancerous growth makes the diagnosis sure.

150. Prognosis. The prognosis in cases of true cancer is very unfavorable both as to cure and relief. In cases of supposed cancer it is favorable. I have seen cases or conditions that were diagnosed as cancer which were cured, and on this account if the case is taken in the very early stages there is a chance of it not being a cancer and can be eventually cured. Consider this in making a prognosis since you should be very guarded as to the outcome of the disease. Never pronounce a case as one of cancer until you are sure of your diagnosis, or else the patient will get worse just from the thoughts of having the dreaded disease.

If it is one of true cancer its course is rapid and death usually results within two years, sometimes a great deal sooner, especially in the encephaloid variety. Under osteopathic treatment a great many cases of supposed cancer have been cured, but I have never seen a case of a truly well developed cancer cured. In the later stages the pain and suffering can be markedly relieved, and on this account if on no other, the treatment is a wonderful advancement on the usual methods.

151 Modes of Death. The patient may die from

hemorrhage, but this is rare. Cancer usually kills by gradual emaciation and malnutrition. There exists disintegration of the red blood corpuscles which lowers the vitality of the blood and produces the hematogenous form of jaundice. Complications such as peritonitis, bowel troubles, emboli lodging in the various parts of the body causing secondary cancerous formations, all help to hasten the fatal end.

152. Treatment. The surgical treatment is, removal of the cancerous mass just as soon as possible. If in early stages, the operation only hastens the progress of the disease by lowering the vitality of the tissues. A great many cases of supposed cancer are helped to be developed into true cancer and that very rapidly, by operation. If it were possible to remove the diseased portion an operation might be successful, but on account of the tentacles and branches running out into the adjacent structures for several inches, it makes a complete removable impossible. If operated on in the later stages the cure is still more improbable, and for these reasons an operation is contraindicated. The operation is one of hysterectomy, either vaginal or abdominal.

The osteopathic treatment is one directed to build up the quality of blood and to improve the circulation through the affected area. This is accomplished by treatment along the lumbar and sacral regions. I have a record of several cases that were diagnosed as cancer that were cured, in which the treatment was almost entirely applied to

the lumbar and sacral regions. In these there were the usual symptoms of cancer, the irregular growth, fetid odor, hemorrhage and pain.

If the discharge is irritating or of a very fetid odor a carbolized douche should be given.

The palliative treatment consists of inhibition over the sensory nerves connected with the uterus. These can be reached through the lower lumbar region. The pain and aching can be relieved, but only temporarily since no permanent result follows that kind of treatment. Various cancer pastes and sure cures are advertised but have very little effect on the course of the disease.

153 Sarcoma. Sarcoma of the uterus is a malignant tumor which differs from carcinoma in that it belongs to the connective tissue group and is of an embryonic type. It rarely, as compared with carcinoma, attacks the uterus. It may appear at any age but occurs most frequently at or immediately after the menopause. It, unlike cancer, attacks the fundus most frequently. The cause of the disease is unknown but is supposed to be similar to that of prostatic cancer.

154 Symptoms. The symptoms are very much like those produced by cancer. The hemorrhage, pain, especially after it is well developed, watery discharge and the cachexia or constitutional symptoms are like those of cancer. The round cell variety is more malignant than cancer, it producing death within a few months. It spreads by way of the blood vessels instead of the lymphatics as we find in cancer.

Sometimes a myoma may develop into a sarcoma, if the tumor has been bruised or injured to any great extent. For this reason care should be taken not to bruise a tumor by a too hard treatment or else it may become malignant. In such cases the growth becomes rapid, pain severe and termination fatal in a short time. Its diagnosis as to malignancy is based on the above symptoms, that is, fetid discharge, hemorrhage, pain, rapid progress, and constitutional symptoms. It can be diagnosed from cancer from its position, it being found in the connective tissue of the fundus, also by microscopic examination, since it is composed of connective tissue and cancer of epithelial cells.

The treatment is the same as for cancer. The prognosis is grave. It can be relieved temporarily but a complete cure is rare. Sometimes there are cases of sloughing fibroid tumors that have been diagnosed as sarcomata, that were cured by the treatment, but true sarcoma is usually incurable. As in cancer, be sure of your diagnosis before telling the patient, because it means all to the patient.

LACERATION OF THE CERVIX.

155 Laceration of the Cervix is a rupture of the cervix uteri in one or more places during childbirth, or from forcible dilatation of the os by the use of an instrument. It is a very common condition and one that is productive of a great many symptoms both local and reflex. I have examined case after case in which the symptoms were those of nerve waste, loss of energy, nervousness, hysteria, and in most of them there was a laceration accompanied by sub-involution and endometritis.

It is caused in various ways, but the most important cause is meddlesome midwifery and hastily conducted labors. The cervix is not fully prepared to dilate enough to transmit the fetal head until the end of the normal period of gestation. If labor is induced or hurried, the cervix, instead of stretching as it should, is forcibly torn, but if left to nature, a very few cases of laceration will occur. Nature never intended that a woman should be lacerated at childbirth. The natural process, if left alone, will cause a natural stretching and dilatation which prevents the tissues from tearing, but sometimes the accoucher thinks he can improve on nature but dismally fails, although the child is born sooner.

I think the use of ergot and quinine or some other drug used to bring on uterine contractions, is to blame more than any one thing. These drugs cause a contraction of the uterine muscles. The fundus being stronger and larger than the cervix contracts with greater force and forces the fetal head downward against the resisting os. Instead of relaxing the muscle fibers of the cervix, they are contracted and are forcibly torn by the stronger force. Time is not given for relaxation since it takes some time for those fibers to relax and, as a result, the fibers are ruptured.

A too rapid delivery has a similar effect, that is, time is not given for relaxation. The use of high forceps produces laceration in nearly every case. In case of large fetal head, a rigid os or any diseased condition of the cervix, there is liability of laceration, even if precaution is taken. However, the greatest number of cases result from the physicians being in too great a hurry. If the labor is slow, something is administered to bring on the labor pains, or if they are feeble he resorts to the use of forceps. In a case of a deformed pelvis, sometimes it is impossible to prevent laceration, also in cases where rapid delivery is necessary such as placenta previa or breech delivery.

156 Varieties. A laceration usually takes place laterally. If only one side is torn it is called a unilateral laceration; if two sides, a bilateral; if more than two it is called a stellate laceration. The laceration varies from a slight tear which heals in a few days, to a complete laying open of the cervical por-

tion of the uterus and extending to the vaginal wall. In some cases the cervix is literally slit into halves. This leaves a raw open wound which is irritable and gives rise to inflammatory conditions of the uterus and vagina.

157 Symptoms. The immediate symptoms are those of arterial hemorrhage. It may be very profuse; the quantity depending upon the depth of the tear and the number of vessels injured. The patient will complain of a burning sensation referred to the cervix, also local pain or reflex ache.

The secondary symptoms are varied. If the patient is strong it will not affect her for some time, but if she is weak to begin with, the laceration very soon begins to weaken her more and set up reflex troubles.

The local symptoms are those of chronic inflammation. The cervix is congested, soft, and the os patulous. The disturbances to the circulation affect secretion as is evident by the leucorrhœal discharge.

Involution of the uterus is retarded, thus producing a condition called subinvolution. Menstruation is irregular and the flow usually is increased in amount.

Neuralgia in different parts of the body is sometimes present. It very frequently assumes a form of intercostal neuralgia or in some cases, neuralgia of the fifth nerve. The cervix may be very sensitive if in the recent state, and the pain has been compared to that of an ache due to an exposed nerve. Nerve filaments may be caught in scar tis-

sue which is formed, this causing reflected pains. Backache in the lower lumbar and sacral regions is common. The limbs may ache or feel heavy. This is probably due to the increased weight of the uterus. The pelvic floor is weakened and there is a tendency to a backward and downward displacement of the heavy subinvolved uterus.

Reflex troubles are very marked. Hysteria in its worse form is found in cases of laceration of the cervix. It causes a disturbance of the nervous equilibrium on account of the constant loss of nerve force, and the patient becomes unable to control herself. There will be in some cases a choking sensation, pain in and contraction of one limb, flatulency, or the patient may begin to scream at the top of her voice.

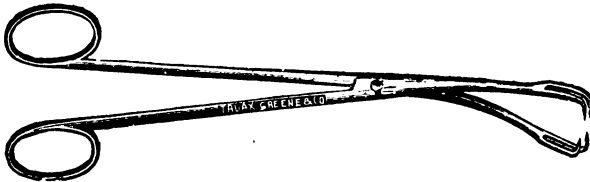
Again, I have seen cataleptic conditions, the patient remaining stiff for some hours. The constant loss of nerve force causes a change in the disposition, the patient becoming irritable, and there is inability to concentrate her mind, and she has headaches, general weakness and debility. Digestion and absorption are deranged which cause malnutrition. If a patient presents herself suffering with the above symptoms and dates the trouble back to childbirth, laceration should at once be suspected.

158 Physical Signs. The finger, on vaginal examination, feels the indentation or fissuring of the cervix. The os is usually patulous on account of the attending subinvolution. The everted cervical mucosa can be felt as a roughened surface. Various names have been applied to this condition of

the roughening and eversion of the mucous membrane such as erosion, granular erosion, excoriation and ulceration. Sometimes the lips are turned back so far that the indentation cannot be felt, only the roughened surface being recognized. To this has been given the name of bell-shaped cervix in which the lower part of the cervix is wider than the upper part.

If the case cannot be diagnosed definitely by

FIG. 35.



Volsellum.

vaginal examination a speculum should be introduced. By exposing the cervix by means of the speculum the granular surfaces, the flattened cervix, the hypertrophy of the lips and the radiating fissures can be seen. If a volsellum is now used to pull down or unroll the everted lips, the degree of the tear can be definitely ascertained. It is diagnosed from an endometritis with slight protrusion of the endometrium, by the size of the cervix and the shape of the os as determined by inspection. From cancer it is diagnosed by the absence of cancerous symptoms and especially by the absence of friability and tendency to hemorrhage on slight irritation,

159 Prophylaxis. An osteopath should not permit laceration to take place unless a deformity or abnormality exist. The best way to cure laceration is to prevent it. This is done by first relaxing the os uteri by inhibition of the clitoris; second, not hastening labor by artificial means; third, by not using drugs nor instruments; and fourth, by regulating and controlling the rapidity of the birth of the child. Out of nearly one thousand cases delivered by Dr. C. E. Still and myself, I know of but few cases in which there was a slight laceration, and they were abnormal cases, in that the pelvis was deformed or the fetus very large, or the fetus had to be delivered rapidly on account of the hemorrhage.

160 Treatment. The treatment should be directed to get healing of the irritated and inflamed edges of the parts torn. If the parts are still inflamed, the edges must be brought together and held there until union takes place. This is accomplished by the operation called trachelorrhaphy. The torn surfaces are first denuded and then sutured. Rest of the part should follow the operation until complete union has taken place. Coition should be forbidden as long as there is any inflammation.

If the case is a chronic one and the inflammation has receded, an operation will do little if any good, unless there has been an excessive amount of fibrous material deposited. In these kind of cases a "V" shaped plug should be removed, this lessening the hypertrophy and relieving the impingement on the nerve terminals. I have seen large lacera-

tions which have spontaneously healed, which caused the patient no apparent trouble.

It is best to repair the tear in the cervix as soon as there is marked involution, and that is about the fifth or sixth week. This prevents secondary inflammation and guards against cancerous growths. Some advocate an immediate operation, but it is not indicated unless there is profuse hemorrhage. There is difficulty in recognizing the extent of the injury, the cervix being large and flabby, and thus it makes the operation uncertain unless the uterus has regained to a certain extent, its former size.

The cases that the osteopath will meet with are chronic ones, since it is a very rare thing to have a laceration occur if handled by our osteopathic methods. If a patient were to come to you suffering with leucorrhœa, menstrual disorders, pain, reflex and local, and an erosion and ulceration is found, the case should first be treated for a while before an operation is advised. If the treatment does not relieve, then an operation should be advised, whereby the two edges can be approximated. I have relieved numbers of cases in which there were marked lacerations. This can be done if there is not too much inflammation or irritation to the parts, which prevents healing. The treatment used is one directed to control the pelvic circulation. Work over the lumbar and sacral regions causes increased vaso-motor tonicity. Work over the course of the abdominal and pelvic veins removes obstructions to the return flow of blood. By keeping the patient quiet and continuing the treat-

ment for a few weeks, a great many of the symptoms can be relieved. Stimulation of the nerve centers of the uterus, located in the lower lumbar region, produces contraction of the uterine muscle fibers. This forces the venous blood out of the uterus and results in lessening the size of the uterus. Lesions along the lower lumbar and sacral regions sometimes prevent complete involution and increases the congestion and inflammation which attends laceration. By correcting these lesions, the congestion and inflammation are lessened which increases the probability of a cure without an operation. Although an operation is usually indicated since it is a surgical condition, the treatment will very materially help the healing of the parts, and should be given. Osteopathy is certainly quite an adjunct to surgery. If the treatment is given to keep the blood flow in good condition it lessens the pain and shortens the length of time of healing.

161. *Erosion of the Cervix.* Erosion of the cervix is a circular, irregular, roughened patch surrounding the os, which is raw in appearance. Sometimes there are granular patches with irregular outlines which extend beyond the limits of the os externum. The pavement epithelium has been partly or wholly destroyed and replaced by newly formed cells, which are columnar in shape. New gland tissue is formed which is secreting and resembles in structure the cervical mucous membrane. This leads to abnormal secretions such as leucorrhœa.

The term ulceration has been applied to this

condition, but erosion is a better term since very rarely there are actual ulcerative changes. Ectropium or eversion of the mucous membrane is a term used to describe the condition where there is laceration, but does not describe the secreting surface beyond the os externum.

162. **Causes.** In the young and the nulliparous, exposure during menstruation is a common cause. Imprudent exercise or over work at the menstrual period, produces a disturbance of the uterine circulation. If this is persisted in month after month, congestion or even inflammation will result. Let us examine one of those eroded surfaces. It shows vascular changes since it is congested, and since papillae and granules of different size are formed over the diseased area. To produce this, the circulation must be impaired, and in most cases this is a venous rather than an arterial disturbance. Since venous blood supports only the lower form of life, connective tissue and hypertrophied epithelium are in abundance.

The cause of this congestion in nullipara is exposure during menstruation or lesions deranging the nerve supply. The collection of the blood in the mucous membrane lining the os becoming chronic, these erosive changes follow. Certain women are predisposed to chronic congestion of all the mucous membranes. I have a case at present of membranous dysmenorrhea in which there is hemorrhage from nearly all mucous membranes during the menstrual period. There was a small

erosion of the cervix, and on this account the uterus had been curretted, with little or no benefit.

In multipara, child birth is the most common cause especially if a laceration has taken place. This condition excites congestion of the cervix and its lining membrane. There is a hypersecretion and an irritating discharge. The local congestion around the impaired part soon develops into a circumscribed inflammation. If it exists for a while the characteristic roughened, granular surface appears. The inflammation may extend upward from a vaginitis, or downward from an endometritis. In such cases, if not of specific origin, a bony lesion or uterine displacement are the most important causes.

163 Symptoms. The cervix being considered as a large gland, the congestion produces a pathological secretion which is called leucorrhœa. If there were an arterial congestion, there would be a hypersecretion, but it would be normal as to quality, but being a venous congestion the quality of the secretion is impaired and the quantity increased. The normal secretion is clear and viscid, resembling the white of an egg. If mucus corpuscles are present it is an opaque white. If there are pus corpuscles it becomes yellowish; if blood is present it becomes reddish in color.

Pain as in all inflammatory conditions of the uterus, is present either localized or reflected to the back. It is increased on walking or in conditions in which there is movement. Menstrual disorders are present, principally menorrhagia and dysmenor-

rhea. On account of the inflamed condition of the endometrium and the character of the secretion, it being acid, sterility frequently exists.

164 Physical Signs. On vaginal examination the cervix is found to be soft and the os patulous. The eroded and roughened surfaces can usually be felt. By exposing the cervix with a speculum, the raw and eroded surface can be seen. Frequently an old laceration can be seen which is the cause of the trouble. An erosion bleeds readily when touched with the finger or an instrument. Discharge can be seen exuding from the part, or if there is a co-existing endometritis it can be seen coming from the uterine cavity. It is diagnosed from cancer by lack of odor, absence of marked friability and the character of the hemorrhage. The erosion is localized and does not produce constitutional changes.

165 Treatment. The treatment resolves itself into a building up of the general conditions, and relieving the congestion of the cervix. In primipara it should be applied to the lesions found which interfere with the pelvic circulation. If the uterus is displaced, which is the case with a great many patients suffering with erosion, it should be corrected in order to relieve the venous congestion, otherwise local treatments will do very little good.

In multipara the treatment should be similar, but in addition the laceration if any exists, should be repaired. Local douches do very little good. They may relieve the conditions temporarily but the after effect leaves them in a worse condition than when they began. Sometimes applications of

tannin and glycerine are recommended, but they give only temporary relief. Others apply caustics to the eroded surface, but this seems to be rather a cruel way of treating such a condition. Deep work over the uterus, and the veins leading from it, with treatment applied to the back to increase the vasomotor tonicity, is usually sufficient to at least relieve if not cure the erosion. The patient should be kept as quiet as possible and coition should be prohibited.

166 Ulceration of the Cervix is occasionally met with. It is a condition of advanced erosion, that is, the blood has stagnated so long that ulcerative changes have set in. On examination with the speculum the ulcerative process can be seen. Venereal diseases, especially syphilis, should be thought of since an ulcer is sometimes formed on the cervix as a result of the infection. The discharge would be of a yellowish color since pus from the ulcer is intermingled with it. In most cases there is a constitutional disease such as tuberculosis, which impairs the quality of the blood and prevents healing after laceration. The treatment should be similar to that of erosion, that is, the stagnate a blood removed and fresh blood be put in its place. In addition, measures should be adopted to build up the general health by the proper kind of food and exercise.

167. Inflammation of the Uterus. The uterus is the seat of a great many inflammatory changes both acute and chronic. Various authors divide these inflammatory conditions into a great many divisions

and subdivisions, such as acute and chronic metritis both corporeal and cervical, acute and chronic endometritis, and endocervicitis. For our purpose the general division of inflammation of the uterus into metritis and endometritis is sufficient. This division is only arbitrary, since I doubt if there ever is a case of endometritis without it being complicated by inflammation of the substance of the uterus or metritis. or vice versa.

First, let us consider what inflammation of the uterus is. It is an attempt or effort on the part of the organ to throw off or destroy certain poisonous or obnoxious elements. These poisonous elements either arise from within, or, are introduced from without. If introduced from without, the poison at first stimulates for a short time the nerve terminals, but soon it produces a paralysis of the vaso-motor nerves and the blood flow, both arterial and venous, is lessened in rapidity or even entirely stopped. Then the blood undergoes changes which are peculiar to inflammation, accompanied by exudations and deposits and changes in the tissues supplied by the blood vessels. This kind of inflammation affects the endometrium first, hence it would be called endometritis. It soon invades the neighboring substance and becomes a metritis. The poisonous elements that arise from within result from a local stagnation of blood. Sometimes there are constitutional diseases which are responsible for the condition, but this is rare in comparison to other causes, which will be mentioned under the head of causes of inflammation of the uterus.

168 Blood Supply of the uterus is very abundant. The veins are large and traverse the uterus in every direction. Their walls are very thin so that a very slight change of pressure readily affects the blood stream. The blood is collected by the uterine and ovarian veins and returned to the inferior vena cava, thence to the heart. The uterine veins accompany the arteries, that is, their course is between the layers of the broad ligaments. They then empty into the internal iliac veins. The blood is then carried by the inferior vena cava to the heart. The ovarian veins, like the arteries, are long and slender hence the greater the liability of compression. The left, empties into the renal while the right, empties directly into the inferior vena cava.

Respiration affects the uterine blood pressure as well as the position of the uterus. This was proven to my satisfaction by an experiment performed on a case of varicocele, the spermatic veins, of which it was composed, being homologous to the ovarian veins. The distention of the veins could be markedly increased by having the patient hold his breath and straining as if at stool. The veins could also be enlarged by the patient lifting, or in fact, doing anything which involved change of intra-abdominal pressure. I recently had a case in which the patient, a young lady, was groaning and breathing irregularly, that is, she was holding her breath as long as she could, and then expelling it with a groan. By keeping the finger on the cervix the pulsation of the blood vessels varied as the respiration varied. The movements of the uterus varied, sudden inspiration

drawing it upward, while holding the breath, forced it downward. By placing the patient in the genu-pectoral position, and admitting air into the vagina, it could be heard passing in and out during labored respiration. This goes to prove how easy it is to produce a congestion of the uterus, which is a preliminary step to the inflammation of the same. Congestion can be produced from vaso-motor disturbances. A lesion which inhibits and shuts off the nerve force intended for the blood vessels causes dilatation of these vessels.

169 Parts Inflamed. The part most commonly inflamed is the endometrium. It is composed of lymphatics, blood vessels, nerves, glands and the ciliated columnar epithelium which lines the cavity of the uterus. The walls are sometimes inflamed; but usually secondary to the inflammation of the lining. They are composed of a mucous layer, muscular layers and peritoneal layer. The first is called the endometrium, the second the myometrium, and the peritoneal covering, the perimetrium. Between these different layers are connective tissue, glands, etc. These glands form a large part of the substance of the uterus. Inflammation of the substance of the uterus which is called metritis, affects these glands, causing morbid secretions. Inflammation of the endometrium is called endometritis; of the perimetrium, perimetritis.

170 Varieties of Inflammation. The kind of inflammation is named either from its intensity, rapidity, or according to the part of the uterus affected. The inflammation may be either acute or chronic, simple,

catarrhal or parenchymatous, this classification being called the pathological. This classification into metritis, cervicitis, endometritis and peritonitis is called the anatomical classification.

171 General Causes. The general causes of inflammation are included in two general divisions; first, traumatism, or where the poison is introduced from without; or second, congestion, which is the result of obstruction or vaso-motor paralysis. The first includes all injuries to the endometrium, cervix and uterine body, whether from parturition, use of instruments or drugs. Specific inflammation of venereal origin is also included under this head. The second includes misplacements, bony lesions, tumors both of the uterus and the neighboring structures, subinvolution, exposure, etc.

172 Causes of Endometritis. Endometritis usually follows the use of the uterine sound. If care is not taken the delicate mucosa, lining the uterine cavity will be torn or injured by the pressure exerted in replacing a displaced uterus. Uterine dilators or tents, that are sometimes used, are also liable, and usually do, injure the tender endometrium. This leads to congestion and probably inflammation. The uterine cavity is one that should not be irritated or permitted to be filled with air.

This form of inflammation produced by the above is usually acute. Pessaries which have been worn for some time without removal, irritate and congest the vagina and cervix, and inflammation follows. Specific vaginitis or gonorrhoea travels upward from the vagina and sets up an inflammation of the en-

ometrium. Sometimes it travels up the Fallopian tubes into the ovaries and peritoneal cavity. This is a cause of constant ill health, chronic local peritonitis and sterility.

Certain conditions of the blood state tend to produce congestion of the mucous membrane. This not only affects the endometrium, but the various other mucous membranes of the body. This is often found in the exanthemata. It is also found in hemophilia or bleeders disease.

Exposure to cold or getting wet during the menstrual flow, is a common cause of endometritis. Mental anxiety or any sudden emotion which stops the menstrual flow frequently produces inflammation. I have seen a great many cases of inflammation of the uterus that started from overwork or exposure at the menstrual period. The patient is tender over the lower part of the abdomen and has chronic menstrual disorders. This menstrual discharge which should have been thrown off, collects in the uterine cavity on account of the contraction of the os. It is partly absorbed and continues to be a source constant irritation and congestion.

Parturition if accompanied by laceration or bruising of the cervix, is the cause of inflammation of the uterus, and especially of endometritis in multipara. The inflammation soon becomes chronic and is the source of other complications. If there are too frequent pregnancies or abortions, the uterus will be found enlarged and inflamed. This is called subinvolution. The inflammation will not be confined to the endometrium, but invades the

walls. Produced abortion and frequent coitions are other causes, which may first set up a congestion, then an inflammation of the lining membrane of the uterine cavity.

Displacements produce inflammation, by first exciting congestion. On account of the obstruction to the circulation produced by the twisting of the broad ligaments or by direct pressure on the vessels, the blood undergoes changes which results in inflammation. If the displacement has become chronic there is no inflammation, but if acute, there is usually acute inflammation, not only of the uterus but of the neighboring structures. Medicated pencils introduced into the os excite inflammation of the endometrium whenever used. Caustics and various astringent applications, if used very much, have a similar effect on the uterus. They at first stimulate the vaso-motor nerves, but relaxation and dilatation soon follow after the first effects have worn off.

Passive congestion as the result of some of the above causes, or of a mechanical obstruction; is the most common forerunner and cause of chronic endometritis.

173 Lesions. The most common and pronounced bony lesion is the backward slip of the innominate bones. Both bones, or only one, may be slipped backward, thus producing a twist in the entire pelvis. This kind of lesion seems to affect the uterine circulation more than other. The sacrum may be tilted. Its most common displacement is a forward rotation of the upper part and a posterior displacement of the lower part. The lumbar vertebrae

may be displaced, or a rigid condition of that part of the spine may exist, or a posterior curve be found. In acute cases muscular lesions will be found. If due to exposure the muscles along the lower part of the spinal column are found very much contracted. This frequently is the beginning of the bony lesions. The tension exerted by a contracted muscle is considerable more than you would at first suppose. This finally results in a slight bony displacement, that is, the bone is slowly pulled out of line. When once it is out, it becomes in most cases a chronic condition, affecting the uterine circulation and probably causing a chronic form or metritis or endometritis.

To the osteopath these lesions are the most important. With these bony lesions existing, exciting causes readily act. Without correcting these lesions permanent cures cannot be made, although temporary relief can be given. Cases of membranous dysmenorrhea, which is only one of the many forms of this inflammation, can be cured by osteopathic methods even after other methods have failed. This has been demonstrated a great many times in our own practice. In such cases a bony lesion was found, the slipped ilium being the most common, and after correction the symptoms disappeared.

174 Symptoms. The symptoms of an endometritis depend upon the degree of inflammation. The acute form is accompanied by the usual symptoms of inflammation, such as heat, swelling, pain and perversion of function. The abdomen is tense,

tender and in most cases tympanitic. The neighboring organs are affected, menstrual function deranged, and an acute pain or tenderness exists in the pelvic region. There will be symptoms of peritonitis, especially in cases produced by exposure during the menstrual flow.

The most important symptom of chronic endometritis is painful menstruation. The uterus contracts to expel the menstrual flow. If the cavity is raw and inflamed, it is like closing the hand when the palm is raw and inflamed, and is attended by severe pain.

The amount of menstrual pain depends upon the degree of inflammation. If the blood has been retained in the uterus even for a short time, it becomes clotted and then the process of expulsion is similar to that of labor. In fact, if there is clotted blood discharged at the menstrual period it indicates inflammation of the endometrium and is one of the best symptoms of the same.

Nearly all uterine pains at the menstrual period come from inflammation of the endometrium. Flexion rarely produces dysmenorrhea unless accompanied by inflammation. Reflex troubles at that time are rare, unless there is an endometritis. Membranous dysmenorrhea is a very striking symptom or example of endometritis. The entire lining of the cavity of the uterus is loosened and cast off en masse.

As a result of the congested mucous membrane, the secretion becomes abnormal: Instead of the uterine secretion being watery in character it be-

comes whitish, milky or blood tinged. In other cases it is purulent, on account of its retention and accumulation in the uterine cavity. The discharge is frequently irritating and sets up a pruritus. Backaches and various reflex aches are very common. It is the most frequent cause of reflex pains or aches. The congested condition which accompanies the inflammation increases the weight of the uterus, thus producing pressure on some parts and tension on other parts.

The disturbance of the uterine circulation affects the pelvic nervous system. The various reflexes are the result. The limbs are heavy and the small of the back weak.

If a patient were to come to you suffering with a weak back and in which case it ached, or there was acute pain, suspect an inflammation of the uterus, either an endometritis or a metritis, the former being the more common. This backache as mentioned above may be the result of a lesion, sexual excesses, laceration or displacements.

When the uterus or part of it is inflamed the digestive tract usually is weakened. Digestion is impaired and appetite lost. Frontal headaches are sometimes found which are reflex from the stomach. Sometimes nausea and vomiting exist, which may lead one to suspect pregnancy. I recently had a case of slight endometritis complicated by morning nausea and vomiting, which was mistaken for pregnancy. Local examination cleared up the diagnosis.

Sterility is almost a constant symptom. The acid

leucorrhœal secretions from the uterus counteract and kill the spermatozoa. Sometimes impregnation does take place, but if it does the woman seldom carries to term. The endometrium being congested and inflamed furnishes an imperfect nidus for attachment of the ovum. In some cases the fetus is carried to term, but this is the exception to the rule. To sum up, the symptoms are: dysmenorrhœa, leucorrhœa, reflex aches, digestive disturbances, nervous changes such as hysteria and usually sterility.

175 Physical Signs. Tenderness is elicited on pressure over the lower part of the abdomen. This is one of the best objective symptoms of an inflamed uterus whether metritis or endometritis. In such cases care should be taken not to mistake cystitis for an inflammation of the uterus. On local examination the cervix is found to be soft and the os patulous. Sometimes the endometrium is everted and can be felt. On examination with the speculum the inflamed surface can be seen if the case is not one of too long standing. The cervical endometrium is raw looking, and the leucorrhœal discharges are seen emanating from the os. The least movement of the uterus or pressure on the uterus elicits pain.

There is painful coition or dyspareunia if the inflammation is acute. If the sound is introduced it becomes tinged with blood. It excites pain, sometimes spasms, in which case it should not be used. Pressure on the uterus through the fornices, per rectum or through the abdominal wall causes pain.

176 Diagnosis. In laceration of the cervix there

are similar subjective symptoms, but the physical examination reveals radiating fissures, by which it is definitely diagnosed. It is diagnosed from cancer by absence of the usual signs of cancer such as friability, sudden hemorrhage, feid odor and watery discharge. If in doubt, a microscopic examination should be made. There are various conditions such as granular erosion, ulceration and the above mentioned diseases which are accompanied by an endometritis, but have in addition, their own peculiar symptoms.

177 Prognosis. The prognosis, as in other inflammatory diseases depends upon the length of standing, causes, and the individual case, each one being different. In most cases it is good. If venereal disease is present producing it, the prognosis is not so good since this disease, when once in the uterus or Fallopian tubes, is very hard to eradicate. If due to a laceration and the patient otherwise in good health, it is favorable. If the patient is pale, anemic, blood thin and there is much weakness, the prognosis as to a cure is unfavorable, but for relief it is favorable. Under osteopathic treatment the prognosis is a great deal more favorable than under any other, and it is the exception to meet with a case that cannot, at least be helped, if not entirely cured. Cases have been cured at the Infirmary at Kirksville in which the inflammation was so marked that the entire endometrium was thrown off en masse every few days, that is, just as soon and often as it was formed.

178 Treatment. The treatment of endometritis

depends on the cause producing it and the stage of inflammation. The object to be attained is to relieve the congestion and to flush the affected parts with pure blood. If a bony lesion is found it should be corrected as soon as possible, since a cure depends on it. If a displacement of the uterus is found it should be replaced for the uterus will remain congested as long as it is in that condition. If a laceration is found, treatment should be directed to it to get union of the two edges or at least remove the congestion. The method most in vogue among physicians is curretage of the uterus. A dull or sharp instrument is introduced into the cavity and the endometrium scraped away. (See Fig. 36). It seems to me like a barbarous method by which to torture a patient, and I have the first case to see where any permanent good was obtained. Patient after patient have come to the Infirmary for treatment for this disease who have had the operation performed one or more times. The theory is that a new endometrium which is healthy, will be formed. If the nourishment was shut off from the old endometrium so that there was congestion and inflammation or disturbance in nutrition, how could a healthy endometrium be formed without first correcting the primary cause of the trouble. It is treating the effect and leaving the cause alone. Suppose a bony lesion, and by the way it is the most important and common cause found, is producing the trouble; the uterus might be curretted every month until the patient reaches the menopause, but still the cause exists and the endometrium will be diseased.

This bony lesion, usually a slipped ilium, shuts off part of the nerve force which should go the uterus. The circulation is slowed and degenerative changes take place in the bodod. By the stimulation which results from a correction of these lesions, both bony and muscular, the blood pressure is raised and the old stagnated blood forced out and replaced by new. This is the object we want to attain. Again, work over the abdomen to lift up the intestines, raise the diaphragm and remove the pressure from the veins; this tends to relieve the congestion accompanying the endometritis. Since endometritis is preceded by congestion, in most cases this becomes a very important treatment. Rest should be required and the patient not allowed to remain long on her feet.

Prophylactic treatment should be given in cases of repeated endometritis. The patient should guard against exposure and excitement during the menstrual flow. Hot vaginal douches are commonly advocated, but I think they are of little use. Various medicated pencils are introduced, but usually irritate instead of alleviate.

179 Metritis. Metritis is an inflammation of the parenchyma of the uterus. It is usually found as-

FIG. 36.



A sharp uterine curette.

sociated with endometritis, sometimes as a cause but more frequently as a result. The causes that produce endometritis if they become chronic, will cause metritis. It is also found in connection with ovarian troubles and other pelvic inflammatory conditions. Perimetritis is frequently found, the patient complaining of tenderness and pain over the lower part of the abdominal wall. Adhesions, joining the uterus to some neighboring structure are found as a result of the exudate.

180 Causes. Inflammation of the uterine walls is caused by the same factors that enter into the causation of inflammation in any other part of the body, to-wit: stagnation of blood. It occurs more frequently as a sequel to parturition than from any other cause. While the uterus is enlarged it is congested and predisposes to displacement and injuries. Any cause which increases the congestion of the uterus will produce inflammation of its substance.

The bony lesions are the most important causes of this form of uterine disease. A slipped innominate affects the uterine circulation; a tilted sacrum causes stagnation of venous blood.

If the patient has led a life involving standing on the feet a great deal of the time, the sacrum (lower part) is thrown backward. If the patient leads a sedentary life or is not on her feet very much, or there has been no jarring or straining of the pelvis while in the erect posture, the lower part of the sacrum may be thrown forward; but this is rare in comparison to the other forms of displace-

ment. The displacements affect the different muscles attached to these bones and especially the quadratus lumborum is affected producing tension and soreness in the small of the back.

The various causes mentioned under endometritis will also produce this condition. Exposure during menstruation, injury, constipation, strain of the back, displacement of the uterus, abdominal and pelvic growths, infection, stem pessaries, intra-uterine medication and the bony lesions as mentioned above are the most common causes. A great many of these exciting causes depend upon the predisposing weakness produced by these bony lesions.

181 Symptoms. In acute metritis there may be a rigor, fever, sharp pain and tenderness in the abdomen and a distended, swollen condition of the abdomen. On account of it affecting the peritoneum the symptoms of acute peritonitis are present. In chronic cases, menstruation is affected, usually painful and increased in amount and the discharge clotted. Secretions are deranged, leucorrhœa being commonly found present. There is a constant sense of weight, dragging sensation of the limbs, chronic backache and headache. Hysteria in its various forms is present. Functional heart troubles are common, the patient fainting on the slightest provocation. Nervous dyspepsia exists and in short, nearly all the reflexes depending on inflammation of the uterus. A displaced uterus causes the greatest trouble when there is inflammation accompanying it.

I have relieved various reflex pains and aches

that were supposed to have been due to a displacement, by partially relieving the inflammation and not correcting the displaced uterus. It is best to correct the displacement if it can be done, but in a great many cases it cannot be replaced and you will have to depend upon the treatment to relieve the congestion. Of course all the inflammation and congestion cannot be removed while the uterus is still displaced, but a large per cent., can, and this gives wonderful relief.

A great many women have displacements which give them little or no trouble, because there is little or no inflammation attending them. As mentioned above, the amount of pain is determined by the amount of inflammation.

Metritis then, is the most important of uterine affections and merits most attention. The most important sign of metritis is the tenderness of the uterus as elicited by abdominal and vaginal palpation. Pressure just above the symphysis pubis, causes an acute or dull pain, it depending on the amount and degree of inflammation of the uterus. As in endometritis, cystitis should be kept in mind, since pain is produced on pressure just above the the symphysis, if it is present. On vaginal examination the os is found patulous and the cervix soft and enlarged. The vaginal walls, if the case is chronic, are soft and weak. A slimy discharge is present covering them.

On bimanual examination the uterus is found enlarged and tender. Sometimes this examination cannot be made on account of the pain it causes.

The uterus is usually retroverted or retroflexed, more frequently the latter. The corpus, weakened by inflammation, allows the fundus to be forced either forward or backward according to the forces acting upon it, since it is the support of the fundus.

Sterility is a symptom, if the condition has existed for some time.

182 Prognosis. The prognosis is favorable in most cases. Upon the relieving or cure of this condition depends the cure of most cases of dysmenorrhea, reflex troubles, backaches, uterine form of leucorrhœa and the various local pelvic pains that are so common in the female. If the condition is very chronic do not promise the patient a cure in a given length of time. If the back is rigid and the bony displacements fixed and immovable it will take time to restore them to the normal condition. Relief can be given in a short time where there is acute pain.

183 Treatment. The treatment is similar to that given under endometritis. The bony lesions that are found should be corrected. Any lesion that interferes with the normal nervous connection, should be relieved. This is accomplished by correcting the bony lesion or by working directly over the muscle.

Obstructions to the proper return of blood to the heart, should be removed. This can be accomplished by work directed to the intestines, lifting them from out the true pelvis and working directly over the deep veins of the abdomen. Advise the patient to keep rom off her feet as much as possible, but to

be out in the open air a great deal, since it is exhilarating. The fresh air builds up the quality of the blood which is very helpful.

The uterine displacements should be corrected, since the congestion depends to a certain extent upon the twisting of the broad ligaments which impinge the blood vessels. The patient should avoid exposure during the monthly sickness. There is an increased congestion at this time, and all the symptoms of metritis are consequently aggravated. The genu-pectoral position is helpful, and should be taken at least once each day, since the uterus partially empties itself of blood while the patient is in this position. Abdominal treatments are best given while in this position, since gentle work there over the abdomen helps the return circulation by relieving the pressure of the intestines.

Attention to the action of the bowels is important. A distended rectum and sigmoid flexure favor a localized venous congestion and are partly to blame for some of the diver disturbances which are found in connection with uterine diseases. The practice of using warm water in vaginal douches and the production of scarification of the uterus are not to be recommended. Depletion by means of leeches and counter-irritants are not indicated, and are productive of more harm than good.

184 Acute Inflammation of the Uterus is characterized by fever, distention of the abdomen, cessation of secretions at first, pain either local or reflex. This pain is usually referred to the stomach, liver or small intestines. The patient lies with the limbs

drawn up, the abdominal muscles being very tense and very much contracted. The appetite is lost and the stomach deranged.

On local examination the vaginal walls are found to be very hot to the touch. The uterus is very tender and very sore, fixed and tense. Displacement is usually found which has come on suddenly, although in some cases it is due to infection, in which case, the vagina will be primarily affected. By correcting the displaced uterus and relaxing the muscles over the lower lumbar and sacral regions, the fever can be reduced and the inflammation relieved. I have taken cases of acute inflammation of the uterus which were brought on by sudden displacements, and relieved them by first replacing the uterus, and then placing the patient in the genu-pectoral position and while in that position by working out the congestion.

185 Subinvolution of the uterus is an enlarged condition which is the result of an imperfect contraction or involution after childbirth or abortion. In a typical case, the involution should be complete within six weeks after delivery, but in a great many cases, especially if there was a laceration, and the patient not very robust, it takes a great deal longer time. The muscular elements which were enormously increased in size and number fail to undergo atrophy and absorption. The blood vessels are engorged and the lymphatics distended. The connective tissue is increased in amount and the uterine walls remain thick. The enlargement is, as a rule, symmetrical, but in some cases it is confined to one

part, principally the cervix. This form, when occurring in the cervix, may be mistaken for a prolapsus. The uterine cavity, as in the fibroid tumor, is enlarged.

186 Causes. The causes of subinvolution are: bony lesions affecting the innervation of the uterus, or neglect during the puerperium. The bony lesions will prevent proper involution although great care be taken of the women during the puerperium. These lesions are similar to other bony lesions which affect uterine circulation, namely, slips of the lumbar vertebræ, sacrum, innomates or coccyx.

Recently a case of subinvolution came under my observation which was the result of a displaced coccyx, which occurred at childbirth. This kept up a constant irritation of the perineum, resulting in the congestion of the pelvic floor, vagina and uterus, thus hindering contraction of the uterus.

Rising from the bed very early, standing on the feet too long or over exerting herself too soon after delivery is a common cause. However, this cause depends to a certain extent upon the above mentioned bony lesions. If these lesions did not exist the exciting cause would not act so readily. Lacerations cause congestion, hence a disturbance of the normal involution of the uterus. Frequent pregnancies are liable to be attended by subinvolution on account of the loss of tonicity of the muscular walls from frequent distention. Childbed fever, if permitted to happen, is followed by a congestion and subinvolution of the uterus. Retention of secundines or a prolonged labor weaken the walls of the

uterus and prevent its proper contraction after childbirth.

187 Symptoms. Nearly every symptom, both constitutional and local, which comes from a uterine affection attends a subinvolution. Pain, aches in lumbar and sacral regions, pelvic distress and bladder disturbances are common. Constipation, hemorrhoids, anorexia and nausea are found. Inflammation of the uterus, with its attending evils follows as a result of the congestion. Abnormal secretions and menstrual disorders exist. The most common menstrual disorder is menorrhagia, the next is dysmenorrhea. The health is undermined and the patient feels weak and of no account. There is inability to concentrate the mind and tendency to forget names. Sleep does not refresh and the patient awakes with a backache. The limbs feel heavy and there is difficulty in walking. Various reflex nervous phenomena are present. If a patient were to come into the office suffering with the above symptoms dating from childbirth, subinvolution should be suspected with laceration as a cause.

188 Diagnosis. On digital examination the cervix is found to be large and soft. The os is very patulous, sometimes admitting the examining finger. The cervix is very much thickened and shortened and it feels like a round blunt body, instead of the normal oblong body. Tenderness is present which is due to the inflammation, which usually accompanies the condition. When the uterus is outlined it is found to be considerably larger and softer than the normal.

On account of the want of tone, both in the uterine walls and ligaments, retro-displacement and prolapsus are usually found. The form of retro-deviation is commonly a retroflexion.

I once saw a case in which the fundus was on a level with the umbilicus. By pressure exerted on the posterior part of the uterus through the posterior fornix or rectum the impulse would be transmitted to the external hand placed at the umbilicus. The history of the trouble will aid in the diagnosis. If, as mentioned above, the trouble dates from parturition and the woman getting up a few days after delivery, and if a laceration is present, although it can occur without it, and the uterus being found in the above condition, subinvolution is probably the condition.

The woman should be kept in bed at least nine days after delivery, regardless of her apparent strength, for the uterus is too heavy before that time to be held in position by the weakened ligaments while she is in the erect posture. One patient may get up before that period and no evil effect follow; another may do likewise and become an invalid, so, to be on the safe side, keep her in bed at least nine days.

189 Treatment. The treatment is similar to that of inflammatory conditions of the uterus. The bony displacements found should be corrected and the patient should rest as much as possible, and treatment should also be given over the course of the veins returning the blood to the heart.

The pelvic floor may be strengthened by a

strong stimulating treatment in the lumbar and sacral regions, to free and stimulate the nerve force to the muscles comprising the floor. Separating the knees against resistance strengthens the muscles.

To temporarily relieve the congestion, place the patient in the knee chest position, while giving the abdominal treatment, and it is advisable to instruct her to assume that position for some minutes each night just before retiring. This lessens the congestion and diminishes the weight of the uterus.

The uterus, if found displaced, should be put in its proper position. It probably will not stay in place and if it does not, it should be replaced every week or so, this depending though, on the character of the symptoms. By replacing the uterus the passive congestion is greatly relieved. If laceration is the cause of the congestion and subinvolution, treatment should be directed to it since the subinvoluted condition will exist as long as the irritation remains.

190 Superinvolution is a condition just the opposite to that of subinvolution of the uterus. As the word implies, it is too rapid or excessive involution. It is usually found following parturition, but some cases are due to senile atrophy. It is a rare condition and is probably connected with abortion more frequently than with parturition. The uterus shrinks or contracts beyond the physiological limit, becoming very small, degeneration setting in, which causes it to become soft and excessively mobile. The non-puerperal atrophy is sometimes caused by pressure from a fibroid tumor or it may be the re-

sult of an operation. Menstruation is affected, there being amenorrhea or scanty flow. Sterility is present, if it occurs before the climacteric. Some patients complain of various reflex disturbances, but these are rare compared with other uterine affections, since there is little or no inflammation in the uterus. The treatment should be directed to building up the general system and increasing the nutrition of the uterus.

In the senile atrophy which occurs after the change of life, few symptoms are present, it being a physiological process. In these cases treatment does little or no good and it is seldom indicated.

191 Perimetritis is an inflammation of the pelvic peritoneum called also, local pelvic peritonitis. It is a very frequent disease and one which results in the formation of adhesions which fix the uterus to some neighboring structure. It is a localized affection, being confined to that part of the peritoneum covering the uterus.

When peritonitis begins, nature prevents the diffuse forms of peritonitis, by forming an exudate and adhesions which localize the inflammation. It, like inflammation of other serous surfaces, is first preceded by congestion followed by effusion, that is, the throwing out of the exudate. This exudate becomes organized and forms into scar or fibrous tissue. It is very similar to a pleuritis as to cause, pathology and termination, that is, there is an inflammation of an adjacent organ, secretory changes and the formation of adhesive bands. It is regarded as a very important disease as certainly in

point of frequency, it is second only to endometritis.

192 Causes. The causes of perimetritis depend upon a disturbed blood flow. This disturbance is most commonly the result of uterine inflammation. The inflammation spreads, to the peritoneum covering the uterus, by continuity of tissue. In acute inflammation of the uterus all the pelvic contents are more or less inflamed. If a displacement exists the inflammation more rapidly spreads to the peritoneum and in almost every case adhesions form.

Specific infection reaches the peritoneal cavity by way of the Fallopian tubes and sets up a chronic form of inflammation which is very intractable. Fluids also escape into the peritoneal cavity in the same way. Injections and especially medicated injections, into the uterus have resulted in a part of the fluid escaping into the peritoneal cavity and setting up an inflammation.

Endometritis also produces this local form of peritonitis by the inflammation spreading to the peritoneum through the Fallopian tubes. Any cause that produces endometritis and especially the acute form, will cause perimetritis.

The acute cases depend in most instances on a sudden displacement of the uterus. This sudden displacement sets up an acute congestion and inflammation of the uterus and neighboring structures. Sometimes general peritonitis results, or inflammation of the bowels follows.

Exposure during the menstrual flow causes a congestive condition of the ovaries and other pelvic

organs. If a general inflammation is produced it soon becomes localized, as it recedes, and adhesions form. Inflammation of the bowels frequently spreads to the pelvic organs and there, sets up secondary inflammatory changes.

193 Symptoms. In acute cases the symptoms are those of an acute metritis, to-wit: great tenderness of the abdominal walls, swelling of the abdomen, contraction of the abdominal muscles, chills, fever and localized pain. The pain may be colicky and referred to the intestines. The limbs are drawn up to relieve the tension of the abdominal muscles. The symptoms may simulate appendicitis, and care should be taken in the diagnosis on this account. The vaginal walls are hot and the uterus fixed by the contracted ligaments. If this condition is allowed to continue, death will ensue from diffuse peritonitis. After the acute symptoms have abated the exudate becomes hardened and undergoes structural changes. It soon forms scar or fibrous tissue. These adhesions between the layers of the peritoneum prevent motion of the uterus and at first it is fixed in one position. This gives the uterus a board-like feeling.

They soon begin to be absorbed, but a few remain on the side in which there was the greatest inflammation and tend to draw the uterus and fix it toward that side. The uterus gradually regains more freedom of motion the longer the adhesions exist, unless new ones form, since they are stretched with each jar and movement of the body.

In some cases the uterus, when it is retroverted,

is bound down to the rectum and adjacent structures by these adhesions. By examination through the fornices they can sometimes be felt. On rectal examination the posterior adhesions can be felt if they are much thickened. If examination is made while in the genu-pectoral position they will feel as cords made tense by the uterus falling away from the rectum. In the dorsal position the uterus should be freely movable in all directions. By testing this mobility and noticing the side in which there is restriction of motion the adhesions can thus be ascertained.

Sometimes the uterus is immovable, it being held as in a vice. The reflex symptoms are those found in inflammatory conditions of the uterus, such as sideache, backache, headache and nervous phenomena. Sterility is the result, and menstrual disorders especially dysmenorrhea are frequent.

194 Prognosis. In the acute form the danger lies in it becoming a diffuse peritonitis. If the inflammation can be checked it will become localized by the exudation and adhesions which are formed. These adhesions which hold the uterus in one position should be absorbed or broken up, if the inflammation has entirely receded. Absorption is a slower, but safer process and when it can be accomplished, good results follow.

As long as the lesions exist, the patient will be troubled with various reflex pains which accompany displacements and inflammation of the uterus.

195 Treatment. The treatment, in the acute stage, is to correct the displaced uterus if it exists,

and then relaxing the contracted muscles found along the lower part of the spine. Work around the inflamed parts lessens the congestion and tenderness. The treatment then can be gently given over the point of inflammation. By gradually and steadily increasing the pressure, the inflamed organs can be manipulated, and when this can be done the inflammation can be worked out. In the chronic form, treatment applied to the lower lumbar region is beneficial since it promotes pelvic circulation. Any treatment that increases the arterial circulation increases the absorptive qualities and this is necessary if the adhesions are to be absorbed. This is the proper way to treat adhesions, that is, by inducing absorption.

Another method is to break up the adhesions by a gradual stretching of them or by the use of force. There is danger in breaking them up suddenly, since hemorrhage and inflammation may result. This hemorrhage is in the peritoneal cavity and may excite a diffuse peritonitis. To accomplish breaking up adhesions without producing hemorrhage they should be broken up gradually. By constantly stretching the adhesions every few days and by increasing the pelvic circulation the fibrous tissues, which are the result of the inflammatory exudates, gradually disappear.

The adhesions are stretched easily by movements of the uterus as obtained by local treatment, or deep massage over the uterus through the abdominal wall. In case of adhesions fixing the uterus in retroversion, the uterus can be moved for-

ward by rectal treatment. By gently pushing the uterus forward these adhesions will be thinned by constant stretching, and will finally disappear. Abdominal treatment, given directly over the uterus, stimulates uterine contraction and stimulates pelvic circulation. The uterus can also be moved in this way. Circular massage over the uterus is one of the best ways to induce uterine contraction. I rely upon it most in cases of post partum hemorrhage.

Since metritis complicates most cases of endometritis, the uterus is found congested and enlarged. From this it can be seen that any treatment that excites uterine contraction increases uterine circulation and hence absorption. In these cases as in others, the real trouble and cause must be corrected. If there is a bony lesion or muscular contraction, they should be corrected since they prolong the inflammatory condition or they predispose to a fresh attack.

The frequency of the treatments depends upon what is done at a treatment. If adhesions are broken up, wait a few days before giving another treatment or else you may set up a fresh inflammation. If only the congestion is slightly reduced frequent treatment should be given. If a bone is set at the first treatment, leave it alone. If the bony lesion is not corrected, treat it again soon, unless inflammation exists.

Adhesions are frequently met with and are found to be the hardest conditions to cure. By constantly stretching and working them they can gradually be broken up and absorbed, but care should be

exercised lest the inflammation be made worse, hemorrhage produced and followed by peritonitis.

The question is often asked, when should an adhesion be broken up? In cases of displacements which are producing mechanical or reflex symptoms in which the uterus is held down by adhesions, even though there is little or no inflammation, they should be broken up. If the uterus is displaced and there is very much inflammation, and adhesions exist, they should be absorbed. If the uterus is in its normal position it is not likely that adhesions exist, but if they do, they very likely cause trouble and should be broken up. As a rule all cases of displacement which are complicated by these adhesions should be treated.

196 Adhesions uniting the cervix to the vaginal walls, are frequently found. I had a case recently in which the cervix could not be recognized, the fornices being completely filled with inflammatory exudates. The uterus was immovable and very much inflamed. These conditions result from a long standing metritis. In the above case the woman had had uterine disease for years. The diagnosis can be made by digital examination or by the use of the speculum. On vaginal examination, only a slight elevation or protrusion in the upper part of the vagina can be felt. The parts are tender, the degree of soreness depending upon the amount of inflammation. The cervix cannot be encircled with the examining finger and the os is found as a depression at the uterine end of the vagina. The usual symptoms of metritis are present.

These kinds of adhesions are treated in a way similar to peritoneal adhesions, that is, by increasing the blood supply and gradually breaking them up. By attempting to encircle the cervix with the internal finger, the adhesions can be readily reached and stretched or broken up, unless the case is very chronic.

In these chronic cases the adhesions are so fibrous that it is hard to get absorption, or even hard to break them up. In such cases the treatment should be directed to relieve the inflammation if any exists. If these adhesions are causing very little or no trouble treatment is not indicated. If they fix the uterus in an abnormal position or if there is a co-existing inflammation of the uterus, they should be removed if possible.

PHYSIOLOGICAL PERIODS.

197 The Life of a woman is divided into certain physiological periods. The period to puberty, varying from ten to fifteen years, is called infancy or childhood. The commencement of the period of sexual activity is called puberty. The period of sexual activity, usually about thirty years in length, is called maturity. The menopause or climacteric, indicates the cessation of sexual activity and menstruation. The period following the change of life is called, senility. The two most important are the transitional periods, puberty and the menopause, for at these times great nervous changes take place accompanied by various reflex phenomena and anatomical changes. On account of these nervous changes disease is liable to get a foot hold, which, if it does, is very hard to relieve.

198 Infancy. During the period of life up to puberty, the sexual organs are physiologically dormant. The uterus is small and non-developed and the ovaries are in a condition of inactivity. The mammary glands have not begun to enlarge. Hair has not begun to appear on the mons Veneris and the greater lips are not fully developed, so that the lesser lips protrude beyond the vulva. During this period the evil practices such as masturbation are frequently contracted. If it is near puberty it brings on premature activity of the sexual apparatus. The clitoris becomes congested and in some cases

inflamed. Adhesions frequently form and result in a hooded clitoris. This causes a loss of nerve force and is associated with various nervous diseases, such as spasms and epilepsy.

199. Puberty. Puberty is that period at which time the genital organs are capable of exercising their physiological function. This varies in different races and countries. In cold countries puberty develops late, that is, on an average of about the age of fifteen or sixteen. In warm countries it is earlier, occurring at the age of ten or twelve. In temperate climates it occurs at about thirteen or fourteen.

Girls reared in the country as a rule develop late. On the contrary, girls in the cities develop early on account of the association, kind of food and general excitement of city life. At puberty the uterus and appendages undergo great structural changes. The organs that were hitherto dormant and undeveloped, begin to become active and increase in size. The nervous system becomes dominant and is susceptible to external influences.

The progress of development of the two sexes up to the tenth or eleventh year is equal. The boy develops imperceptibly from youth to manhood without any special disturbances. The female, on the contrary, changes rapidly to womanhood, and her nervous system is taxed to maintain equilibrium and proper development of the sexual organs at the same time. The nerve force that should be used for their development should not be directed into other channels or else the pelvic organs suffer. It

is a critical time and upon its normal termination, depends much of the after health and freedom from uterine disease. A great many women date their trouble back to puberty. They have never menstruated properly, and if, in such cases, the history can be obtained, there will be found something that prevented the normal approach of puberty, such as overwork, both mental and physical, exposure or accident.

Puberty is marked by a change in the pelvis. The hips broaden and the form becomes rounded. Hair appears on the mons Veneris and the mammary glands begin to enlarge. The ovaries become increased in size, and both the blood and nerve supply to them is increased in amount.

Ovulation begins, and with it the appearance of menstruation. This is indicative of the sexual nervous system approaching that maturity which makes a woman capable of procreating. During the change of puberty the patient sometimes becomes anemic, the appetite abnormal in that there is a craving after peculiar kinds of food, and eruption appears on the face and she complains of general weakness and lassitude. These symptoms should leave if the change to maturity is normally made. The patient is weak and nervous on account of the unequal nervous distribution. As a result of this, lesions are readily produced at this time, because the muscles and ligaments are flabby and relaxed.

200 Maturity comprises that period between puberty and the menopause, or the fruitful period of the woman's life. It should be the period of

least disease and disturbances since it is one of great physiological activity, yet menstrual disorders and inflammatory conditions are frequently found.

If the function of child bearing is not interfered with by artificial means, the woman will have perfect health, unless accidents, strains or injuries occur. A woman is predisposed to disease, if she has not borne children. Childbirth changes her nervous system, alters her in various ways and fulfils the function for which she was designed.

A great many diseases, are contracted and they are on the increase, as a result of interference with this function. The accidents of childbirth, such as laceration, which occur during this period, may be the foundation of future disease. The period of puberty is comparatively free from neuroses and the various mental and imaginary diseases. It is rare to get a case of hysteria in a woman who has borne children unless there has been a laceration. The suffering and changes produced, make her able to control herself. Fibroid tumors are the most common of the growths which occur during this period.

201 The Menopause is the period at which time the menstruation ceases. The average age at which the change of life occurs is forty-five. It is also called the climacteric, which is taken from the word meaning the top round of the ladder. It is a physiological process and marks the close of the sexual activity of the woman.

The popular opinion is that the later the menses commence the later the menopause occurs, but in

fact, just the opposite exists in most cases. If, in a woman who is fully developed, menses come on late, the period of sexual activity will be short, that is, the menopause will appear at about the age of forty.

The length of the menopause varies. Usually it covers a period of from one to two years; in extreme cases it lingers through a period of several years. I have a patient who has had symptoms of the change of life for eight years and who has not yet entirely passed through the change. Cold climates affect menstruation, that is, it begins late and ceases early; warm climates have the reverse effect.

The cause of the menopause is in most cases a physiological one, but may be artificially produced.

At this time the ruling organs, the ovaries, cease their activity, hence the stimulus which the uterus receives from the ovaries is absent.

Impregnation is no longer possible, therefore menstruation is unnecessary.

The removal of the ovaries by operation, or a structural disease of them bring on a premature menopause. The operation called ovariectomy is often resorted to in uterine disease. Wasting diseases, shock, either physical or mental, which unfit the woman for childbearing, often brings on a premature menopause, especially if she is already approaching it at the time of accident.

Chronic metritis predisposes to an early menopause, and one attended with various functional disturbances.

The anatomical changes are based on the cessa-

tion of ovarian influences; the uterus undergoes atrophy, becoming small and hard. The canal gets smaller, sometimes it entirely closes, this giving rise to a retention of menstrual discharge which follows, if it occurs in the early part of the change of life. The mucous membrane undergoes changes in which the glandular elements are lost.

The vagina undergoes senile atrophy, it becoming smaller, shorter and weaker. The walls are not held permanently together and as a result, prolapsus, or in some cases, procidentia occurs. The walls lose their rugæ and a great part of their elasticity. This is more marked in cases which are preceded by chronic uterine trouble, covering a period of years.

The ovaries atrophy and the follicles disappear. They become flattened and hardened and are covered with scars; the remains of the rupture of the Graffian follicles. Dense fibrous tissue replaces the atrophied and degenerated parts of the ovaries. The Fallopian tubes shrink and become shorter, lose their ciliated epithelium and sometimes the walls unite.

The vulva undergoes degenerative changes, the os becomes patulous and the lips separated.

The breasts degenerate, usually becoming smaller and flatter. The glandular elements disappear and are replaced by fat in cases where the size is retained. The patient usually becomes obese, but in some cases there is loss of flesh.

Premature menopause is followed by the patient becoming fleshy unless it is complicated by other

diseases. Amenorrhea is quite frequently found in an obese woman, the result of the inactivity of the ovary, which is also the cause of the obesity. The physiological changes are those of cessation of function of the internal organs of generation, namely, cessation of menstruation and ovulation.

202 Symptoms. The symptoms of the menopause may be divided into two divisions: first, the local symptoms which are due to the menstrual changes, and second, the reflex or systemic disturbances which are so common. The first symptom of the approach of the menopause is the irregular menstruation. It may be delayed or occur at the fifth or sixth week, or it may come on at any time.

The amount varies, sometimes it becomes increased, sometimes lessened in amount, but there is usually hemorrhage. Sometimes the hemorrhage is so profuse that it threatens the patient's life; in such cases cancer should be suspected.

Menstruation is prolonged, sometimes lasting from six to eight days, and in some cases the flow is continuous. This is an abnormal symptom and an examination should be made, lest there be a malignant disease. These irregular hemorrhages may occur off and on for years, sometimes the patient skipping several months and again it recurring after exertion, or after being on her feet a great deal.

An osteopathic treatment, which increases the blood supply to the pelvic organs, frequently brings on the flow even after it has ceased for a year. It is not an alarming symptom but frequently proves beneficial. This is especially true of an abrupt

cessation of the menses. If they do not stop in the proper way the patient will have trouble until menstruation appears again.

The reflex symptoms are many and cover the entire category of reflected troubles. The circulatory disturbances are first noticed. The head is congested causing a flushed face, insomnia, or a restless sleep disturbed by dreams. Vertigo is present, also a roaring or buzzing in the ears called tinnitus aurium. A part of the body may become numb, the arm being the part most frequently affected in this way. Eye sight is affected, it being blurred, or spots occurring before the eyes.

The characteristic vaso-motor changes, inducing hot and cold flashes, or a localized congestion, are commonly present. The patient suddenly breaks out into a cold perspiration. This is usually localized along the spinal column, or along the course of a rib. In some cases the head becomes very hot, or a general increase of temperature may occur. The heart is commonly attacked causing palpitation and dyspnea. It becomes very weak with the pulse very indistinct, or it may become labored in its action. Syncope follows if the heart becomes very much weakened, but is seldom fatal.

Sudden fainting away is common. In such cases the patient should be laid in the dorsal position with her head low and then the ribs should be raised, this giving the heart more room in which to work.

An intense pruritus vulvae sometimes is found, accompanied by a leucorrhœal discharge. This is

the result of a disturbance of the circulation of the vagina and vulva. The various mucous membranes of the body become congested, resulting in a catarrhal condition. Hemoptysis occurs in some cases, hematemesis in others. The hemorrhoidal plexus of veins in case of piles, bleeds very freely at this time. These various sensory and circulatory disturbances are supposed to be due to a retention of blood which does not find an outlet at the menstrual period.

The nerve force is deranged on account of the changed condition of the pelvic circulation. Like the onset of menstruation, the menopause is attended by marked nervous symptoms. These various changes manifest themselves in irritability of temper, melancholy, hysteria and other mental disturbances of different varieties. Insanity accompanying the menopause has been noted in some cases. Hysteria is a marked symptom.

The patient's entire disposition is changed; she frequently becoming peevish and fretful. This, however, is not found in every case. These various reflex troubles depend upon the strength of the parts affected. If a lesion weakens the innervation of the heart, then the exciting cause, the change of life, will weaken it more. The same might be said of other forms of reflexes. There is usually a bony lesion affecting the part, whether the stomach, lungs, bowels, or cerebral circulation, which weakens it so that it cannot resist exciting causes which are at work.

The dangers of the menopause are the tendency to hemorrhage, and onset of malignant diseases of

the uterus and breast, principally cancer. Every woman knows this and on this account, if there is a condition that is abnormal, it injuriously preys on her mind.

On the other hand the menopause cures a great many pelvic diseases. Dysmenorrhea, in all its varied forms disappears. Inflammatory conditions abate on account of the atrophic changes. Fibroid tumors cease their growth or atrophy from lack of nourishment. Various ovarian troubles are cured, thus relieving the patient of pains which have made life a burden. Such patients hail with joy the approach of the menopause.

The diagnosis of the approach of the menopause is made by noting the irregular, scanty or profuse menstruation and peculiar reflex symptoms not before noticed by the patient. If these symptoms appear in a woman between the age of forty or fifty, who has been previously healthy, suspect the menopause as the cause of these symptoms.

203 Treatment. The treatment is palliative, that is, it can be relieved but not entirely cured until the cessation of the flow. The symptoms should be treated as they arise. If the heart is weakened it by raising the ribs and correcting the predisposing weakness. The hot flashes are usually controlled by a spinal treatment and by treatment applied to the pelvic organs, since they are the result of some of the pelvic disturbances. Vertigo, headaches, and the eye and ear derangements can be helped by neck treatment, but the symptoms cannot, at a rule, be permanently relieved, until the

change of life is past. The hemorrhage, if excessive, is stopped by treatment which produces uterine contraction. As mentioned above, the menses may reappear after a hard treatment, but do not be alarmed unless the hemorrhage is excessive, since evil results seldom follow.

If the abnormal conditions of the change of life are due to bony lesions, treatment should be given to correct these lesions. In cases of chronic uterine diseases, these lesions are common and do affect the menopause. These lesions which affect the other physiological functions of the uterus, will certainly affect the menopause, and should be regarded as important causes in cases of abnormal change of life.

204. Senility is that period which follows the climacteric. It is a period of repose and one of physiological inactivity of the sexual organs. In the early part of the period, malignant growths are prone to occur. Any abnormal hemorrhage of the uterus should be carefully investigated. Prolapsus is frequently found, but causes comparatively little trouble. The cases of complete procidentia are most frequently found during this period. The patient is usually free from the ordinary uterine disturbances and cancer is about the only disease to be feared.

205. Ovulation is the process which includes the maturing of the Graafian follicle, its rupture, escape of the ovum and its transmission to the uterus; although it may drop down into the peritoneal cavity and there perish. It begins at puberty, or rather,

puberty depends upon the beginning of ovulation. This occurs between the thirteenth and fifteenth year.

In most animals ovulation is a periodic process occurring in certain seasons and marked by increased sexual activity. In the woman and many domesticated animals, this relation no longer exists, and ovulation occurs at no stated season. Some believe that it is a periodic phenomenon occurring every month. This is the time of most common occurrence, but it may take place at any other time. This has been proven by post mortem examinations revealing fresh scars on the ovaries at the intermenstrual time, these indicating the ruptures of the Graafian follicles. Throughout the entire fruitful or child bearing period, the development and rupture of the Graafian follicles, which discharge their ova, are continuously occurring. It may occur independently of menstruation, but menstruation certainly depends on the physiological activity of the ovary.

The Graafian follicles begin to swell, and enormously increase in size, just previous to their rupture. As soon as rupture takes place, the ovum is thrown out upon the peritoneal aspect of the ovary. It is then caught up by the fimbriated extremity of the Fallopian tubes and then transmitted by the ciliated epithelium into the uterus. Some say that the fimbriæ are erectile and surround the ovary, while others say that a suction is produced by the motion of the cilia, which draws the ovum directly into the tube. It is carried to the ampulla

or largest part of the tube, at which point impregnation is supposed to take place,

In a diseased condition of the ovaries, ovulation is prevented or interfered with, which results in some form of menstrual trouble; during lactation and pregnancy the progress is probably at a stand still, although cases of much sexual irritation following parturition frequently excites activity and brings on ovulation and menstruation. It is also stopped by the removal of the entire ovary and sometimes by the removal of the uterus, although menstruation continues longer after the removal of the uterus than of the ovary.

Impregnation is most likely to occur if coition takes place just immediately before or after menstruation. Impregnation may occur at any time although there are about four days in a month in which it is not likely to take place, these being from the eighteenth to the twenty-second day following the menstrual period. The ovum may stay in the tubes and uterus for sometime and still retain the power of becoming impregnated.

205 Menstruation is a discharge of blood from the uterus and Fallopian tubes, accompanied by the shedding of the superficial layers of the mucous membrane, occurring during the period of a woman's sexual activity, from puberty to the menopause, every lunar month or twenty-eight days. It is also called menorrhœa, catamenia, monthly sickness, periods, sick time, courses and the menses.

Various theories have been set forth to explain this phenomenon. The old writers supposed that it

was due to woman's uncleanliness and menstruation was thought to be an effort on the part of nature, to rid herself of noxious elements. Very queer ideas prevailed, such, as that a drop of menstrual flow would fade a flower and that a menstruating woman in a dairy, would turn milk sour. Another, gives as a cause, a plethoric state of the body, and the congested condition was relieved by the menstrual flow.

The best theory is that it is natural process, it being one of the functions of the female organs. It prepares a nidus for the reception of an impregnated ovum and should be no more of a mystery than ovulation. The part that we are interested most in are, the disturbances of this function, not the vague theories as to its cause.

The onset is influenced by race, climate, heredity, environments, food, and mode of living. A warm climate, highly seasoned food, excitable surroundings, that is sexual excitements, association with other sex, erotic pictures or impure literature all tend to bring menstruation on earlier than it would have occurred if these conditions had not existed. Sexual passion is stronger in some than in others, menstruation appearing late in those in which it is not well developed. In those in whom sexual passion is strong, development is early and the menses appear at an early age. Early menstruation generally means profuse flowing, disordered menstruation and late menopause. Late menstruation means scanty and painful menstruation and sterility. At first the menstruation is usually irregular and takes at least a year before regularity is established.

207 Menstrual Mollima include the local and reflex subjective symptoms. Just preceding the beginning of the flow there is a sense of weight and heaviness in the pelvis and limbs. This is the result of the congestion which precedes menstruation. The breasts are tender and full, sometimes a slight secretion taking place. The thyroid gland swells, and the mucous membrane of the throat becomes congested. It is a well known fact that singers often have cancelled engagements, which occurred at the menstrual period, since their voices were affected; either they become hoarse, husky and changed in quality or are entirely lost at that time.

Pigmentation of the skin appears, the face becomes more sallow with dark rings appearing under the eyes. Herpes or blisters are found on the lips.

Eruptions, pimples or acne frequently appear on the face thus giving it a mottled appearance. The acne of menstruation are perhaps due to some reflex disturbance of the fifth cranial nerve since it has several sympathetic ganglia.

Nervous changes are noticeable, the patient being changed in disposition, also there being loss of energy, and various other symptoms of a disturbed nerve supply.

Hysteria is more prevalent at this time than at any other, and if the patient is subject to epilepsy or hysterio-epilepsy the attacks occur harder and with greater rapidity at this time.

Leucorrhœa is increased in amount.

Pruritus is also present in some cases and gives the patient a great deal of trouble especially during

the latter part of menstruation. There is chronic backache, headache, and the heart is subject to palpitation and there is a general feeling of soreness all over the body.

208 The Flow consists, for the greater part, of blood, and is supplemented by mucus secretions and epithelial cells. It is alkaline in character and has a peculiar odor. It should be dark in color and free from clots. There should be also absence of pain, but this condition is rarely found.

The quantity has been estimated at from four, to six ounces, but it has quite a physiological variation. This can be estimated by the number of napkins used. If the patient has to change the napkins during the height of the flow more than two times per day the quantity is excessive.

The length of the flow is on an average about four days, but may be lessened to two days or increased to as many as six, and yet be normal for that individual.

The source of the flow is from the mucous membrane lining the uterus and the Fallopian tubes, and a few authors say some comes even from the ovary. There is a destructive change occurring in the endometrium which results in its disintegration and discharge. The uterine cavity is soon coated with a fresh endometrium which furnishes a fresh nidus for the fixation and nutrition of the impregnated ovum.

It seems like menstruation is a systemic process and one not confined to the pelvic organs, although they are the prime factors. The whole system un-

dergoes a change and the formation and escape of the ovum and its reception in the uterus, and the local symptoms, are only an expression of the general condition.

Cessation of the flow occurs on an average, at age of forty-five, yet there are notable exceptions to this rule. Early menstruation is followed by a late menopause; probably reaching the fiftieth year. Local examinations and treatments should be avoided if possible during the flow, also coition should be prohibited at this time.

GENERAL DISORDERS OF MENSTRUATION.

209 Disorders of Menstruation. The disorders of menstruation form the most frequent and important of the complaints of the female. It is rare to find a woman who has no disorder at the menstrual period; in whom the menstrual period is free from pain, of normal amount and length of flow. These disorders do not constitute diseases in themselves, but are results or symptoms of the various uterine displacements and inflammation, and are very important in that they are so common. Habits, mode of dress, fashion, are all combined to make the menstrual period the "sick time" instead of the "well time" as it should be.

The menses may be absent, which is called amenorrhea. The other forms are, scanty menstruation, menorrhagia or too profuse flow, painful menstruation or dysmenorrhea. It may come from another part of the body, and is then called vicarious menstruation, or it may begin too early, in which case it is called precocious menstruation. Hemorrhage from the uterus at other times than at the menstrual period is called metrorrhagia and does not belong to the disorders of menstruation. There may also be retarded menstruation or it may become suppressed or irregular.

210 Amenorrhea, as the word implies, means absence of menstrual discharge. It may exist in one of two forms, either the primary, called the *emansio mensium* form, or the secondary form, which is called *suppressio mensium*. The primary form is found in cases in which the menses have never appeared, although the patient is of the proper age, while the secondary form occurs in cases in which menstruation has once started, but which has ceased from some cause or other. At certain periods there is a physiological amenorrhea such as pregnancy, lactation, before puberty and after the menopause.

211 Causes. The causes of the primary form or true amenorrhea, are due to the absence of the reproductive organs, or the failure of these organs to develop from their immature state which exists in infancy, to the mature state, found in maturity. The absence of the ovaries and tubes, absence or imperfect development of the uterus or what is called an "infantile uterus," or absence or atresia of the vagina, are the usual causes of the primary form.

An imperforate hymen, prevents the external appearance of the menstrual flow and the case is regarded as one of amenorrhea, but is not in its true sense, and should be called concealed menstruation.

Overwork just proceeding, or at the time when menstruation should appear, frequently prevents the development of the pelvic organs, and causes amenorrhea, or it depletes the system, leaving the patient without enough blood with which to begin the menstrual flow.

Diseases, especially of the debilitating class, occurring at this time, also prevent menstruation in a similar way. Changes in climate and environment, frequently cause amenorrhea, as seen in immigrants.

221 The Secondary or *suppressio mensium* form of amenorrhea is due to a great many causes. This form includes the cases in which it has been stopped after the onset of the flow, or suppressed after menstruation has once begun or appeared.

Since the flow comes principally from the mucous membrane lining the Fallopian tubes and uterus, it follows that anything causing a lack of blood to these parts or producing a sudden contraction of the muscle fibers of the uterus will cause a cessation of the flow. Since the ovaries exert a stimulus over the other pelvic organs and in reality control menstruation, any disease impairing their function will cause disordered menstruation; most commonly amenorrhea.

Lesions in the lower dorsal region which affect the ovaries may cause amenorrhea. These lesions usually consist of, a slipped vertebra, a stiffened condition of the spine, or a displaced lower rib. They shut off the nerve force to the ovaries which is necessary for the proper performance of their function, hence the absence of ovulation and menstruation. The ovaries may be inflamed or some growth may have appeared on them, such as a cyst or fibroid tumor. Uterine displacements displace the ovaries, and interfere with their function. If complete enough, the ovaries cease their influence over the uterus and menstruation stops. Since, in

the economy of nature, there is not enough blood to carry on both the vital functions and menstruation, the blood is used to carry on the vital functions, hence any disease that impairs the quality or lessens the quantity will, if great enough, cause amenorrhea. In such cases menstruation gradually ceases, that is, the flow becomes more scant each time until it stops completely. .

The debilitating diseases, especially phthisis, affect both the quantity and quality of the blood, hence the cause of scanty menstruation or even amenorrhea. It is a popular opinion that if a girl ceases to menstruate it is a foregone conclusion that she is going into consumption. As a rule, every one that has consumption has amenorrhea, but it does not necessarily follow from this that amenorrhea is a symptom of consumption.

The acute diseases also cause at least a temporary cessation of menstruation. This is most marked in the exanthemata. In short, any disease or condition that impairs the quality of the blood, tends to produce amenorrhea and does, in most cases, if the disease becomes chronic.

Overwork, such as hard study, draws the blood to the part that is used most and leaves the pelvic organs anemic, and in this way causes amenorrhea. This occurs in students, and usually causes very little discomfort and should not be regarded as very important since the menses usually recur as soon as the patient ceases to work.

Sudden cessation of the flow is due to getting wet or other forms of exposure, sudden emotion such as a fright or extreme joy. This will usually

stop the flow in a great many instances if the period is on.

Any injury or accident which causes uterine contraction will stop the flow. A hard stimulating treatment will, in some cases, stop the normal flow. Then the question often arises, should we or can we stop the normal menses by treatment? In the first place we should not; and in the second place it may be stopped if the treatment is so hard that it brings on uterine contraction. Menorrhagia can be controlled by this kind of treatment.

Lesions of the pelvic bones, which shut off or diminish the blood supply to the pelvic organs, will cause amenorrhea, if the condition exists for any length of time. The most common of these lesions is a forward slip of the ilium or a backward slip of the sacrum.

Most bony lesions that occur in the pelvic bones have a direct effect on the uterus, that is, they cause a local congestion of the uterus.

Acute flexions may cause amenorrhea, but more commonly cause dysmenorrhea. Obesity is often stated as a cause of amenorrhea in young girls. It is common to find amenorrhea in this class of patients, and on this account it is thought to be the cause. I think just the reverse of this condition exists, that is, obesity is the result of cessation of ovarian activity. The same condition takes place after the menopause whether the menopause is natural or acquired. Menstruation usually ceases before obesity occurs, or at least, before it has existed very long. In obese people, the generative

organs are not so fully developed as in those of a bony make-up. This also holds true in the male, the generative organs being usually found small in fleshy persons. The point is this, the obese are not so strong sexually and the weakened condition of the ovaries prevents the proper influence over the uterus, hence the disturbed menstruation or amenorrhœa.

213 Symptoms. The most easily recognizable, and the most important symptom is, the absence of the menstrual flow, yet not every case, in which there is absence of the flow, is one of pathological amenorrhœa, although it happens during maturity. If this occurs in a girl who has passed the age at which the flow should have started but did not start, it is the primary form. In some, the symptoms may be insignificant, but in others there is frequently found headaches in the top of the head, hot and cold flashes, sense of fullness and pain in the abdomen, nervous disorders and gastric disturbances. In some there are all the symptoms of menstruation except the appearance of the discharge. The complexion changes in color, pimples appear on the face, dark rings under the eyes, tenderness of the mammary glands and a dull, achy feeling, which is so commonly associated with menstruation. Such symptoms occurring at regular intervals, make up the condition called *molimia*. In these cases *atresia* should be looked for; it being ascertained by a digital examination or by the use of the probe or sound.

An imperforate hymen can be diagnosed by in-

spection. The external genitals are small, and the cervix long and pointed, indicating non-development or the "infantile" type. The ovaries are small and the breasts rudimentary. Patients belonging to this class are anemic, have morbid appetites and are very bashful and listless.

The secondary form is characterized by the stopping of menstruation after its appearance at puberty. The symptoms are very slight in some cases, while in others, the symptoms are marked, unless due to debilitating diseases. Not even moulimia are found in most cases. These cases will be anemic and weak, and there will be loss of strength and ambition. Functional heart troubles are frequent and the patient has palpitation, and dyspnea, on the least exertion.

Digestion and nutrition are impaired, there being anorexia, flatulency, constipation and dyspepsia with its varied symptoms. Sleep is not good and the patient is unrefreshed by it.

Leucorrhœa is increased in amount and in some cases it is supposed to take the place of the menstrual flow.

The symptoms of *suppresio mensium* due to exposure or lesions are, backache, headache, sense of fulness and weight in the pelvis; breasts tingle and are tender, in short, the patient has all symptoms of the flow without its appearance. These symptoms are exaggerated at the regular time for the menstrual flow and cause quite a great deal of discomfort and pain. In such cases the flow may be concealed, that is, may remain in the uterus for several

months and then be discharged in the form of black clots and in great quantities.

I recently had a case of this kind. The lady had missed six monthly periods and there was quite a marked enlargement of the abdomen. In getting a history of the case, I found that she had been in a similar condition several times previously, and with this and the absence of local and reflex symptoms, pregnancy was excluded. On examination, the uterus was found enlarged and the os closed. I at once suspected the condition of retention of the menses and possibly physometra, which the case later proved to be. In this case there were the symptoms of anemia, poor nutrition and a general loss of strength.

If the menses are simply delayed, there will be headaches, backaches and a general soreness and an uncomfortable feeling. The sudden suppression of the flow from exposure or emotional influences, gives rise to an acute congestion and inflammation of the uterus. The blood is forced back through the Fallopian tubes into the peritoneal cavity, which sets up a peritonitis. The patient has fever, extreme tenderness over the abdomen and intense pain. In other cases the symptoms are not so marked, there only being a general feeling of discomfort.

A sudden strain, slip or fall during menstruation, bringing on a stoppage of the flow, is followed by similar symptoms. The sudden suppression is due to contraction of the uterus, and especially the cervix, which closes the opening of the blood vessels.

and occludes the outlet of the uterus. In cases due to overwork, either physical or mental, the amenorrhea will come on gradually with few if any symptoms referred to the pelvic organs. The extra blood is used up in the development of the brain or muscles and little or none is left for menstruation. In such cases the onset is gradual and should cause no alarm.

214 Diagnosis. The most important question pertaining to diagnosis is, whether the amenorrhea is physiological and due to pregnancy either normal or ectopic, or whether it is pathological, which is the result of disease. If it is a physiological amenorrhea which is due to pregnancy the symptoms of pregnancy will be present.

The most common of the early symptoms of pregnancy are morning nausea and sickness, mammary changes, pyalism, enlargement of the abdomen and softening of the cervix, Hegar's sign and the inverted jug-shaped appearance of the uterus. If these symptoms accompany amenorrhea, probably there is pregnancy, but a sure diagnosis can not be made until some of the sure signs of pregnancy are obtained. The sure signs of pregnancy are fetal heart beat, ballottement and quickening, which symptoms are not obtained before the twentieth week.

If amenorrhea is found, consider the age of the patient, also her occupation and habits. If above the age of forty it may be the menopause approaching or if the patient is a hard mental worker, it is the result of using the blood for the development of the brain and leaving little or none for the men-

strual function. In getting the history, inquire as to the stoppage, whether sudden as after an exposure, fall or strain, or whether it came on gradually. Consider the appearance and nourishment of the patient, since it is so frequently associated with anemia and other debilitating diseases.

215 Prognosis. The prognosis depends upon the general health of the patient, mode of onset and length of time it has existed. In a person otherwise healthy, the prognosis is very good. If there is some debilitating disease it is not so good. If congenital, usually it is good unless there is absence of an organ, but if due to atresia, stenosis or an imperforate hymen, it is favorable, since an operation removes the obstruction. Cases of acute suppressio mensium can be relieved and the flow started if treatment is given within twenty-four hours after stoppage of the flow, unless it has stopped on the third day. I have had cases in which the flow had stopped on the first day and remained for five days and then were brought around by osteopathic treatment, but as a rule it cannot be started after it has stopped for so long a time.

216 Treatment. The treatment of amenorrhea due to an obstruction such as an atresia or an imperforate hymen is surgical; an operation being necessary. In cases of non-development, treatment applied to the lesion which causes the trouble by shutting off the nerve supply to the organs, is beneficial and sometimes curative. These lesions are found from the eighth to the twelfth dorsal vertebræ, in the lower lumbar region, sacrum and innominates.

Letting loose the nerves emanating from the spinal cord in the lower dorsal region, is very helpful. This can be accomplished by springing the spine, separating the vertebrae if they are grown together making the spine stiff, and by correcting the muscular lesions.

I regard spinal lesions the most important, since they affect ovarian activity and hence are the true causes of the disease.

In cases of amenorrhea due to constitutional diseases, do not try to bring on the flow by treatment applied to the pelvic organs. It will be useless, and again, it does no good if the menses are brought on, and sometimes even harm is produced. Nature has tried to preserve all the blood possible by stopping the menstrual flow. The fault is not in the pelvic organs but in the amount, and quality of the blood. If there is plenty of good pure blood, and amenorrhea then exists, then the fault may be in the generative organs, and the treatment should be directed to them, otherwise it should not. If after nature has tried to remedy the evil by retaining all the blood possible, treatment is given to cause an escape, it certainly will do no good.

The treatment should, as in all cases, be applied to the cause of the trouble. In this case, increase the quantity and quality of the blood by giving the patient plenty of fresh air, outdoor exercise, sufficient quantity of good nutritious food and osteopathic treatment applied to the blood forming organs, such as the liver, spleen, etc. The ribs should be raised since neurasthenia, anemia, etc.,

result from their displacement. In short, correct lesions affecting the abdominal organs.

Drug physicians usually prescribe stimulants such as iron, quinine, strychnine and other inorganic poisons, yet Byron Robinson says, "we have no known drug which will restore the flow."

Do they nourish? No, there is no food in them. Do they increase the amount of nerve force in the body? No, they really weaken it by drawing on the reserve nerve force of the body. Then what do they do? They stimulate, and that ends it. What use has the body for anything introduced into the stomach unless it counteracts a poison that might be there, or unless it can be absorbed as a food? None, and the poor stomach is made to suffer the effects of strong inorganic drugs for the sake of not only various uterine troubles, but diseases of more remote organs. Of all the drugs that do so much harm, I regard the mineral or inorganic compounds the worst, since no nutrition is found in them and they actually destroy the lining membrane of the stomach.

When I have a patient that needs iron I prescribe iron, but in a different form. Fruits, especially blackberries and strawberries abound in iron which is in an organic form and can be absorbed and used to build up the hemoglobin in the blood. This is the best way to administer drugs, that is, in the form of a natural food, and by far more agreeable to the palate, and better for the stomach.

In anemic and chlorotic patients suffering from menorrhagia, oxygen, food and osteopathic treat-

ments are all that are necessary to cure ordinary cases that have not reached the incurable stage. The bowels should be regulated if need be, also the other emunctories should be put in working order. Plenty of good water should be advised since the body is composed so largely of water. Most people drink too little water; that is the cause of a great many kidney troubles as well as constipation.

The treatment to start menstruation, when suddenly stopped by exposure, should be applied to the lower lumbar and sacral regions. The uterus is contracted and by deep work over these regions, its muscle fibers can be relaxed. In such cases bony lesions are not found at first, but occur later, on account of the constant tension exerted by the contracted muscles. In acute cases, muscular lesions are the most common, while in chronic cases the bony lesions are the cause. By removing the muscular lesions, which have resulted from exposure, the uterus will relax and the flow start again, unless it has been stopped for several days. The muscles are relaxed by removing the irritating factors or by pressure over the muscle itself.

217 Scanty Menstruation is a relative term used to indicate that the amount of menstrual flow has become less than that to which the individual has been accustomed. In some the flow is naturally scant, there being only enough to stain the cloth. In such cases it is not pathological. But if the patient has, at her previous periods, passed the normal amount and then, it becomes diminished, it is then pathological and needs treatment.

If the condition is the result of impoverished blood the symptoms will be few or absent. If due to uterine displacements or contraction, the patient will suffer pelvic pains, weight in the pelvis, backache or pains in the joints of the lower limbs. A general disturbance of circulation follows, as is evidenced by the cold hands and feet. Uterine form of headache and sense of tightness in the head follows. This is confined to the top of the head or suboccipital region.

The causes are the same as for acquired amenorrhea, which has been considered. Amenorrhea frequently commences in the form of scanty menstruation. Since the causes are very similar to those producing amenorrhea, the treatment should be very similar. Increase the amount of blood and improve its quality; since this is the principle condition that needs correction. After this has been accomplished, then treatment should be directed to the pelvic organs to increase their blood supply. This is done by correcting lesions, both bony and muscular, that obstruct or impair the blood vessels that supply the uterus. If the uterus is in a state of contraction, such as is found in superinvolution, the menses are lessened in amount or are entirely absent. In such cases, relax the uterine muscle fibers by an inhibitory treatment over the clitoris and the sacral region. If there is a tendency to scanty menstruation or amenorrhea, a strong treatment during the menstrual period should be avoided. I have known of cases of amenorrhea and retarded menstruation to start from a hard stim-

ulating treatment given during the flow. For this, and several other reasons, the physician should know whether or not the patient is in her monthly period.

218 Menorrhagia is a condition in which the menstrual flow occurs too often or becomes too profuse. The increased loss may be due to a shortening of the intermenstrual period, this being the result of a prolonged flow; too frequent menstruation such as occurs every two weeks; or, to an increased amount at each menstrual period.

It is a common complaint and one that gives a great deal of alarm to the patient, besides weakening her by an excessive loss of blood.

It, like scanty menstruation, is a relative term since what would be menorrhagia for one would be normal for another. However, if the flow suddenly becomes more profuse than that to which the patient has been accustomed, or if the amount lost is clearly enough to keep the woman in a weakened condition and is a drain upon the system, from which she does not recover during the intermenstrual period, it is regarded as menorrhagia.

219 Causes. Menorrhagia is caused by: first, a relaxed condition of the uterus; second, a congested condition of the uterus; or, third, it is due to some disease or condition which lessens the coagulability of the blood.

Bony lesions tend to affect the tonicity of the uterus, by shutting off part of the nerve force. This causes the uterine muscle fibers to relax and the uterus to be filled with blood, hence the menor-

rhagia. This is one of the important causes, and the one, for which the osteopath should at first look. Although the uterus is diseased or displaced, if contraction of the uterus takes place, hemorrhage will cease, unless the blood is in such a condition that it fails to coagulate.

As mentioned before, the middle muscular layer of the uterus is arranged like the figure eight, encircling and entwining around and between the blood vessels. If these fibers are relaxed the blood vessels dilate and bleed freely; if they are contracted, these muscle fibers act as ligatures which surround the vessels and prevent the escape of the blood. This is partly accomplished by the pressure of the contracting muscle fibers, and partly by the formation of an internal clot.

The most common bony lesion that I have found, is a backward slip of one innominate bone. The other lesions are: a tilted sacrum, spinal lesions usually a slight curvature and a twisting of the entire pelvis. The backward slip of the ilium is detected by a change in the direction and height of the crests, and an unnatural prominence of the posterior superior spine on the affected side. Tenderness will be found at its articulation and over the upper part of the sciatic nerve. This tenderness in the sciatic nerve is indicative of congestion and is a common symptom in menorrhagia.

The length of the limb may not be affected. If a simple backward rotation is found the limb is shortened, but very often this rotation is complicated by a downward slip of the ilium, hence the

limb may be lengthened, shortened or not altered in length. The general rule is, that if the limb is slightly lengthened and if of recent date it indicates hip trouble; if shortened, a slipped ilium, the most common being a backward rotation. These lesions not only cause a relaxation of the uterine muscle fibers, but also of the muscle fibers of the walls of the blood vessels. This causes a distension and congestion, and is a general cause of menorrhagia. Metritis and endometritis are preceded, and accompanied by, congestion. In fact, all inflammatory conditions are preceded by a congestion. This extra amount of blood escapes at the menstrual period, this being a safety valve by which this congestion is relieved.

A subinvolted uterus is full of blood, is enlarged, and sometimes is the seat of inflammation. Laceration prevents contraction of the uterus and hence the congested condition.

A granular erosion keeps the parts congested, hence the tendency to profuse menstruation when this condition exists. These uterine inflammations also excite glandular secretions, which form a large part of the discharge. Inflammation of the mucous surfaces, at first diminishes the normal secretions, but afterward the secretions become abnormal in quality and increased in amount. This weakens the system almost as much as the loss of blood.

Extra uterine inflammation affecting the ovaries, called oophoritis, and also salpingitis, lead to pelvic congestion and an increased flow. If the inflammation impairs the function of the ovaries, to any great extent, there is a tendency to amenorrhea.

Uterine displacements cause congestion, hence menorrhagia, if the congestion is marked. The most prevalent form of uterine displacement which produces menorrhagia is a retroversion, although it may follow any form, if there is much congestion. Fibroid tumors cause menorrhagia, the degree depending upon the location of the tumor in reference to the uterine wall. A subperitoneal fibroid causes the mildest form, while the submucous variety the most profuse. About the first symptom of the presence of a fibroid tumor is menorrhagia; this is due to congestion which accompanies the tumor. The hemorrhage does not at first come from the tumor itself but from the congested endometrium.

This very often results in an irregular hemorrhage, called metrorrhagia.

Foreign bodies, such as retained pessaries, sponges and tents, set up a congestion which is frequently followed by a profuse menstruation.

This is found also in an incomplete abortion, but the hemorrhage is rather of the form of a metrorrhagia in such cases. Organic heart diseases produce a passive congestion of the uterus. This is sometimes followed by a profuse menstruation, but it does not necessarily follow.

Enteroptosis, or any obstruction that produces a passive congestion will also produce menorrhagia, so that the causes given under congestion of the uterus may be regarded as causes of profuse menstruation. The first two causes mentioned are usually associated together. A congested uterus implies one in which the walls are relaxed.

The third cause mentioned, is that of some blood disease in which its coagulability is affected. Any debilitating disease, in its early stages, may produce menorrhagia, on account of the thin condition of the blood, before the onset of the amenorrhœa, which occurs after the disease has become chronic and the quantity of the blood lessened. A debilitated condition of the whole system is usually accompanied by amenorrhœa, but occasionally the reverse takes place. These causes are frequently found in young girls who, at the age of puberty, have grown rapidly, developed too early or, who suffer from anemia or some other weakening disease in which the coagulability of the blood is lessened. Menstruation comes on irregularly or two frequently, it occurring every second or third week. Sexual excitement just prior to puberty often deranges the menses in that it produces copious menstruation, probably on account of the increased activity of the ovaries. In the early stages of phthisis the menses are usually profuse, but afterwards diminished, if the disease progresses.

220 Symptoms. Menorrhagia may occur in one of three forms; first, a shortening of the intermenstrual period, that is, the flow is prolonged more than six days; second, an excessive amount of the flow at the period; and third, menstruation occurring every two or three weeks.

The local symptoms would be, a too profuse, frequent or prolonged flow. The color of the discharge is usually of a brighter red than normal, indicating an admixture of arterial blood, but it may

be venous in character and intermingled with mucous secretions. If the loss of blood is very great, it produces anemia, pallor of the lips and ears and a rapid, weak pulse which is easily excited. There may be weakness, faintness, a clammy skin, backache and a general neurasthenic condition. If a patient comes for an examination who is anemic, weak and tires readily on the least exertion it indicates a lack of good blood. This may arise from a loss of blood which occurs in menorrhagia or it may be due to a lack of blood formation and as a consequent amenorrhea exists. The color of the blood should be noticed. Arterial hemorrhage from any part of the body at any time is abnormal, and needs checking. This very rapidly weakens the patient. If the discharge is venous in character it is not so alarming.

221 Diagnosis. Sometimes it is very hard to tell whether the hemorrhage is the result of menstruation or whether it comes from a tumor or other condition which might cause an irregular discharge of blood. The hemorrhage may be so irregular that the patient cannot tell which is the normal time. If it is the menstrual time, other symptoms of menstruation will be present, such as tenderness in the breast, increased pallor of the complexion, herpes and a more severe headache and backache and a general weakness.

Before deciding whether the case is one of profuse menstruation, ascertain the normal amount for that individual and note the secondary anemic symptoms. If the loss of blood, even though it be quite a good deal, causes none of these reflex symptoms

mentioned, it is not pathological and does not need treatment.

222 Treatment. The treatment should be applied to the cause of the trouble, since menorrhagia is only a symptom. Those cases due to the first mentioned cause, that is, a relaxed condition of the uterus, can be cured by producing contraction of the uterus. This is accomplished by correcting the lesions which prevent contraction. If the nerves going to the uterus can be stimulated the uterus will certainly contract. The bony lesions as well as the muscular lesions, inhibit the nerves going to the uterus and hence their contraction would result in a stimulation of all those nerves. This can temporarily be accomplished by strong stimulation over the lumbar and sacral regions, by deep circular massage over the uterus or by producing a sudden shock or stimulation, resulting from the application to the abdomen of something hot or cold. A slap on the abdomen with the cold hand or a quick jerk of the hair on the mons Veneris is resorted to in cases where the hemorrhage is profuse, and immediate contraction of the uterus is wanted. This causes retraction as well as contraction of the uterus.

Abortions can sometimes be stopped in the same way, this causing contraction of the cervix. If the menorrhagia is the result of congestion and inflammation of the uterus, it should be treated as outlined under the head of metritis and endometritis.

If the quality of the blood is impaired the treatment should be directed to the blood forming organs. Anything which increases the general health

is beneficial in the treatment of this form of menorrhagia. For permanent relief and cure, correct the lesions, replace the displacements of the uterus and build up the quality of blood.

223 **Dysmenorrhœa** Dysmenorrhœa is a term used to denote painful menstruation. This includes pain, referred to the pelvic organs which occurs at any time during the menstrual period from the rupture of the Graafian follicle, to the culmination of the discharge. It, like the other menstrual disorders, is only symptomatic, it indicating some disease or abnormality of the organs which take part in the menstrual process.

It is the most common of all the menstrual disorders and one that nearly every woman experiences, either in the chronic or acute form. In fact, pain at the sick time is so common that it is regarded by most women as a necessary accompaniment of menstruation. Normal menstruation is painless and free from clots and causes little inconvenience.

Dysmenorrhœa varies in degree from a few pains, which do not interfere with the patients' occupation, to a complete prostration which keeps the patient bedfast for some days. In some cases one attack is scarcely over before another is ready to commence.

Some women are more sensitive to pain than others, and exaggerate the pain felt, thus making it hard to estimate the amount of real pain from the description given by the patient.

224 Pain is a sensation which is distressing or agonizing. It is the result of an irritation of a sen-

sory nerve or nerves, and the conveyance of the impulse to the higher centers which refer it back to the seat of irritation.

This sensory irritation is, in most cases of dysmenorrhea, the result of pressure. The pressure may be of various kinds, but the blood pressure and pressure from muscular contraction are the most common. This disturbs the nutrition of the nerve, or even the nerve substance itself.

The degree of pain depends upon the degree of pressure and starvation of the nerve. In one case there is sharp pain, in another there is a dull, radiating or a labor-like pain. It may be constant or intermittent. It may become intense just before the flow begins or just after, or continue while the flow is on. The seat of the pain may be in the ovary, peritoneum, tubes or uterus. It may be referred to the back, side, abdomen or limbs.

225 Varieties of dysmenorrhea depend upon the organs affected and how they are affected. It is usually divided into three types; first, the ovarian type in which the pain precedes the flow and the pain is referred to the ovary; second, the obstructive type; and third, the obstructive and inflammatory type combined. These varieties are usually not distinct but are commonly combined, one running into the other. By getting a history of the case the variety can be ascertained. If the pain precedes the flow from four to eight, days it belongs to the ovarian type. If the pain immediately precedes the flow and is relieved by the starting of the flow, it is the obstructive form and probably due to

a flexion. If the pain continues throughout the period it is due to inflammation. If the pain precedes and also accompanies the flow it belongs to both the obstructive and inflammatory type, such as is found in a flexion accompanied by an endometritis.

226 Causes. At each menstrual period the pelvic organs become congested. Any diseased condition of the pelvic organs tends to increase this congestion, and if the inflammatory stage is reached, painful menstruation follows.

The ovaries share in this congestion or they may be separately diseased. It is conceded by most writers that the ovaries congest, the Graafian follicles swell and rupture, and the ovum escapes some few days prior to the beginning of the flow. If anything hinders or impairs this process it is liable to terminate in pain. In some cases the rupture of a follicle is hindered by toughness of the texture of the ovary. Inflammation of the ovary called ovaritis, causes pain, since the congestion is markedly increased at that time. This congestion increases the pressure, hence the pain. As soon as the follicle ruptures, the congestion is relieved and the pressure decreased.

Lesions in the lower dorsal region affect the ovary and produce congestion and painful menstruation. In chronic cases these lesions are bony, but in acute cases the lesions are usually muscular. A case in point might be cited. A young lady age sixteen, was taken with a severe pain in the side and back some three days previous to the period at which time the flow should begin. On examina-

tion, the muscles over the lower dorsal region were very much contracted.

By relaxing these muscles the pain was stopped within a short time. This is the cause of ovarian colic or "cramps" which is so common. As was mentioned before, always look for muscular lesions in acute, and bony lesions in chronic diseases.

Inflammatory conditions of the structures around the ovaries also impair their function and produce this form of dysmenorrhea. Salpingitis and perimetritis are the most common of these inflammatory conditions around the ovary. The broad ligaments are frequently found inflamed resulting in their contraction and the disturbance of the ovary.

The obstructive form of dysmenorrhea, is a form attributed to a mechanical obstruction of the uterine canal. Although this is mentioned by some writers as an important cause, yet I think it is not so important as some other causes, and especially the inflammatory conditions. Since the blood is able to pass through even a capillary there must be a very marked and complete obstruction of the uterine canal to prevent the exit of blood.

The obstructive form is rarely found alone, it being most frequently associated with inflammation such as endometritis. The flexions, and especially anteflexions are cited as the most typical, and the most common causes of obstructive dysmenorrhea. The uterine walls collapse at the point of flexion, which not only obstructs the uterine canal, but also the blood vessels; hence when the menstrual blood is poured out into the cavity of the uterus it meets

with this obstacle to its free passage. There is retention and coagulation, and the presence of the clots excites uterine contractions which cause the pain. However, the pain will be very insignificant, unless there is a co-existing inflammation. This form is most commonly found in the young but sometimes occurs in multipara. Stenosis of the os may occur from other causes such as cicatrization, resulting from inflammation. If this occurs at the internal os it very readily impinges on the uterine cavity, causing a narrowing at that point. The tissues may thicken and become rigid in the region of the internal os.

There may be a uterine polypus which acts like a ball valve, thereby preventing the exit of the flow. The mucous membrane becomes congested, and in this way produces a narrowing of the canal.

The circular muscle fibers of the cervix are often found contracted leading to a stenosis of the os. Lesions which cause a stimulation of the nerves, going to these parts, may excite the uterine contraction. The lesions are commonly found affecting the pelvic bones, principally the innomines. Sudden fright or shock causes contraction of this part of the uterus and forms clots which excite pain upon their expulsion. If the entire uterus contracts suddenly, the flow may be brought on, such being the case in a sudden fright or excitement.

A condition of infantile uterus is frequently to blame for dysmenorrhea. The small, elongated, hardened, contracted cervix almost obliterates the canal running through it. It relaxes with difficulty

and a great deal of pressure from behind is necessary to force anything through the canal. The pressure is produced by uterine contraction. Uterine contraction if abnormally hard, is always attended by pain, hence the pain in this form of obstructive dysmenorrhea.

This kind of dysmenorrhea dates from puberty as a rule, and the pain is confined to a few days just prior to the menstrual flow, the patient being comparatively well during the intermenstrual period.

The inflammatory causes are the most common and important. As mentioned above, there is a physiological congestion of all the pelvic organs at the menstrual period, which should disappear after menstruation. If there is a weakness or disease, the congestion does not entirely disappear. Displacements of the uterus, lesions along the lower part of the spinal column and pelvic bones, lack of care at the menstrual period, occupations in which the patient is on her feet a great deal and the mode of dress, all tend to increase this congestion. The congestion leads to inflammation. This inflammation is in the form of a metritis or an endometritis. Chronic metritis affects the entire uterine wall. The muscle fibers would then be affected, hence the uterine contraction is necessarily attended by pain.

The blood forms into clots and the canal is lessened, both of which are inducive to dysmenorrhea. Congestion accompanies the metritis, the uterus is enlarged and the pressure upon the sensory nerves is increased. In active congestion there is a painful, throbbing sensation at each beat of the heart.

This is because the blood pressure is increased at each ventricular contraction and the sensory nerves are more irritated by this increased pressure. If uterine contraction is also present, this increases the blood pressure and the pain resembles the bearing down pain of labor.

Endometritis is probably one of the most common of uterine diseases. It is rare to get a tumor, displacement, or any disease or abnormal condition without some co-existing inflammation of the endometrium. This mucous membrane thickens and inflames more at the menstrual period than at any other time as a result of the general pelvic congestion. This favors hemorrhage and coagulation of the blood. When uterine contractions begin, and they are present in normal menstruation, the uterus is contracting over and around the inflamed surface. It is like grasping something with the hand and gripping it, when the palm is inflamed and sore. It certainly excites pain. In the uterus, the walls of the cavity are sore, congested and inflamed, and any uterine contraction produces pain. Now, if there is any obstruction as from a narrowing of the internal os, flexion or contraction of the cervix, the pain is increased in proportion to the degree of the obstruction.

There is a form of painful menstruation resulting from congestion and inflammation of the endometrium called membranous dysmenorrhea. It consists of an exfoliation of the endometrium and its expulsion en masse at the menstrual period. A stripping off and expulsion of this membrane

through a small opening is attended by intermittent pains very similar to, or even worse than those of labor. This is a severe and chronic form of dysmenorrhea and one supposed by the medical profession to be very hard if not impossible to cure; but osteopathic treatment seldom fails in such cases.

Back of these inflammatory and congestive conditions, bony lesions are sought for in chronic cases, and upon their correction depends the cure. Osteopathy corrects these, and that is why we cure where other methods fail.

Inflammation of the structures around the uterus is frequently found as a cause of dysmenorrhea. This leads to ovarian inflammation, and salpingitis, and each menstrual period increases the pain on account of the extra congestion at that time.

Malformations such as atresia, cause retention of the menstrual flow and finally there is painful distention.

Some cases are due to constitutional causes such as gout and rheumatism. Other cases are due to poor development of the pelvic organs, so that they cannot perform their natural functions. This form dates back to the onset of menstruation; it never being just right.

There may be a neurosis such as neurasthenia and hysteria which makes menstruation painful.

Sudden stoppage of the flow is followed by pain of a bearing down character. In such cases there is a contraction of the cervix which produces a stenosis of the os. This is usually called the

spasmodic form of dysmenorrhea. The retained blood undergoes coagulation, and the expulsion of the clot formed, is similar to the expulsion of a fetus.

Overwork or exposure just prior to the time for the appearance of the flow is followed by pain when it does appear. Delayed menstruation causes increased congestion of the uterus, absorption of some of the menstrual flow and the formation of clots, and the flow is attended by pain when the menses do come on.

227 Symptoms. The symptoms of dysmenorrhea are pains, both local and reflex. The degree of pain varies greatly. The pain preceding menstruation is called ovarian colic or cramp. The congestion of the ovary causes increased pressure on the nerve terminals. The pain is referred to the stomach by the patient, but on closer inquiry, and having the patient place her hand on the exact spot, it is found to be in the ovary instead of in the stomach. A great many people either do not know where the stomach is, or they try to mislead you by telling you the pain is in the stomach, while in reality it is in the pelvic cavity. The pain may be referred to the back, lower dorsal region or the side. Be careful to diagnose the ovarian pain from appendicitis, renal calculi, biliary colic, and from a slipped rib, causing a pressure on an intercostal nerve.

The muscles over the ovary and the lower dorsal region will be found contracted. If the pain immediately precedes the flow and is relieved by the

appearance of the flow, it is of the obstructive variety. The pain will be in the form of labor pain, which in reality it is, since there are uterine contractions. The uterus is endeavoring to overcome an obstruction by increased contraction. The back aches, the muscles are sore, in short there is a general tenderness over the entire abdomen and the pain persists as long as there is any discharge to be expelled.

228 Diagnosis. Whenever I am called to see a case of dysmenorrhea I usually ask them first, when did the pain commence in reference to the beginning of the flow, the character and location of the pain, what caused it and how long it has lasted. If the pain precedes the flow by a few days, it indicates ovarian trouble, and likewise the other forms may be partially diagnosed by the time of the appearance of the pain. In this way I am able to judge whether the trouble is ovarian or uterine, local or general, whether acute or chronic, or whether it is due to muscular or bony lesions, a displacement or an inflammatory condition of the uterus.

Ovarian colic is often very closely simulated by a displaced lower rib or ribs; in fact, this displacement often produces acute ovarian colic, hence these ribs should be examined very carefully for any deviation from the normal, or for tender spots. In biliary calculi the other symptoms are present such as jaundice, pain high up on the right side, constipation, and it is not associated with the menstrual period. Renal calculi can be diagnosed by the location of the pain, it following the course of

the ureter and terminating in the vulva or inside the limb, urinary disturbances such as frequent micritia, hematuria, and lessening in the amount of the secretion of urine, and tenderness over the kidney and ureter on the affected side. The membranous form of dysmenorrhea is diagnosed from abortion by placing the membranous discharge in clear water. After the blood clots have been washed out no embryo can be found, and the membrane has a shredded appearance and floats in the water. Again, in the membranous dysmenorrhea, there are absent the usual signs of pregnancy which are usually found prior to the second month.

229 Treatment. The treatment of dysmenorrhea resolves itself into the cause producing it, since it, like the other menstrual disorders, is only a symptom and not a disease. If of the ovarian type, correct the lesions that affect the ovarian center. If a rib is pressing on an intercostal nerve, and this is a very common cause, correct it, relax the muscles holding it in malposition; the quadratus lumborum being the one that is usually at fault. If the ovaries are prolapsed by a displaced uterus, correct the displacement. In ovarian colic, relax the muscles that are contracted over the lower dorsal region and give a deep, gentle treatment above, around and over the congested ovary.

By lifting up the intestines and releasing the obstructions to the venous return in this way, the colic or neuralgia can be relieved. If it is chronic, the bony lesions will have to be corrected or else the above mentioned treatment will only give temporary relief.

In conditions of anteflexion of the uterus producing the obstructive form, work deeply, just above the pubic bone, following the course of the veins. By having the patient in the dorsal position and with the hips elevated if possible, and by working over the uterus it may be straightened. Nature is trying to straighten the canal by uterine contractions, and sometimes very little assistance is sufficient to overcome the obstruction. The uterus may straighten of its own accord, but it takes some time and is very painful.

A local treatment should not be resorted to, unless the efforts to correct it by external treatment have failed; then if the patient is suffering, a local treatment should be given.

Contraction of the cervix can be relieved by a treatment applied to the lower lumbar region, and by inhibiting over the clitoris. The sacro-iliac synchondrosis is the most effective point. I have taken cases of painful contraction of the uterus in which there was extreme cramping, and relieved them almost immediately by inhibiting at these points. It takes about fifteen minutes to relieve the cramps in an ordinary case. The muscles at that point are contracted and very tender, and I regard the tender spot the point at which the treatment should be mostly given. If these cramps are due to a slight delay in menstruation, a strong stimulating treatment in the lower lumbar region is usually sufficient to start the flow, thereby relieving the cramp.

Membraneous dysmenorrhea can be cured by

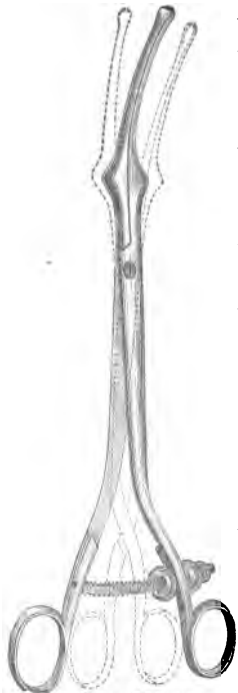
correcting the disturbances of the uterine circulation. This is accomplished by correcting the bony lesions which are always found in this kind of dysmenorrhea, and by deep treatment over the uterus to relieve the congestion. I saw a case recently in which the entire endometrium was cast off en masse. It was a pear-shaped body with two horns corresponding to the entrance of the Fallopian tubes into the uterine cavity. This case was cured by a strong stimulation along the lower part of the back, thereby loosening up the stiffened lumbar vertebrae that existed in that case.

The use of the curette is usually resorted to by physicians to remove this diseased endometrium, but as I mentioned before, I cannot see how a healthy endometrium will form if the nutrition was not sufficient in the first place to prevent the diseased condition. If the cause of the malnutrition were removed, then probably the theory would be all right. I have seen a great many cases of this form of dysmenorrhea in which the uterus has been curetted, and not one of them was benefitted, let alone being cured. In inflammatory forms of dysmenorrhea, hot bags and douches are usually advocated, but they only give temporary relief and their constant use weakens and lowers the vitality of the uterus and vaginal walls. These also relieve for the time that they are used but do not cure.

Where there is extreme pain, they can be resorted to if the case cannot be otherwise relieved. Hot drinks are beneficial since they alter the blood and produce changes that are helpful.

Stenosis of the cervix is treated by the introduction of a uterine dilator and forcibly dilating the os. I would not like to say that this is never indicated

FIG. 37.



Uterine dilator.

for it may be in some cases, but these cases are certainly few and far between. This operation is very painful, injures the cervix gives only temporary relief, and must be performed at each menstrual period. Inhibition of the clitoris has a temporary effect, in that it relieves the pain for a short while. Treatment applied to the sacrum and fourth and fifth lumbar vertebrae has a permanent effect by releasing the nerve force which is interfered with, usually at these points. Since most cases of dysmenorrhea are due to inflammation, the treatment should be applied to correct the causes of the inflammatory condition. These causes are, in the main, bony and muscular lesions and uterine displacements, although various other causes are sometimes found.

For temporary relief of ovarian cramps, inhibit over the center for the ovary; for uterine cramps, inhibit over the sacro-iliac synchondrosis. For permanent relief, correct the bony displacements found at these points.

230 Vicarious Menstruation is a form of men-

strual disorder in which the bleeding comes from a part other than the uterus at the menstrual period. The vicarious menstruation may entirely take the place of the normal menstruation, or it may supplement it, this being the more common. It is a rare and peculiar condition, and it illustrates the fact that menstruation is not a local process, but systemic in character.

The hemorrhage may occur from almost any mucous membrane of the body, the most common being from the stomach, gums, bowels and breast. Diarrhea frequently accompanies menstruation. This is sometimes very marked in vicarious menstruation and is of a serous, bloody character. Leucorrhœa is markedly increased and may entirely take the place of the normal flow. I have a case in point in which the hemorrhage occurs from the gums. The face gets spotted, teeth ache, head congests, and finally patient experiences relief only when the hemorrhage commences.

231 Symptoms. The hemorrhage occurs at the time of the menstrual period and is accompanied by the usual symptoms of menstruation. If there is no uterine discharge, molaria are present. There is congestion, pain and swelling of the part from which the flow comes. If the patient has a sore on the hand, or in fact, any part of the body, it becomes more congested and painful at that time. I have seen cases in which the inflammation would extend a radius of an inch from the sore.

232 Treatment. The treatment should be directed to the pelvic organs. Some trouble is found

there, such as an inflammation or obstruction to the escape of the discharge. As a rule, the part from which the hemorrhage comes is weak, and needs strengthening by treatment. A case of hematemesis recently came under my care—the menses would partly be discharged in a normal way then during the latter part of the menstrual period the patient would vomit blood, while the discharge from the uterus would cease. In this case the treatment was applied to a displaced uterus that existed, also the stomach was treated, since it was weak. The real trouble was in the pelvic organs, and by correcting that disorder, and at the same time strengthening the stomach, the case was relieved.

233 Precocious Menstruation is a term applied to a menstruation occurring before puberty. Instances are on record in which this has occurred at the age of two years. There are few other symptoms of menstruation than the bloody discharge. In some, the genital organs and breasts are partially developed, and then a show of sexual desire is found.

In most of these cases there is a hemorrhage rather than a menstruation, since the reflex symptoms are absent. The loss of blood weakens the constitution, and this should be combated. Masturbation should be thought of in such cases and steps taken to break the habit if found, and it is quite frequently found as the cause. If it occurs in a girl lacking a few years of puberty it indicates an early development of the ovaries, brought on by sexual excitement, from evil associates, or from the reading of immoral literature. In such cases there

is marked development of the mammary glands and pelvic organs, and menstrual disorders are common.

234 Delayed Menstruation is a form of menstrual disorder in which the menses do not appear at the fourth week but are delayed several days, in some cases nearly the entire month. If they were delayed the entire month it would be called amenorrhea.

It is produced by exposure, or injury just before the time for the appearance of the flow. A displaced uterus occurring at this time often causes it. It produces pelvic uneasiness with pain in the abdomen, back and limbs. It sometimes is attended by general soreness of the muscles of the entire body. There are moulimia and a feeling as if though the flow might come on at any time. It may give rise to rheumatic conditions, or the nervous form of rheumatism called rheumatoid arthritis. A stimulating treatment in the lumbar and sacral regions, coupled with strong percussion of the sacrum is generally sufficient to start the flow, and as soon as it starts, the various pains leave.

235 Irregular Menstruation may be a form of menorrhagia, but may occur without excessive flow. It dates, in most cases, from puberty, parturition or abortion. It depends upon a disturbed circulation or some interference with the nerve centers controlling menstruation, so that the normal stimulant is impaired. Lack of care, exposure and overwork, all combine to make menstruation irregular. The intermenstrual period may be two weeks, then five weeks in length, the patient not knowing when to expect the sick time. The amount varies, some-

times it is scant, sometimes it is diffuse. Local pain is usually exaggerated as well as the menstrual reflex disturbances.

In the cases that have come under my observation, the lesions has been at the sacro-iliac synchondrosis, there being either a slipped ilium or sacrum.

The form that dates from puberty is probably due to the interference with the proper development of the uterus or ovaries, more frequently the latter. Displacements and subinvolution follow abortion and may lead to an irregular menstruation. The treatment depends upon the lesions found in the individual case. If the circulation and nerve supply can be adjusted, the case can be cured. This is accomplished by correcting the lesions found and replacing the uterus if it is found displaced.

236 Protracted Menstruation. If the menstruation is protracted beyond the age of forty-five it is regarded as abnormal if accompanied by other symptoms. It is the result of continued activity of the ovaries in some cases, and is not pathological. In others it is the result of some abnormal stimulation of the ovaries or uterus; then it is pathological. It may persist as late as fifty years and impregnation take place, but this is the exception rather than the rule.

After the age of forty eight the presence of menstruation is, in many cases, indicative of malignancy and care should be taken to ascertain the character of the discharge, odor and amount. Protracted menstruation is only a symptom, and in ordi-

nary cases does not need treatment, but if the hemorrhage is too profuse, reflex pains, or if there are symptoms of cancer or other malignant growths, it should be checked if possible.

DISEASES OF THE FALLOPIAN TUBES.

237 The Fallopian Tubes. The anatomy of the tubes has been already considered. Functionally they act as ducts along which the ova and spermatozoa pass. They serve as receptacles for both the ovum and spermatozoon. They also take part in the menstrual process, the epithelial cells being cast off as well as a bloody discharge. I have seen cases of membranous dysmenorrhea in which there was a cast of the tubes. The cast of the tubes was about one half inch long, but being fragile, probably it had been broken up in its passage. It would seem from this that they are important factors in menstruation. Again, post mortem examinations have been held in women, who had died during the menstrual flow, and blood was found to be in the tubes, but in these cases the blood could have been forced back into the tubes from the uterus. Ectopic gestation most frequently occurs in the tubes, the diagnosis of which will be considered separately.

238 Diseases of the tubes include mal-formations, occlusion, inflammatory conditions and new growths. There may be an arrest of their development due to some abnormality of the Mullerian ducts, resulting in an absence of tunneling or a total absence of one of the ducts. Again, the tubes may be open at the uterine end, and contracted at the middle portion. There is found an undersized and non-developed ovary on the same side, in such con-

ditions. The mal-formations give rise to pain at the menstrual time, sterility, or local peritonitis, resulting from the ova and blood dropping back into the peritoneal cavity.

239 Inflammation of the Fallopian tubes is called salpingitis. It is rarely found as a separate disease, but is found most frequently in connection with ovaritis or endometritis. This inflammation may be either acute or chronic. Acute inflammation may be the result of ovaritis or endometritis. A sudden stoppage of the menstrual flow is followed, in most cases, by an acute salpingitis.

Gonorrhoeal infection may set up an inflammatory process, but this is more often chronic. Anything which excites acute endometritis such as the use of the sound, dilator, tent or medicated douches, will cause salpingitis. Where a douche is forcibly introduced into the uterus, the fluid will be forced through the Fallopian tubes into the peritoneal cavity and will cause inflammation of the tubes, ovaries and peritoneum.

The mucous membrane, in cases of salpingitis, swells, the tubes thicken and an intense pain is located just to the side of the uterus. This pain is acute, lancinating or colicky. The patient walks very carefully and avoids shaking or jarring of the body. The least motion of the parts excites pain. There is great tenderness over the tubes on palpation, and if there is not too much inflammation, the enlarged tubes can sometimes be felt through the abdominal wall, they being almost as large as the finger, in some cases. There is scanty menstrua-

tion unless it has been entirely checked. Dysmenorrhea is also present, it being both of the ovarian and inflammatory type.

240 Chronic Salpingitis may follow the acute attack or it may occur independently. Lesions producing chronic pelvic inflammations also produce salpingitis. Such lesions are found principally in the lumbar region. The continued congestion and inflammation tend to produce a constriction or narrowing of the canal, and adhesions are commonly found. The secretions are affected so that even pus may collect in the tubes and produce the condition of pyo-salpinx. This causes an enlargement of the tubes which might be mistaken for an ovarian tumor.

The symptoms of salpingitis are, tenderness over the course of the tubes, and pain on the least jar of the body, so that the patient walks carefully. Leucorrhœa is found, but this is due, rather to the co-existing congestion and inflammation of the uterus, than to the salpingitis. Pain is increased at the menstrual period, although there is a constant tense feeling in the side, as if something were pulling down on the ovary. The menses are affected as to the amount, there usually being an increased flow as the result of the congestion.

The latent form of gonorrhœa is a very common cause. The patient's health is gradually undermined and she suffers with female weakness. There is chronic backache and side ache, and the abdomen is always very tender. Salpingitis is very hard to diagnose from ovarian and uterine diseases, but

there is little use in so doing, since the causes are very similar and the treatment about the same.

The treatment consists in correcting the uterine displacement or prolapsed ovary in order to remove the tension which is exerted on the tubes. Also correct bony lesions which interfere with the blood and nerve supply to the parts, or which contract, or relax the broad ligaments. Treatment applied over and around the tubes is sometimes beneficial, in that it helps to relieve the congestion of these parts. Operations for the removal of the tubes are resorted to by surgeons. In some cases, such as a marked condition of pyo-salpinx, it is indicated, but in a great majority of cases the disease can be cured by osteopathic methods and the operation avoided.

OVARIAN DISEASES.

241 The Ovaries are the most important of the pelvic organs. By reference to their anatomy, we find that they are oblong bodies located one on either side of the uterus and held in place by the broad, ovarian and infundibulo-pelvic ligaments, they being embedded in the walls of the posterior layer.

Their development occurs at puberty and at that time they commence to perform their function. The ovary is subject to diseases like other internal organs. Primary disease of these organs is rare; the secondary diseases frequently and readily attack them. The principal diseases are, displacement, inflammation and tumors, while in some, malformations and non-development are found, in which cases there is sterility and menstrual disorders.

242 Displacement of the ovary is the result of a displaced uterus or broad ligament. Since the ovary is embedded in the posterior wall of this ligament, anything that displaces this ligament would displace the ovary, hence in all uterine displacements the ovary must of necessity be displaced. The amount of the displacement depends upon the degree of the uterine displacement, and the amount of relaxation of the ligament.

In cases of acute retroflexion, the ovaries are pulled down into the pouch of Douglas. They can there be felt as tender bodies, by rectal or vaginal

examination. In such cases, defecation is painful since the contents of the bowel must impinge on the ovary in passing through the rectum. In a great many cases of displaced uterus the pain is referred to the side or region of the ovary. There is often nausea and even vomiting in some cases, which is probably due to pressure on the ovary. Pressure on the testicle in the male has a similar effect, and a sudden blow often nauseates.

In such cases of displacement, the ovarian irritation is the real cause of the cramping in the side. Pressure exerted directly on the displaced ovary causes a sickening pain like that obtained by pressure on the kidney. Relaxation of the ligaments and supports of the ovary causes a displacement. In pregnancy the ovaries are drawn upward and all the structures surrounding them are stretched. If a condition of subinvolution follows parturition, the ovaries are not drawn back into their place, and they remain in abnormal position. In such cases the uterus is found large and soft, the vaginal walls relaxed, tubes thickened, also there is a chronic ache in the sides, or pain is referred to the ovaries. The left ovary is more frequently prolapsed than the right, since it is the weaker of the two. The ovary may sink by its increased weight when it enlarges, as from congestion, or from the presence of a growth. Adhesions which result from chronic peritonitis, often pull the ovary out of place or cause a sense of tightness in that region.

The symptoms of prolapsed ovary are, soreness, and pain over and around the ovary. Pain in some

cases is acute, either shooting toward the umbilicus or down the limb. Any motion or jarring of the part, as in salpingitis, increases the pain. In recent cases, there is frequently functional derangements of the nervous system. By rectal or bimanual examination the ovary can be felt in a thin subject, it being recognized by its shape, tenderness and the nauseating sensation on pressure.

243 Treatment consists in reducing the uterine trouble first, such as a flexion or version or an enlarged uterus. If there is subinvolution, endeavor to restore the normal circulation by correcting bony lesions, uterine displacements, and by abdominal treatments to lift up the intestines in order to relieve the congestion of the uterus. Rest, both physical and sexual, should be demanded, since either one tends to irritate this condition.

244 Congestion of the Ovary is probably the most frequent ovarian affection. It is rare to find a woman who does not have pain or tenderness in the region of the ovary either constantly or during the menstrual period. This congestion may be primary or secondary. In the young it is most commonly primary, while in multipara it is secondary.

The mind has a great deal to do with the sexual organs, and since the ovaries are the most important of these organs, in that they control and hold in subordination the other pelvic organs, it follows that the ovaries are the most influenced by the mind. The influence of the higher centers produces ovarian congestion. This is manifest in the ache of the ovary following ungratified sexual desire.

An analogous condition is found in the male. If there has been sexual excitement, the activity of both the ovaries and the testes is increased, and whenever this occurs, that is, when the activity of any organ is increased, congestion follows. Hence it follows that anything that increases sexual desire, excites ovarian congestion, whether it comes from immoral associations, impure literature or a lesion which stimulates the pudic nerve.

A slipped rib, either by pressing on the structures over the ovaries, or interfering with the rami communicantes of the sympathetic, often causes ovarian congestion. Since the ganglionic sympathetic chain lays on or near the heads of the ribs, a slight displacement of these ribs will often disturb the connection between the cerebro-spinal and sympathetic nervous systems.

Displacements of the ninth, tenth and eleventh dorsal vertebrae also cause ovarian congestion by affecting the vaso-motor centers of the ovaries.

Displacements of the uterus or prolapsus of the ovaries is accompanied by congestion, and in most cases by inflammation. Inflammation, may extend from the tubes to the ovaries as a result of a chronic congestion of both.

Intestinal prolapsus causes a venous stagnation in the ovaries from pressure on the ovarian veins. These veins are very long and yield to a very slight pressure.

The symptoms vary with the degree and kind of congestion. If it is active, there is a burning, aching, throbbing sensation and the pain may be acute

or lancinating. This is followed by a dull ache in, and a tenderness over the ovary as the active congestion becomes passive. If it is a passive congestion there is a sense of weight and heaviness in the affected side.

245 Acute Ovaritis is most commonly associated with acute salpingitis, and especially the form due to gonorrhoea. Sometimes it is found in the puerperal state. Sudden suppression of the menses causes it as well as salpingitis. In cases of pelvic peritonitis, the inflammation extends to the ovary and there sets up an acute inflammatory condition.

The symptoms cannot be differentiated from those of salpingitis or of a localized peritonitis. There is a burning pain over the ovary, often radiating to the limb on the affected side, which results in a contraction and drawing up of the limbs. The abdomen is extremely tender to the touch which is indicative of a peritonitis. It may be secondary to mumps, if the patient exercises too soon after an attack. What the connection is between the parotid gland and ovary I do not know, but we know that there is a close sympathy between the two; that is partly proven by the fact that there is ptyalism in the early stages of pregnancy. The treatment for temporary relief is to work out the inflammation by commencing around the inflammatory area and gradually working up to the seat of inflammation.

Treatment should not be given over the inflamed area at first, since there is danger of increasing the irritation. The muscles along the back should be relaxed, since in almost every case they

are badly contracted. Rest should be advised, the patient being allowed to be on her feet but a very little. Coition is painful and should be prohibited. In some of my cases I have found a slight twist of some of the lower dorsal vertebrae, and by correcting this, instant relief was obtained.

246 Chronic Ovaritis or oophoritis frequently follows the acute form, and especially the primary acute ovaritis which follows congestion of the ovary. The continued hyperemia at last results in degenerative and inflammatory changes, and if this is repeated very often, it is followed by the chronic form of inflammation. Displacements of the ovaries leads to congestion and finally chronic oophoritis. Chronic uterine inflammation extends to the ovary and there sets up changes. Chronic salpingitis produces a similar condition. Latent gonorrhoea, by causing a chronic salpingitis, causes the chronic form of oophoritis. The ovary at first hypertrophies, softens, and then the interstitial growth increases from the inflammatory exudate, after which it gradually shrinks and becomes very small and hard.

Lesions along the lower dorsal region, such as a posterior curvature, a slipped vertebra or a displaced rib, are the principle causative factors. If these lesions exist, then a subinvolted or displaced uterus or any exciting cause, acts the more readily.

247 Symptoms. In chronic ovaritis there is pain and tenderness in the region of the ovary, the sore spot being just on a level with the anterior superior spine. The deep muscles in that region are found tense. In the early stages the ovaries may

be felt deep down in the pelvis as oblong, tender bodies. The lymphatic glands, which cover the ovaries, are enlarged and tender, and the blood vessels are frequently very much increased in size. I have seen cases in which the left iliac artery was twice the size of the right; it being very tense and pulsating very hard. The left ovary in this case was very much inflamed. In some cases the pain will be referred to the navel, and in such, it is hard to differentiate from abdominal troubles. Pain is also found in the side and radiating to the back. A slipped rib is nearly always responsible for this kind, and the clothes or a tight belt causes intense pain over the ends of the lower ribs. The mammary glands are often tender and swollen. In some cases there are symptoms of mastitis or even of malignant diseases. Lumps or tumors form in the gland and cause a great deal of fear and annoyance. In some, the nipples are inverted, that is, instead of an elevation or protuberance, there is formed a depression. This is indicative of ovarian disease on the same side, but the converse is not necessarily true, that is, an inverted nipple is not always found in ovarian disease. Remember that there is a close sympathy between the mammary glands and the generative organs, in fact they should be classed as appendages, since their function is dependant on the function of the generative organs. Ovarian activity causes an enlarged breast, and in pregnancy the glands are active in milk secretion.

Menstrual disorders follow chronic ovaritis. Menorrhagia is most common at first, but later as

the inflammation progresses the flow becomes scanty. Dysmenorrhea of the ovarian type is also found. An intermenstrual pain is occasionally found, it recurring regularly midway between the periods.

The reflex troubles are many and grave. Hysteria is nearly always accompanied by ovarian hyperesthesia. Hystero-epilepsy is present, in some cases the patient complaining of a knot or constriction starting from the ovary and traveling upward until it reaches the throat, when the spasm or unconscious spell begins. Sterility is common if both ovaries are impaired, since the inflammation interferes with their function.

243 Diagnosis. Sometimes it is hard to differentiate between the different enlargements of the abdomen and pelvis. An enlarged lymphatic gland, if in the region of the ovary, may give rise to symptoms of ovaritis, since there is localized pain and a tumor about the size of the ovary. An impacted bowel is often found, but should not be mistaken for anything else if care is taken.

In diagnosing chronic ovaritis, keep in mind the before mentioned symptoms which are peculiar to ovarian disease. Also remember the symptoms of chronic appendicitis, biliary and renal calculi, constipation, enlarged lymphatic glands and Fallopian tube diseases. The prognosis is favorable for a case without an operation, unless it is of a too chronic form, or unless there has been too much degeneration. Too many lives have been sacrificed by experimental operations, the surgeon only supposing that there was such a disease. By osteopathic treat-

ment these operations are avoided and the woman is cured without being unsexed.

249 Treatment. The principle treatment is to correct the bony lesions, causing the disease. The dorsal vertebrae should be lined up and the lower ribs replaced. Uterine displacements should always be corrected since the ovary is liable to be congested and inflamed as long as it is displaced. Abdominal treatment over the ovary is helpful since by it the obstruction to the return blood flow can be partially if not completely removed.

Rest is necessary; the patient must be kept off her feet as much as possible. Coition should be restricted as it increases congestion and is painful. Physicians often use electricity, counter-irritants and various drugs both internally and externally, but they do not, and will not, cure, since only the symptoms can be combated by their use. Ovariectomy as mentioned before, has become quite a fad. A case in which there was no trouble was taken to a noted surgeon, and after a careful subjective examination he pronounced it an extreme case of ovaritis and told the patient that unless the ovary was removed at once that she would die of rose cancer within two years. Of course he was mistaken as there was no disease of the ovary, but it illustrates the tendency of some surgeons to cut and try in almost every case of ovarian or uterine disorder.

250 Tumors of the ovary are usually of the cystic variety, but an occasional solid dermoid or fibroid tumor is found. The cysts most commonly

arise from disturbance of the rupture of the Graafian follicles, or of the corpora lutea. The Graafian follicles are supposed to swell and rupture, allowing their contents to escape at each menstrual period. If from an inflamed condition or from any other interference they do not rupture, they rapidly swell and form a cyst. This form is called dropsy of the Graafian follicle. The corpus luteum may swell and be filled with a yellow fluid, and in this way produce a cyst. The contents consist of a clear straw colored fluid, which in chronic cases sometimes becomes a jelly-like mass surrounded by a thin membrane.

The dermoid cysts are sometimes found, they being somewhat harder and composed of different structures, such as skin, hair, nails and teeth, which are derived from the epiblastic layer. They are supposed to be the result of invagination of this epiblastic layer which produces the abnormal growth.

Fibroid tumors of the ovary are occasionally found, also cancers, but they are rare. Frequent congestion of the ovary may result in a deposit from which a new growth appears. Tumors are found during the period of sexual activity. Nullipara are much more liable to disease than multipara, as the result of the physiological rest enjoyed by the latter during pregnancy and lactation. Displacements of the ribs are associated by the osteopath, with ovarian diseases, and are causes of the formation of cysts. The lesions along the lower dorsal region also weaken the ovaries and predispose to disease.

251 Symptoms. The tumor is first unnoticed un-

til there is some enlargement of the abdomen. If it is free so that it can rise in the abdomen, it gives the woman the appearance of being pregnant. If it is held down and cannot rise, it causes pain in the side, and small of the back. The weight of the tumor causes a sense of heaviness and interferes with the patient's gait, and gives her the waddling gait of pregnancy.

Menstruation is painful and accompanied by an increase in size of the tumor. In some cases there is scanty menstruation or amenorrhea, which makes it difficult to diagnose from pregnancy. The pressure exerted by the tumor gives rise to stomach irritation, edema of the limbs and varicose veins. Hemorrhoids are also usually found resulting from pressure on the hemorrhoidal plexus of veins. Pain from pressure on, or stretching of the peritoneum is noted.

The growth of the cyst is rapid, while that of the fibroid tumor is slow. The general health is at first not affected, but later the health is gradually impaired and the vitality lowered. There is emaciation and the functions of the different organs interfered with. The face has a careworn, pinched expression, while the lines of the face are deepened. To this condition the term "facies ovariana" has been given. The emaciation, shrunken cheeks, hollow eyes, depressed angles of the mouth, distended nostrils, make the appearance of the patient characteristic, if in the latter stages of the disease.

252 Diagnosis. The diagnosis of an ovarian tumor is based mostly on palpation. In order to do

this properly the abdomen should be made bare or the clothing very much loosened. By carefully laying on both hands the spots of increased resistance can be ascertained. At first, that is, in the early stages, the tumor is felt on one side, but as it enlarges it pushes inward to the median line and forms a symmetrical enlargement. If the tumor is of a rapid growing variety of cyst, it will have an elastic feeling similar to that of a water bag filled with water.

Fluctuation is an important sign of a cyst. It is obtained by fixing one side of the tumor with one hand, and then with the other hand giving a quick stroke toward the opposite side.

Percussion elicits a dull sound over the tumor, while the surrounding tissues will give a resonant sound. By local examination the uterus is found pushed out of position and crowded tightly down into the pelvis. The tumor may be felt as a globular elastic mass to one side of the uterus.

By the bimanual method, the size and position of the tumor can be readily ascertained. Pregnancy should be kept in mind and its characteristic symptoms looked for, especially if there is amenorrhœa, I recently saw a case of this kind in which pregnancy was mistaken for a cyst. There was amenorrhœa but not the other symptoms of pregnancy. Ascites can be diagnosed from a cyst by the character of the enlargement, the presence of some other disease, and the percussion note, it being dull at the edges and tympanitic at the center.

An uterine fibroma is diagnosed by the location.

consistency of the tumor and the other characteristic symptoms of the fibroid tumors, such as hemorrhage, and the character of the pain.

Distention of the uterus from retention of the menstrual flow may be mistaken for a cyst, but the menstrual disorders, molorrhagia and location of the tumor will help to make up the diagnosis. Lymphatic glands along either side of the spine simulate ovarian tumors, but the enlargement is gradual and the growth usually hard. A large tumor is easily recognized but a small one is hard to diagnose, at least, many surgeons have been mistaken in their diagnoses. Remember the location of the ovarian cyst, rapidity of growth and the pressure symptoms. Also remember that a prolapsed bowel that is impacted will form an enlargement, while a displaced rib will give rise to a pain in the region of the ovary.

253 Treatment. A great many cases cured by osteopathic treatment, are those in which the former diagnosis was wrong. It is rare to get a true case of ovarian cyst, but common to get one in which there is some enlargement of the side which simulates an ovarian cyst. The bony lesions should be corrected, and whether it is a cyst or not, the symptoms usually abate in most cases.

It is not necessary to name a disease in order to treat it, although a great many physicians do depend upon the name. The osteopath treats and corrects abnormal anatomy, regardless of name or symptoms that have been given it by other physicians. If the case is one of true ovarian cyst as is best

evidenced by obtaining fluctuation, treat it osteopathically, correcting the lesions found. If, after a fair trial has been given and the patient still suffers, then, and not until then should recourse be made to surgery. In addition to correcting bony lesions found, loosening up the spinal column, especially the lower dorsal and lumbar regions, is very helpful.

The cyst itself can be directly manipulated. By treating just above the tumor, lifting up and off the neighboring structures, relief can be given. This abdominal treatment is especially indicated if there are hemorrhoids, varicose veins, or in fact, if there are any pressure symptoms. Solid tumors and dermoid cysts will only be mentioned since they are so rarely met with. For the operation for the removal of the ovary or cyst, reference should be made to some work on surgical gynecology.

REFLEX DISORDERS.

254 The Uterine and ovarian reflexes constitute one of the most interesting subjects associated with the diseases of women. They being so varied and so different, and affect so many organs that I always examine the uterus for a disordered condition, if I have a case that is very peculiar or does not yield to ordinary treatment.

The nervous connections between the ovaries, uterus and vagina, with the splanchnic nerves, and with the spinal cord in the lumbar and sacral regions through the hypogastric and other sympathetic plexuses, anatomically explain many of the reflexes and pains which accompany uterine and ovarian diseases. These reflexes are not confined to the immediate nerves, but are found in distant nerves in the various parts of the body. The head, eyes, throat or limbs may be affected, and even as frequently as some viscus that is near.

All organic life is run by the sympathetic system. This system like a chain, is as strong as its weakest point. An abnormal irritation at one part will be transmitted over the entire system and if every part is working properly, little injury follows, but if one part is weakened, it is not strong enough to stand the increased stimulation or shock, and is affected by it.

Lesions, weakening the parts innervated from that region, are the predisposing causes of reflexes. If a lesion is found at the fourth dorsal vertebra which weakens the heart, any uterine displacement would be an exciting cause, and would reflexly affect the heart. Again, loss of nerve force affects the weakest part in a similar way, that is, it increases the weakness of the organ. The uterus and ovaries are, or should be, the strongest links of a woman's health in mind and body. Diseases impairing them will certainly be followed by general weakness and reflexes. However, the uterine disease is not always primary, but frequently results from a general starved condition of the entire body, and the specialists, is prone to attribute everything to the uterine disease.

255. Headache in the top of the head or in the suboccipital region, is characteristic of uterine disease of which metritis or endometritis is the most common. The patient complains of a dull, heavy ache or a localized burning sensation in the top of the head. If in the neck, or suboccipital region, there is a dull constant ache.

Displacement of the uterus, fibroid tumors, menstrual disorders, inflammation and congestion of the uterus, all produce this form of headache, the two latter causes being the most common. The headache is sometimes constant, in others only intermittent, while the approach of menstruation increases the pain.

The ache in the back of the neck and head, is partly due to a slipped atlas or axis impinging on

the suboccipital nerves, then the exciting cause, or uterine disease, increases the weakness and pain. The ache in the top of the head is supposed to be due to some disorder of the ganglion ribes, which results from a disturbance of the lower extremity of the chain, the ganglion impar. In such cases, treatment applied to the neck frequently increases the pain and even in the most favorable cases, it only stops the pain temporarily. The treatment should, in most cases, be applied to the lower lumbar region, there relaxing contracted muscles, and relieving the tension exerted by some displacement which is most commonly found to be very slight. If this does not relieve, recourse should be made to a local treatment, which seldom fails to relieve. I have cured the worst forms of uterine headaches by simply lifting up the uterus by pressure on the cervix, or replacing it when found displaced, when all other methods had failed.

To permanently cure these kinds of headaches the treatment should be directed to correct the uterine troubles. If it is the suboccipital form of reflex headache, the lesion at the atlas and axis should also be corrected, since they affect the suboccipital nerves.

In the male there is a similar headache coming from an enlarged or diseased prostate gland. In such cases the patient complains of a dull, burning pain in the top of head, tinnitus aurium, and the loss of memory. On rectal examination, if the patient is above the age of thirty or has indulged in sexual excesses, the prostate gland will be found congested and tender.

Migraine, also called hemicrania, is a form of headache affecting one lateral half of the head and is traceable, in a great many cases, to uterine diseases. Endometritis is the most common form producing it. In these cases there is an extreme pain and vaso-motor dilatation in the temporal region, which in the average case, lasts for several days. Lesions affecting the neck are found as predisposing causes, while the exciting causes are usually liver, gastric or uterine diseases. In some there is a non-developed uterus, in others a displacement. The pain is worse if near the monthly period. Also these headaches stop at the menopause, which indicates that the menstrual function is partly to blame.

256 Stomach Disorders are frequently reflex from uterine or ovarian disease or pregnancy. Nausea and vomiting in pregnancy is a well known example which illustrates the sympathy between the two. There is a close sympathy between the stomach and the various other abdominal and pelvic organs. Pressure on the kidney, ovary or testicle produces a nauseating sensation.

The nerve supply of the uterus is very closely connected and associated with that of the other viscera through the splanchnic nerves. Since the stomach, in this day and age of the world, is one of the most abused organs and one very largely diseased, it follows that it may readily be affected reflexly, since the weakest organ is affected first.

Gastralgia accompanies a recent, or sudden displacement of the uterus, the pain being localized over the stomach with contraction of the ab-

dominal muscles. It is also found in ovarian colic and other forms of painful menstruation.

Emesis is also produced by a diseased uterus, and especially by a recent displacement. I have seen cases of nausea and vomiting that were due to displacements in which the ordinary treatments were given, but the patient was not relieved until the uterus was replaced. An opiate, or even chloroform, has little effect on such cases since the sympathetic system is irritated.

Chronic dyspepsia is sometimes traceable to uterine disease, in that it affects nutrition, thus weakening all the organs of the body.

257. Pharyngeal Reflexes are common. The patient complains of something in the throat, and in some cases the patient is unable to swallow, or at least thinks so. I remember a case of laceration of the cervix uteri in which the throat was reflexly affected. Contraction of the throat muscles would begin just as soon as she attempted to eat and would prevent her swallowing. In others, there will be a sore throat or a redness of the fauces with no particular inflammation.

The tonsils frequently enlarge during menstruation and are usually diseased in chronic uterine trouble. This is particularly found in rheumatic cases in which there is retention of the menstrual flow as the cause.

Laryngeal affections from uterine diseases are best represented by a chronic, unsatisfactory, hacking cough. It becomes exaggerated at the periods and even produces soreness of the abdomen from

the frequent straining and contraction in coughing.

The voice is sometimes affected and it is a well known fact that singers frequently have to cancel engagements on account of the changes in the voice.

In venereal diseases, especially syphilis, the throat and voice are affected, the voice becoming harsh and husky. In the above cases, lesions of the neck are predisposing causes and should receive treatment, while the uterine trouble is the exciting cause.

258. Cerebral Neuroses in the form of melancholia, morbid fears, insomnia, irritability, are often met with in cases of chronic uterine disease; some of which are due to loss of nerve energy, others to brooding over a supposed or real disease. There is a class of patients who have "uterus on the brain." They are constantly talking about it, treating it and thinking about it so much, that in time probably some disease does arise. These are the kind which are cured by some new remedy or the kind in which wonderful cures have been made.

A similar condition is found in the male. Tell a man that he is impotent and he soon becomes afraid of himself. He imagines that every little pain comes from that, and he becomes despondent, melancholy, and in a great many cases suicide is the result. The influence of the mind on the pelvic organs is something very marked, and where there is only an imaginary disease, suggestive therapeutics have been used successfully.

Insanity has followed uterine disease in many

cases. Recently there was a case of insanity at the Infirmary that followed too frequent childbirth. She was treated and cured by correcting a neck lesion, since there was, as a predisposing cause, a lesion at the atlas, and then the excessive strain on the nervous system unbalanced the mind. She had been pregnant four times in three years; in two, the fetuses were carried to term, and in the other pregnancies, she aborted.

Insomnia is due to increased activity of the brain, in which there is hyperemia, usually of the active form. Lesions of the neck are sought for, while the exciting causes, such as uterine or gastric disturbances are removed.

259. Hiccough or "kicking of the diaphragm" is usually hysterical but may follow pelvic irritation. A case of endometritis came under my notice which was accompanied by a constant hiccough. Just as soon as the uterine trouble was relieved the hiccoughing ceased, although there was a bony lesion at the fifth cervical which weakened the phrenic nerve.

Spasmodic contractions of the diaphragm are in most cases due to uterine displacements. I recently saw a case in which the diaphragm and the abdominal muscles would spasmodically contract every few seconds, markedly interfering with respiration. After giving the ordinary treatments to reach the phrenic nerve, and having failed to stop the spasm, a local examination was made and a retroflexion of the uterus was found. Just as soon as this was corrected the spasms or contractions ceased,

only to recur again when the uterus was again displaced. Since the uterus would not stay in the proper position, and since the spasm recurred as soon the uterus was again displaced, a tampon was placed in the posterior fornix to hold the uterus in position, this entirely relieving the patient.

In ordinary cases of hiccough, inhibition of the phrenic nerve, either at its origin or along its course, holding the breath or the drinking of cold water, is usually sufficient to stop the attack.

260 The Cardiac reflexes are very common and important and are indicated by palpitation, irregularity, too slow or rapid pulse, pain in the heart or sinking spells, the patient being unable to breathe while lying down. I have seen cases in which the heart would commence to rapidly palpitate, lasting for some minutes and then cease.

The most common form is the sinking spell. The patient becomes unconscious, the pulse very weak and in some cases cannot be detected, and the patient has all the symptoms of approaching death. In such cases, first raise the ribs over the heart; if that does not relieve give a local treatment and lift up the uterus, and the effect will be immediate. In all those functional heart affections there is some bony lesion, usually at the fourth or fifth dorsal vertebra or corresponding ribs on the left side, which either disturb the innervation or press directly on the heart.

The pain in the heart is the most distressing cardiac reflex, giving the patient the feeling of imminent death. The pain is referred to the heart,

back and arm. She fears suffocation, since the blood is not properly oxygenized. This condition follows a disturbance of the nerve force to the heart, the result of a lesion and pelvic irritation.

261 The Intestinal Reflexes which accompany uterine diseases are enteralgia, diarrhea and a catarrhal condition in which mucus is discharged. In most cases diarrhea accompanies menstruation. This is caused by a general congestion of the pelvic organs. This congestion reaches the bowel and from it results, a hypersecretion, causing the increased irritation. This also occurs in certain forms of uterine displacements in which the bowel is stimulated instead of being inhibited. It is not properly a reflex condition, since the organs are in apposition.

Cramping of the intestine occurs in ovarian diseases, especially in congestion of the ovary. It seems to be reflected to the entire abdomen with the pain localized around the umbilicus.

Mucus patches or shreds are often discharged from the bowels in cases of chronic uterine disease. They have the appearance of being a leucorrhœal discharge, and probably depend upon the same causes that produce leucorrhœa.

In hystero-epileptic patients, this discharge is greatly increased just prior to the attack.

262. Glandular Reflexes are most marked in the mammary glands, since they are so intimately associated with the generative organs. During menstruation they become tender and congested. In the early stages of pregnancy they begin to change in color and size.

In polypi of the uterus they are frequently reflexly affected, in that they become tender, engorged, and in some cases secrete a fluid similar to milk. At the menopause, tingling sensations, or even pains, occur in the glands. In uterine displacements in which the uterus is very badly congested, the glands become sore.

As mentioned under ovarian diseases, inversion of the nipple is indicative of ovarian disease on the same side.

The thyroid gland, the function of which is yet unknown, enlarges at the menstrual time and during pregnancy. Certain forms of goitre I think, are in a great many cases due to uterine disease as an exciting cause, while the predisposing cause is a displaced first rib. It is exceedingly rare to find a case of true goitre in the male compared to the female, and this alone is indicative of some close connection between the gland and the sexual organs. Since the gland enlarges during menstruation and the globus hystericus is more common at that time, it is thought by some, that it is the result of the enlargement, causing a narrowing of the throat which produces the sensation of a knot in the throat. Ptyalism or increased secretion of saliva is one of the early symptoms of pregnancy and is also found associated with menstruation.

The tonsils, as mentioned before, are sometimes reflexly diseased as a result of uterine displacement.

The sweat glands are also frequently diseased as a result of uterine trouble, but are more often the cause of uterine disturbances, if they are inactive.

Rheumatism follows the retention of the menstrual flow if the sweat glands are inactive. The skin is harsh and dry and does not excrete the poisonous elements that arise from retention of the menses, hence they remain in the blood and give rise to the symptoms that so closely resemble rheumatism.

263 Hyperesthesia is found accompanying pelvic disease in many cases. In these cases the spine is irritable and the least cutaneous stimulation produces a marked contraction or even a spasm of the muscles of the body. A light touch is productive of a greater reflex than quite a heavy pressure. In some there are shooting pains in different parts of the body which come and go, remaining only an instant. In others the pain is referred only to the spinal column, and the least irritation excites rigid contractions. In most of the cases which I have examined, uterine trouble has been found. A displacement, usually backward with a metritis, is the most common of the causes producing it. These troubles can be traced back to a sudden fall or jar of the body, which produced a sudden displacement. This displacement or inflammation affects the ovaries and causes hyperesthesia of them.

The treatment in such cases must be very gentle and mild, and in this way the hyperesthesia is gradually worked out as the nerves become better nourished and as the circulation improves. Bony lesions along the spinal column are the points at which the irritation is greatest. These should be carefully treated and finally corrected, this being a preliminary step to the correction or the uterine dis-

placement or disease. Local treatment should occasionally be given if there is a displacement, if it has not been corrected at the first treatment or if it did not remain in position after it had once been corrected. The inflammation should be treated, thereby regulating the pelvic circulation.

The prognosis is unfavorable for a rapid cure, since it takes time to correct the general run down condition of the system, but in time, a majority of these cases can be cured.

I have seen patients that have come to the Infirmary, who had been given all the ordinary treatments for this condition without any help. By correcting the bony lesions that interfered with the pelvic circulation these cases have been cured, which go to prove that the bony lesions were the real causes of the hyperesthesia.

This condition frequently follows typhoid fever as the result of the severe muscular contractions which have pulled the ribs and vertebrae slightly out of place. Some cases are due to an interference with the circulation to the spinal cord and in such cases the spinal column should be thoroughly loosened up.

264 Cold Feet and hands indicate poor circulation in those parts. In some female diseases the coldness of the extremities is very marked, the hands being found cold, even on warm days. The circulation through the pelvic organs is retarded, which also affects the blood supply to and from the lower limbs. The blood is thin and poor in quality. The heart is weakened and unable to force the blood around the circuit.

The treatment for such conditions, consists in removing obstructions to the venous return, which in the lower limbs are found in the saphenous opening or at the iliac veins. Correcting partial or complete dislocations of the hip and replacing a displacement of the iliac bones, are often sufficient to overcome this condition in the lower limbs. Treat to increase the amount of pure blood and to increase the rapidity of the blood current. This being accomplished by correcting liver and heart diseases.

265 Hysteria is a term used to denote certain nervous manifestations not due to organic disease. Formerly it was thought to be due to uterine disease, hence its name, but now it is regarded to be a disorder of the mind, this frequently resulting from uterine or ovarian disease.

It is, in fact, a disease and should be treated as such. If there is a disturbance of the nervous equilibrium resulting from an imaginary or real disease, it preys on the patient's mind until she give vent to her feeling. When the patient does give way to her feelings and loses control of herself, we call it hysteria.

Hysteria is not by any means confined to the female sex, but it also affects the male, although less frequently. Some of the worst cases of hysteria that I have ever seen, have been in the male when there was a supposed impotency.

Hysteria is most commonly found in the unmarried and sterile, for the shock and pain of childbirth tends to prevent its occurrence in multipara. In cases of malnutrition, general impaired

ovarian influence or where there has been a marked laceration from which there has been a loss of nerve force, hysteria is liable to appear, since these conditions render unstable the nervous system from the loss of nerve force or from lack of formation of same.

Ovarian irritation is a prolific cause of hysteria. That part of the abdomen over the ovary is especially tender, which is indicative of ovarian congestion or inflammation. In some of the cases the ovary is prolapsed and congested from frequent sexual excitements.

Hysteria commonly occurs in people who are not compelled to work and have time to indulge in morbid fancies. Even a great deal of muscular weakness or fatigue is imaginary, not real. To test this, let there be a sudden fright and the patient will just as suddenly forget all about the supposed weakness.

The sensory disturbances in hysteria are quite well marked. In one spot or region there will be hyperesthesia, in another, anesthesia. The hyperesthetic regions occur in zones or belts following the course of one or more ribs. The patient often complains of a certain spot which is tender. This spot varies from time to time in position, which indicates that it is not an organic disturbance. Others apparently have a fit or faint. In such cases, examine the pulse and also note the temperature. If the pulse is regular and strong, and if the patient does not have an abnormal temperature, that is, either too high or too low, do not be alarmed, as

death seldom takes place under such conditions. Also examine the pupillary reflex. This is done by touching the eyeball with the finger; if it is hysteria the patient will flinch and suddenly close the eye; if it is true epilepsy no reflex will be present; this indicating complete unconsciousness. Some complain of an acute pain over, and in the ovary. If it is real, the patient will not forget about it if you change the subject of conversation to one in which she is interested; if it is imaginary, attracting the mind by changing the conversation will cause a cessation of the pain.

Numbness or anesthesia is sometimes complained of, but by severely pinching the parts or by touching the parts with the lighted end of a match the numbness will instantly disappear. If the patient is truly unconscious she will not resist fire, otherwise she will, since it is impossible to so control the muscles that a reflex action will be prevented when intense heat is applied. Of course it would not be policy to resort to such a treatment unless the diagnosis was certain. Globus hystericus or the sensation of a knot in the throat, which interferes with deglutition, is a common symptom. This is due to a contraction of the throat, swallowing of air, or an enlargement of the thyroid gland. Clavus hystericus is a symptom sometimes found, which is characterized by a sharp, localized pain in the head as if one were driving a nail through the skull.

Hysterical contractures and paralyzes are found, the patient firmly believing that she cannot move a

certain joint, and in time the tendons contract producing deformity of the parts.

Hysterical aphonia often occurs during the menstrual period. I remember a patient treated at the Infirmary who had complete aphonia at each menstrual period, she not being able to talk above a whisper. This case was cured by leaving the patient until she made up her mind to talk.

Quivering of the eyelids is one of the best symptoms of hysteria. It shows a forced contraction of the muscles, which finally tire and quiver. In some there is a hysterical cough or cry, the patient being completely overcome by emotion. Gas is usually found in the stomach and intestines, producing tympanites, borborygmus and eructations.

Hysterical fevers or temperatures have been recorded in which the thermometer registered as high as 115° Fahrenheit.

The hysterical cry or groan is sometimes found. Cataleptic, or trance-like conditions or spasms with opisthotonus are common in advanced cases of hysteria. The patient tears the bedclothes, retracts her head and cannot be kept in any one position.

The diagnosis of this condition is sometimes very difficult as well as important. A sad mistake would be made if a real disease were treated as if hysterical. If a localized lesion is found, it matters not whether there is a hysterical condition or not, if the lesion is corrected. If the supposed lesion or tender spot varies from place to place, it

is hysterical. If the temperature and pulse are normal, a knot or swelling in the throat, quivering of the eyelids, pupillary reflex, it occurring at or near the periods, and if there is ovarian hyperesthesia and pain, and if the soreness in the back moves from time to time, it is safe to pronounce the case a hysterical one. The treatment is one directed to change the mind into different channels.

Pressure over the transverse process of the atlas is good to bring a patient out of one of the spasms. Pain, produced in any part of the body is often sufficient to change the thoughts and bring the patient to her senses.

The patient should be instructed to make an attempt at self control and not permit herself to give way to her feelings. Imaginary operations, or suggestive treatments are quite successful if the patient gets the idea that the trouble has been removed. In such cases the various healers are successful, since there is no organic trouble, but it is imaginary, and hence can be affected by working on the mind. Dr. C. E. Still had a patient who believed that all his joints were dislocated, and nothing could dislodge the idea until each joint was carefully and separately treated and told that it had been replaced. The patient immediately recovered, since it was only an imaginary disease.

Lesions along the spine and the lower ribs are to blame for some hysterical cases. They produce ovarian or uterine disease with the accompanying disturbances. The second lumbar is the most important point and in the majority of cases a lesion will

be found at that point. If uterine displacement or disease is found it should be corrected, and you will find most of them have, to hear them tell it, all the diseases peculiar to the female sex, in fact, they frequently have uterus on the brain.

266 Hystero Epilepsy is a form of epilepsy due to disease of the generative organs. It is characterized by an attack very similar to epilepsy, there being a prodromal stage in which there are the aura, the stage of clonic contraction and the stage of tonic contraction followed by the stage of relaxation. During these different stages the patient is in most cases unconscious, and sometimes froths at the mouth.

The patient has that dull stupid expression, if it is a chronic case, which is characteristic of epilepsy and indicates that the mind is impaired. The attacks occur most frequent and hardest near the menstrual period and especially just following the cessation of the menstrual flow. About the first thing or aura noticed is a contraction or, as they express it, a ball, lump or knot that begins to form in the side just above the ovary, the left being more frequently affected. This contraction of knot gradually ascends through the oesophagus to the throat, and when it reaches this point, the patient has a choking sensation and becomes unconscious. This is the diagnostic point between hystero-epilepsy and true epilepsy, and whenever the aura begins in the ovary and ascends and when there is chronic ovarian or uterine disease, and the attack is associated with the menstrual period it is in most cases, hystero-epilepsy.

The attacks vary in number from one to a dozen, they being followed by a quiescent period of several days.

The lesions in such cases are in the cervical and lumbar regions. The lesions affecting the uterus are the exciting causes, while the cervical lesions are the predisposing causes, which weaken the cerebral circulation.

The displacement of the lower ribs may excite ovarian disease and in this way produce epilepsy.

A displaced uterus will displace the ovary, probably both ovaries, thereby setting up a disease in them. If this were the only cause, every displacement would produce epilepsy; but there must be a lesion in the neck which weakens the blood supply to the higher centers.

The attacks usually occur at night. There is hallucination, spasms and a quiescent stage, during which the patient has labored respiration and anesthesia. The recovery is gradual and the patient does not remember what has occurred. The urine is clear and increased in amount and sometimes involuntarily voided during the attack. In rare cases the tongue is bitten. The muscles are sore and the eyes red and injected after an attack.

The treatment consists of correction of the ovarian and uterine disease. There is usually found a displaced uterus or ovary, and upon their replacement the symptoms very frequently are relieved. Also correct bony lesions found in the lumbar, sacral and cervical regions. After the attack is well under way, it cannot be stopped, but if only in the

beginning, strong inhibition in the suboccipital region and a local treatment by which the uterus is lifted up will often ward off the attack.

267 **Catalepsy** is occasionally found accompanying female diseases. The patient becomes perfectly rigid, unconscious and remains that way for some time. A sudden uterine displacement will produce this condition. Dr. C. E. Still relates a case in which a woman was walking along the street and slipping on the walk, fell, and suddenly became unconscious and rigid. The usual restoratives were applied but to no avail. He was then called, and by replacing the retroverted uterus, instantly relieved the condition. I have had similar cases that were relieved by replacing a displaced uterus or simply changing the position. If the condition comes on suddenly as a result of a lift or a fall, the uterus is to blame in nearly every instance. After the usual treatments have failed to relieve, examine the pelvic organs, since a displaced ovary or uterus will often bring on this form of disease.

MISCELLANEOUS AFFECTIONS.

268 Sterility is not a disease within itself but a result of a diseased or badly developed sexual organs. By sterility is meant the lack of capacity for impregnation or oonception. One marriage out of every seven is barren and the per cent is on the increase. The fault is usually attributed to the female, but the male is very often to blame. In order to understand sterility it is first necessary to understand the factors that enter into impregnation.

The cortical portion of the ovary is imbedded with Graafian follicles, in which are the ova. At the maturity of a follicle it ruptures, throwing out the ovum which is carried by way of the Fallopian tubes to the uterus. If at this time there is semen present, in which are the active spermatozoa, union takes place, supposedly in the Fallopian tubes. If the nidus is healthy enough to nourish the now impregnated ovum, it remains firmly attached to the mucous lining. Therefore, in order that impregnation take place, there must be a union of the ovum and the spermatozoon and a healthy nidus from which nourishment can be drawn. From this it can be seen that sterility would follow (1) absence of one or both vital elements; (2) prevention of union of the two vital elements; (3) destruction of the impregnated ovum just after union had taken place.

Absence of the spermatozoon is the result of disease or weakness of the testicle. In gonorrhœal subjects, or in those addicted to the practice of masturbation, the semen often lacks the vital element; it being composed principally of prostatic and mucus secretions. To test the semen a microscopic examination should be made, whereby the spermatozoa can be seen. They are active and resemble tadpoles in shape.

Ovarian disease such as ovaritis, tumors, atrophy or non-development, prevent the maturing of the Graafian follicles and escape of the ovum, and thus produce sterility. In the obese the ovary is usually inactive, hence the amenorrhœa and sterility.

Lesions affecting the ovarian centers impair the activity of the ovary and cause sterility; this has been proven by cases treated by us.

The ovum may be prevented from reaching the tubes or uterus by diseases of the tubes such as the salpingitis or a closure of the canal. The spermatozoon may be prevented from reaching the tubes by an acute flexion, stenosis, atresia of the vagina or a closure of the uterine end of the tubes. Also abnormalities which prevent intercourse cause sterility in the same way.

Diseases of the vagina which prevent intercourse such as vaginismus, vaginitis or inflammatory condition of the vagina or vulva, also cause sterility. Again, the spermatozoa may be destroyed after they have been deposited in the vagina. If the environment is suitable, they will live for

some time. Acid secretions destroy them since they are alkaline. Leucorrhœal discharges, by counteracting the spermatozoa, cause sterility. Metritis and endometritis also predispose to sterility. A lacerated cervix causes both metritis and endometritis with the attending leucorrhœal discharge. Endometritis causes sterility not only by destroying the spermatozoa, but by weakening or destroying the nidus, that should be ready for the reception of the impregnated ovum. Constitutional diseases such as anemia, and scrofula, in which the blood is thin, tend to produce sterility. The ovaries are inactive, the Graafian follicles do not develop and rupture, hence the ovum is not matured.

269 The Treatment should, in every disease, be applied to the existing cause. Be sure the trouble is not in the male, for in this age in which masturbation and gonorrhœa are so common the male is very commonly to blame. If the ovaries are inactive, endeavor to correct the lesions that impair their influence, these being found in the lower dorsal region or in the lower ribs. If there is a flexion or stenosis of the os uteri, they should be corrected. If leucorrhœa exists to any great extent this should be corrected since the acidity will counteract the alkalinity of the spermatozoa.

Inflammatory conditions must be overcome before the condition can be cured. The best treatment and the one with which I am most successful, is one applied to the lower dorsal and upper lumbar regions. Strong stimulation and manipulation of the spinal column by which each vertebra is adjusted, frees

the nerve and blood supply to the pelvic organs which is necessary for their health. If the general health is impaired it will have to be built up, otherwise impregnation is not liable to take place or an abortion is likely to follow if it does take place.

270. Leucorrhœa is another condition which is a symptom of some vascular disturbance affecting the mucus secreting glands of the vagina and uterus. It is defined as a muco-purulent discharge, popularly called the "whites," from the female genital tract. The discharge comes either from the vaginal walls or the uterus, hence the division into vaginal and uterine leucorrhœa. Normally there is a secretion from the vagina which is just sufficient to lubricate the parts. This secretion from the glands located there is a clear, transparent glairy fluid, like the white of an egg. That from the uterus is alkaline, that from the vagina acid. When the secretion is abnormal in quality, or especially in quantity, it is called leucorrhœa. As mentioned before, an increased arterial blood flow to a gland increases its physiological secretion, while an increased venous flow produces a pathological secretion.

271 Causes. The cause of leucorrhœa depends upon a venous congestion of the uterus and vaginal walls. This congestion is the result of obstruction or vaso-motor paralysis. The use of the warm water douche is a common cause. Nearly all women use them, and about ninety per cent have leucorrhœa. They are especially important as causes, if used daily. Warm water dilates the vessels, hence

a slowing of the blood current. From this will result a lowering of the vitality of the blood with its increased amount of poisonous materials which go to make up the venous condition. This affects the activity of the glands as well as producing a weakness in the uterus and its supports. Following this weakened condition of the supports, displacements and menstrual disorders are found. In the parous woman, examine for a lacerated cervix. If the injury is very long in healing, the parts become congested and following this is usually an abnormal secretion.

Sometimes an erosion or ulceration is present. In such cases there is a constant irritation, ache, and discharge of a muco-purulent nature.

A displaced uterus causes a congestion of the different glands, hence it is a common cause of leucorrhœa. The discharge is worse during the menstrual period, since the parts are more congested at that time.

The vaginitis either simple or specific is the cause of the vaginal form. Gonorrhœal vaginitis especially in the latent or chronic form, is quite a prominent cause, since the circulation to the vaginal walls is impaired when they are in this condition.

Bony lesions, which interfere with the vasomotor supply, are the most important causes as viewed from the osteopathic standpoint. These lesions are found in the lower part of the spine in the form of a slipped vertebra or curvature, and in the pelvic region in the form of a slipped ilium, sacrum or coccyx. Case after case can be cited in

which cures were effected by correcting the bony lesions.

In some cases leucorrhœa is due to a general debility, the result of stomach affections or constitutional diseases. I have seen cases follow an attack of typhoid fever. In such cases a lesion is found in the middle or lower dorsal region which affects the nutrition. From this poor nutrition, results disturbed secretions. The uterus and vagina share in the general weakness and leucorrhœa is the consequence. Remember that a venous congestion is a condition which is always found in leucorrhœa whether due to the relaxation of the vaso-motor nerves or due to mechanical obstruction preventing the return of the blood to the heart.

272 Symptoms. The principle symptoms of leucorrhœa besides the discharge are, backache, general weakness and menstrual disorders, especially too long and profuse menstruation. The discharge, has in most cases, a very disagreeable odor on account of the decomposition which has taken place, if the case is a bad one. If chronic, it desiccates and forms into little lumps, while in the early stages it is of a slimy, glairy nature. This discharge from its effect on the nervous system, and from its color, has given rise to the belief amongst the laity, that the white stuff is the spinal marrow which melts and escapes through the genital tract.

During an attack of epilepsy this discharge is markedly increased. Uterine displacements, standing on the feet, and various diseases increase the amount of the discharge. All abnormal discharges

whether the color is white or tinged with blood, are classified under the one head of, leucorrhœa.

273. Prognosis. The prognosis is very uncertain. Some cases yield very readily, while other cases are very slow in yielding to the treatment. If the cause is readily found and can be easily corrected, it is favorable, but if it occurs in an anemic, weak person in whom the blood is thin, the prognosis is unfavorable for a rapid cure.

274. Treatment. The treatment consists in relieving the congestion of the uterus. This is accomplished by locating the cause in each individual case. It is one of the most common of disorders, and one which is due to many causes, hence the treatment must be given according to the causes in the individual case.

In the first place, correct the bony lesions, whether in the lumbar, dorsal or sacral regions. Again, correct uterine displacements, since they cause a venous stasis. Treat over the veins leading from the uterus, in this way relieving the stagnated condition in the uterus. Strong stimulation of the nerves in the lower lumbar and sacral regions is very good and tends to restore tonicity to the vessel walls. By correcting the anatomical derangements found, assimilation is improved, glandular action regulated and secretions made normal. If the leucorrhœa is due to a general or constitutional disease, the general health must be improved before a cure is obtained. Douches are sometimes necessary for the sake of cleanliness and should be used occasionally if the odor becomes too offensive.

275. Masturbation is a vice which has become very prevalent. Although not practiced so extensively by the female as by the male, yet its effects can be seen depicted on the faces of many. In some it is the result of disease, in others it has been brought on by obscene literature or bad associations. A lesion which stimulates the pudic nerve will often lead to masturbation. This lesion is usually found in the lower dorsal region. An adhered clitoris, uncleanliness or pruritus vulvae are common causes. It is most commonly found in the young, occasionally in the adult.

276 Symptoms. Masturbation at first, if not excessive, presents no special symptoms. If excessive, it first shows itself in the form of nervousness. The complexion is pale, sallow and the eyes sunken and surrounded by dark rings. The patient is bashful and has a secretive downcast expression. The hands and feet are cold, the skin clammy, circulation poor, there being a small rapid and weak pulse and shortness of breath. The general health becomes deteriorated and the patient becomes non-energetic. The step is not elastic, and the victim is given to morbid fancies. In children, convulsions or spasms may develop, which are very hard to understand. I have seen cases of spasms which would only occur at night, cured, by correcting a diseased clitoris, which had brought on masturbation. On inspection of the vulva the lesser lips will be found red and irritable. The clitoris will be prominent and in some cases, hypertrophied. In other cases there is hyperesthesia of the parts, and

the friction of the clothing is sufficient to bring on a discharge.

277 Treatment. The treatment consists of two things; first, bring to bear a moral suasion if the patient is accountable; second, remove the source of irritation, which provokes the practice. In those who are naturally passionate a vegetable diet, as well as morality, should be enforced.

Work, either physical or mental, by which the mind is busied, is one of the best remedies. If the patient is idle, with nothing with which to occupy the mind, masturbation is very apt to be contracted, but if the mind is busy there is no room for evil thoughts. The blood is distributed to every organ according to the activity of that organ. If the patient constantly has sexual irritation from the influence of the higher centers, the organs become congested and secretions are increased. Cold baths are beneficial in that they stimulate the circulation and cause equal distribution of the blood. Again, if there are lesions they should be removed. I have seen cases of nymphomania cured by correcting a lesion at the tenth dorsal vertebra, which caused a stimulation of the pudic nerve.

The removal of smegma or local accumulations of filth are necessary, since any local irritation has a tendency to lead to the condition. Sleeping on the back is contraindicated, since the centers in the cord controlling the sexual organs, become congested and deranged by the settling of blood while in that position.

278. Abortion is the expulsion of the embryo at,

or before the third month. This is quite a common occurrence and the practitioner will be called upon to treat such cases, or at least, to diagnose them. In some, abortion becomes habitual. The wreck of many a woman's constitution can be traced to one or repeated abortions. It may occur at the first month, the patient thinking it a case of membranous dysmenorrhea accompanied by flooding, or it may occur at the third month at which time it is most common, probably on account of the formation of the placenta at this time. Although the use of the word abortion, should be restricted to the product of conception at or before the third month, yet it is not, since any expulsion of the fetus or embryo before the ninth month is called abortion by the laity, especially if it has been produced.

279. Causes. Abortion depends especially upon one thing, to wit, uterine contractions, and anything that will bring on marked uterine contractions will bring on abortion. Again, a weakened attachment of the embryo is also a predisposing cause. Disease of the fetal appendages, malposition of the placenta and abnormalities of the cord, may cause abortion. Paternal causes are sometimes found, such as syphilis or in cases in which the spermatozoa are weakened from constitutional diseases, venereal diseases, excesses, masturbation, or extreme old age. Maternal causes are common, such as the exanthemata or other diseases, systemic poisons or lesions along the lower part of the spine. These lesions weaken the uterus and hence the attachment of the ovum is insecure. All forms of

traumatism, such as blows, strains or the lifting of heavy weights produce abortion, if there are any predisposing causes. The introduction of instruments into the uterine cavity such as sounds or catheters, persistent vomiting, hiccoughing or sneezing may produce it. Various reflex causes such as violent emotion, or sudden excitement may bring it on if severe enough, or if there is a predisposition.

Produced abortion is performed by the introduction of instruments into the uterus or by the ingestion of certain drugs, such as tansy, ergot or pennyroyal. To the osteopath the lesions are the most important, and if such exist in a pregnant woman, be very careful not to produce pain in the patient since abortion may occur. Again, by properly treating such lesions, abortion may be prevented.

280. Symptoms. The symptoms vary with the stage to which gestation has advanced. The prodromal symptoms are, sense of discomfort in the pelvis, pain in the lumbar and sacral regions and a general uneasy feeling. These symptoms are followed by hemorrhage, uterine contractions or labor pains and finally by expulsion of the embryo or a part of the products of conception.

The cervix, on local examination, will be found soft and the os patulous, if it is a case of inevitable abortion or if it has already taken place. The mammary glands will be found enlarged and the milk secretion will usually occur at the third day after abortion.

The diagnosis is made by finding the embryo or

its membranes. Often these are lost, the mother not thinking of the diagnostic value, thus making it hard to diagnose when they have been destroyed. If there is retention of the membranes it may give rise to puerperal fever, or if chronic, the symptoms may be similar to those of a dead fetus, cancer or sloughing polypus.

281 Treatment. The prophylactic treatment consists in correcting lesions which weaken the uterus and then preventing any exciting cause which would bring on uterine contractions. Avoid atrains, traumatism and emotional excitements, since they produce abortion if any predisposition exists.

The treatment of threatened abortion consists of putting the patient to bed and keeping her perfectly quiet with the hips elevated. Stimulation of the clitoris causes contraction of the cervix; this is accomplished by pressing on the clitoris with the thumb and then letting it suddenly slip off. This is productive of pain which causes retraction of the uterus. If the os has not dilated to any degree the abortion can be stopped in this way.

Inevitable abortion follows dilatation of the os uteri. In such cases the treatment is almost identical with that given in normal labor, that is, inhibition of the clitoris to relax cervical muscle fibers, and stimulation of lumbar region to bring on contraction of the fundus or labor pains. If the membranes are not expelled, a dull augur curette should be introduced and the membranes loosened and then removed by a pair of abortion forceps. Then produce contraction of the uterus to prevent hemor-

rhage, keep the patient quiet until involution is well under way, and the recovery is as a rule, rapid. The diagnosis is the principle point of interest to the gynecologist, and to be sure of this, consider the early signs of pregnancy, hemorrhage, size of os, onset, reflex disturbances and history of case.

The immediate dangers are hemorrhage, laceration and puerperal fevers from retention of a part of the fetal membranes. The secondary dangers are habitual abortion, uterine displacements and subinvolution, which cause chronic backache, headache, menstrual disorders, inflammation of the uterus and a general sense of weakness or fatigue,

282 **Ectopic Gestation** or extra-uterine pregnancy are terms used to denote that gestation has occurred outside of the uterine cavity. It is a rare condition but is occasionally found. It may take place in the tubes, peritoneal cavity or the ovaries. It is supposed to be due to retention of the ovum in those places from some interference with its locomotion, and the union with the spermatozoon, therefore taking place at that point. Chronic salpingitis, displacements of the ovary or chronic peritonitis tend to destroy the ciliated epithelium, therefore preventing the transportation of the ovum to the uterus. Since the ovum is not motile and depends upon the maternal influences for its movements, and the spermatozoa has the power of locomotion, therefore, if the ciliated epithelium were destroyed regardless of this the spermatozoon would travel upward through the tube.

The symptoms of extra-uterine pregnancy are

very similar to those of normal gestation. The reflex symptoms are the same. The gastric disturbances are even more marked. Menstruation usually ceases, but in some cases it is not disturbed, in others it is irregular. There is a discharge of blood mingled with shreds of broken down deciduae. This symptom is one of the most important. The uterus is somewhat enlarged but not so much as it would be in normal pregnancy. The tumor is found at the side of the median line. It is painful and grows rapidly. On bimanual examination it is found to be fluctuating, soft and very sensitive. Pelvic pains are usually very sharp and tearing in character.

A positive diagnosis is impossible before rupture of the sac, which occurs at about the fourth month. However, if the early signs of pregnancy are present, early appearance of sharp, cramping, pelvic pains, irregular hemorrhages, the uterus not very much enlarged, os dilated and cervix soft and shreds of deciduae are discharged, it is probably a case of extra-uterine pregnancy. If, in addition a sensitive, soft, rapid growing tumor is located in the region of one of the Fallopian tubes, it indicates ectopic gestation. The treatment which is surgical, consists of the removal of the mass by abdominal section. If rupture of the sac does not take place, it usually rupturing at the fourth month, it may be retained for years, it partly being absorbed and mummifying.

At term, the mother has what is called spurious labor, since she has all the symptoms of labor with-

out expulsion of the fetus. If rupture takes place, death usually follows, unless prevented by surgical intervention.

283 The Mammary Glands are the seat of a great many disorders, many of which are reflex from the pelvic organs. Since they are a part of the sexual system, the gynecologist will be called upon to treat disorders occurring in them.

They are two glands which extend from the third to the seventh rib, from the sternal border to the mid-axillary line. Their size and prominence depend upon a great many things, but principally upon sexual activity.

The nipple is located on a level with the fourth rib, it being directed outward and upward. The integument covering the nipple is pigmented, the amount varying with the complexion of the patient and whether pregnancy has existed. The gland proper is composed of separate glands, about twenty in number, which open by as many ducts at the nipple. The nipple has unstriped muscle fibers, on account of which erection may take place.

The blood vessels come principally from the mammary artery through its perforating branches within the second, third and fourth intercostal spaces. Some branches from the axillary artery also supply the gland. The veins accompany the arteries. The lymphatics are very numerous and communicate with the axillary lymphatic glands. The nerves come from the cervical plexus and the fourth, fifth and six intercostal nerves, which are accompanied by sympathetic filaments.

284 The Function of the mammae is to secrete milk for the nourishment of the child for the first twelve months. They have a very close connection with the pelvic organs so that disease of one affects the other. Stimulation of the nipples produces a contraction of the uterus and excites sexual desire. Immediately following labor the nursing of the child causes an increase of the lochia, since uterine contraction follows the stimulation caused by nursing, and on this account the child should nurse as soon as possible after labor.

The size of the gland depends, in most cases, upon the amount of sexual irritation and the age at which puberty appeared. In the young, very large mammae denote precocious sexual development. This development or early puberty follows masturbation or sexual excitement from other causes. In others, the glands are naturally large. If there is atrophy or non-development, it indicates that the ovaries are not very active and that the sexual sense is not very well developed. In treating such cases attention should be given the pelvic organs as well as the ribs upon which the glands lie.

285. Diseases. The most common disease found is some enlargement or tumor of the breast. These enlargements are usually in the lymphatic glands, but are occasionally located in the lactiferous glands. The lymphatic enlargements occur at the base. At first it is a little kernel about the size of the end of the little finger. It is freely movable and slightly tender on pressure. It enlarges very slowly if at all, and, if it is very hard, it runs a

chronic course. It gives rise to no physical inconvenience, but to a great deal of mental anxiety. It is innocent in character unless worked with too much or bruised by manipulation or operations.

The treatment consists of correcting the second, third and fourth ribs so as to permit of a free lymphatic circulation. Treatments given directly to the enlargement should be very light and I doubt if they are ever indicated. Sometimes fibroid tumors are found in the gland. They are very similar to an enlarged lymphatic gland but are harder, not so tender, and their growth more chronic. They most commonly follow injuries of the ribs, strains of the muscles, trumatism or direct injuries to the glands or muscles in that region. Their course is chronic, growth very slow and need cause little alarm unless bruised. If they are bruised they may develop into malignant tumors such as sarcoma or malignant adenoma. The treatment consists in freeing the circulation to the gland and of gentle manipulation of the tumor itself. Operations should be prevented since they often excite malignancy on account of the injury to the tissues.

286 Cancer of the breast is usually of the scirrhus variety. They are found in the glandular substance proper, and are, in most instances, the result of bruising of the gland. This bruising may be from accident, too hard a treatment, prolonged nursing or an operation whereby the gland is laid open. It generally begins in small hard lumps in the substance of the breast. Its growth is at first slow, but afterwards rapid. It is located very close

to the nipple, and on this account the nipple becomes fixed and retracted. The skin finally gives way as the swelling increases, and a foul ulcer is formed. The lymphatic glands become involved, swollen and tender. The movements of the shoulder and arm are hindered since the pectoral muscles are affected. Soon the constitutional symptoms of cancer appear followed by death. The diagnosis is based upon the retraction of the nipple, induration, rapid progress of the disease, tenderness, ulceration and the constitutional symptoms. A great many cases of simple tumors are mistaken for malignant, or made so by an operation. If a lump is found in the breast and it becomes tender, an operation is at once advised. In our practice we have cured a majority of cases of supposed cancer by correcting a displaced rib or ribs. The third or fourth rib is usually found twisted, producing tenderness at the junction of the ribs with the costal cartilages, stagnation of the lymphatic and venous circulation with engorgement of the lymphatic glands, both in the mammae and the axilla. The retracted nipple results from ovarian disease or non-development.

287 Treatment. The surgical treatment is extirpation of the gland as soon as possible. The osteopath advises removal if the disease does not yield to treatment after a sufficient trial has been given. This treatment consists in correcting displaced ribs, the most common being the second, third or fourth, and in replacing the corresponding vertebrae.

The symptoms of the rib displacements are.

tenderness at the articulations or along the course of the rib, and irregularities of the ribs, such as undue prominence of one of the edges or ends.

Treatment over the tumor is rarely given if tenderness is present since it increases the irritation and inflammation. The pain in the breast is most commonly in an intercostal nerve and by raising the ribs and using inhibition at the vertebral end, it can be relieved. Remember in mammary affections that the enlargement is due in most cases to swelling of the lymphatic glands or a subluxated rib; that the pain is intercostal and due to a slipped rib; that operations can be avoided hence the prevention of malignancy in a great many cases; and that the prognosis is good in most mammary affections. If it is one of true carcinoma, relief can be given but a cure is not probable.

288. Eye Strain or severe aching of the eyes is often associated with uterine disease. The pain is either in the ball of, or just immediately above, the eye. There is usually an error in refraction as the predisposing cause. The pain is a great deal worse during the menstrual period. I had a case recently in which the ache could not be relieved by the ordinary neck treatments, but when the uterus was corrected the pain instantly left. The seat of the pain is in the fifth cranial nerve, the reason being that it has such a close connection with the sympathetic system by the numerous sympathetic ganglia situated upon it.

289. Pigmentation of the skin is sometimes found as a result of female disease. I treated a

case of retroflexion of the uterus, in which pigmented spots about an inch in diameter would appear in crops on the chest and neck. These spots are usually called liver spots and are attributed to some liver disturbance. The liver is usually to blame, but not always, since I have cured cases by relieving the pelvic disturbances. During pregnancy these spots appear on the face as well as on other parts of the body. Also they accompany uterine polypi if symptoms of pregnancy are present. The pigmentation will disappear and the skin will regain its natural color if uterine and liver troubles are corrected.

290 Hernia of the partial variety, may come on suddenly and produce symptoms of appendicitis and various other acute intestinal diseases. It consists of the bowel being forced partly through the internal abdominal ring or through the omentum. It follows strains or vigorous muscular actions and its onset is very sudden. The pain is very acute and cramp-like. The ovary may be implicated and the pain reflected to the back or up over the ovarian plexus. In either case the patient should be placed in the Trendelenberg position and the intestines lifted from out the pelvis. By a deep gentle manipulation of the abdomen with an upward motion this can be accomplished and the patient instantly relieved.

291 Hemorrhoids. On account of the frequency of hemorrhoids in the female, and their association with female diseases, a short description will not be amiss at this place.

A hemorrhoid is a vascular tumor produced by a chronic distention of the hemorrhoidal plexus of veins. This distention is due to vaso-motor paralysis or a mechanical obstruction of the vein. The latter is the more common. This obstruction is usually a retro-displaced uterus, and in every case of hemorrhoids in the female I would examine the uterus for a displacement or enlargement. A slipped ilium or chronic constipation in which there is impaction of the bowel frequently impede the return flow and cause distention of these veins. During pregnancy they are increased in size. Chronic liver troubles also tend to produce them. In treating hemorrhoids look for the obstruction, whether in the bowels, liver, uterus or whether it is due to muscular contractions, and remove it. A local rectal treatment is occasionally given whereby the mucous membrane of the bowel can be partially relieved of its stagnated blood. Keep the bowels free and prevent the patient from straining at stool or standing on her feet too long at a time. If pregnancy is the cause, shift the position of the fetus and keep the patient quiet.

292. The Microbic Origin of disease is a subject much discussed of late. It is quite a fad to attribute every disease to some micro-organism. In fact, it has become such a common thing that a great many people suffer from microphobia, they being in constant fear of some dread microbe attacking them. The body is protected against all microbial invasion if the skin is in perfect working order. If the blood is circulating properly

and the skin and mucous membranes intact, no microbe can enter the system. Gonorrhoea will not attack a healthy person, but let an alcoholic subject be exposed or one that is weakened by excesses and it readily infects the subject. Microbes, then, are the exciting causes in the diseases in which they are found, while the predisposing cause is a weakness, which is due to excesses or lesions which interfere with the proper circulation of the blood. Vaginal secretions are acid and effectually bar the entrance of bacteria. Mucous membranes are self cleansing and need no artificial antiseptics unless they are broken. However, if they are broken, then an artificial antiseptic is required. On this account and also from the fact that the amniotic fluid and local discharges are antiseptic, injections are not advocated after delivery. A strong antiseptic injures the delicate mucous membrane and cells are destroyed by it, and this predisposes to the entrance of bacteria, since dead tissue is the best nidus for their propagation. I do not deny the fact that microbes are found in a great many diseases, but I do deny the fact that they are the cause of disease. They are the result of disease. Dr. Still once said to me that the buzzard was the biggest microbe that he knew. It feeds on dead flesh or tissues. So do the microbes and as long as the tissues are alive the bacteria cannot affect them, but as soon as there is cell decay they, being ever present, pounce upon that part and there rapidly propagate. The osteopathic idea is to keep the tissues healthy, this preventing cell decay. This is accomplished by keep-

ing the blood moving, and if any one can control circulation, it is the proficient osteopath.

293 Care of the Hands. Since the osteopath comes in close contact with the patient, the hands should at all times be kept scrupulously clean. In making a local examination see that the nails are pared and clean. If there is an abrasion on the examining finger, use some other finger or defer the examination, if it is a doubtful case. The finger, if venereal disease or cancer are present, should be protected by glycerine or a heavy coat of vaseline. Always thoroughly cleanse the hands before treating the next patient or else infection may be transmitted. I have seen cases where infection was carried by the physician on account of a lack of cleanliness. Again, it is a good plan to wash the hands in the presence of the patient since it leaves the impression that you are cleanly. After treating a case of venereal disease be careful not to introduce the finger into the eye or else the poison may become transmitted to the mucous membrane and produce ophthalmia.

294 Rheumatism. I have collected quite a number of cases of rheumatism which were traced to menstrual disorders as the cause. If the menses are retained it produces rheumatic symptoms, such as soreness in the muscles, swelling of the joints with the characteristic shifting of the disease from one joint to another. In some there are sweats, this being due to retention of the substances which have not been thrown off at the menstrual period, and the skin taking on the function of additional excretion. In some, the symptoms of rheumatoid

arthritis are most pronounced in fact, I regard this disease as due in most cases to retention of the menses. It is rare to get this disease in the male and when it is found, the kidneys are usually diseased. I have cured quite a number of cases of initiatory rheumatoid arthritis by regulating the menstrual flow. If the case is treated before the structural changes take place in the joint, a cure is almost certain, but after the joint changes have occurred, a cure is improbable, even if the menstrual flow be regulated.

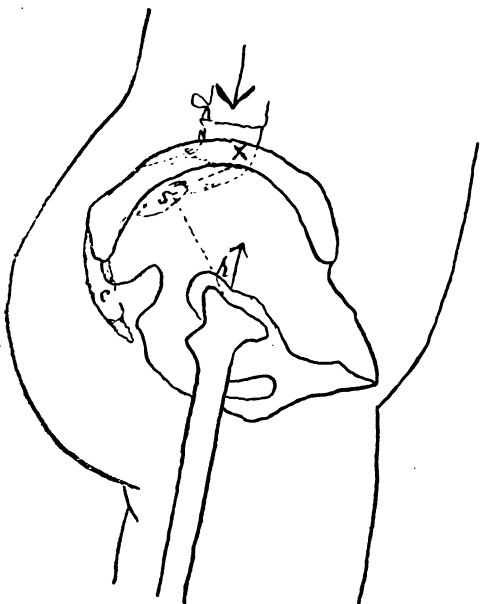
The treatment should be confined to the lumbar and sacral regions, while the joints should not be manipulated at all, since they are not at fault and should be left alone, or else they may be bruised by manipulation. Strong stimulation over the lumbar region increases the arterial circulation to the uterus and is very beneficial in menstrual disturbances. Bony lesions are also found as the fundamental cause of these rheumatoid affections.

295 Lesions of the Bony Pelvis. The pelvic bones are subject to a variety of twists or partial displacements on account of the position of the pelvis, function, and since it bears the brunt of jars and falls especially if the patient suddenly steps into a depression. Some say that it is impossible for the innominate bones to be displaced. If so, why is there an increase in the length of one limb when the hip is not dislocated? Why is one innominate higher than the other? Why is one spine more prominent than the corresponding spine? That they do take place is apparant to one who has studied

the subject or to one that has cured disorders by correcting the displacement.

If a lesion does exist, then there will be, in most cases, an irregularity in the bony prominences, tenderness at the articulations or the length of the limbs will be affected. Tenderness at the synchondroses is the best indication of a slight displace-

FIG. 38



ment of the innominates that is recent. Irregularity at the symphysis is a good indication of a rotated ilium. Shortening of the limb indicates an upward slip or backward rotation of the ilium. The sacrum

is always affected by slips of the innominate bones. A prominent sacrum indicates a backward displacement of the lower part. A posterior lumbar region indicates that the upper part of the sacrum is posterior and the lower part is anterior.

The most common displacement of the innominate bones is upward and backward. That of the sacrum a forward rotation of the upper part and a backward rotation of the lower part. This can be more plainly seen by reference to Fig. 38. *x*, represents the fifth lumbar vertebra; *s*, the sacro-iliac synchondrosis; *h*, the acetabulum; the three points are not in a straight line, but form an angle, *xsh*. The force from below exerted at *h*, tends to force the pelvis directly upward, but the ilium is hinged at *s*, therefore, that part is moved with more difficulty than the symphysis pubis, and the force, instead of being directed directly upward, is partly directed backward. If the force acts on both hips at the same time, the pelvis is rotated upward and backward around the pivot *s*. On this account, a person who is on the feet a great deal, or has had a hard fall directly on the feet, usually suffers from this kind of displacement. The points *x* and *h* are approximated, and the angle *xsh* is lessened. The force from above, or the weight of the body, is supported at *x* or the fifth lumbar. It, like the force from below, is transmitted through an angle, *xsh* and *s* is a pivotal or fixed point around which the sacrum rotates. Therefore, a force acting from above tends to force *x* lower and by so doing the lower part of the sacrum is thrown upward and

backward since s is the fulcrum and xs the lever. Each step or jar tends to drive the spinal column lower and if the muscular and ligamentous supports are weakened so as not to firmly fix the joints, a slipped sacrum follows.

The coccyx is a movable bone. Since the lower part of the sacrum is thrown backward, the tip of the coccyx will be drawn forward by the muscles and ligaments attached to it, and form a sharp angle at the sacro-coccygeal articulation. This explains why such a sharp angle is so frequently found at this joint, and why the coccyx so often appears to be anterior. A posterior curvature of the lumbar region may draw x backwards, thus increasing the angle xsh . In this case the upper part of the sacrum will be drawn backward and the lower part forward. Yet the fifth lumbar may become posterior without drawing the sacrum with it, but it could not be thrown anterior without carrying the top part of the sacrum forward, on account of the arrangement of the articular processes. These lesions derange the pelvic circulation, change the position and shape of the buttocks and alter the length of the limbs. The most important effect is the direct interference with the pelvic circulation, producing menstrual disorders, tumors and leucorrhœa.

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