A CLINICAL LECTURE ON RETROVERSION OF THE UTERUS AND ITS TREATMENT, WITH SPECIAL REFERENCE TO THE OPERATION OF SHORTENING THE ROUND LIGAMENTS.

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Gentlemen, retroversion of the uterus is either congenital or acquired.

Congenital Retroversion.—When it is met with congenitally it is due to a developmental defect. In four cases which I recollect I found on abdominal section that the displacement was due to shortening of the infundibulo-pelvic ligaments. In a number of cases I have found the same condition produced by shortened utero-sacral ligaments attached abnormally high, and again I have frequently observed retroversion produced by an uncommonly short tense anterior vaginal wall pulling the cervix forward. In the unmarried, I believe, the uncomplicated congenital retroversion as a rule gives rise to no symptoms, and therefore it rarely calls for treatment. In the married, treatment is indicated when symptoms are marked and one is sure that they are caused by the displacement; or when the patient is anxious to have the condition corrected so that her prospects of childbearing may be improved.

Treatment of congenitally shortened ligaments means opening the peritoneal cavity, and this course is justified in such cases as I have mentioned. Expose the ligaments, apply a double ligature, and divide between them; then perform a suspension operation to keep the uterus in anteversion. This method of treatment has been in my experience in more than one case followed by the happiest results, the patients having become mothers after years of suffering and sterility.

The operation of lengthening the anterior vaginal wall is easily performed by dividing the wall transversely and suturing it in such a way that the transverse wound becomes longitudinal. The posterior wall can be shortened, if desirable, by adopting a method the reverse of the above.

Acquired Retroversion.—Acquired retroversion is either complicated or uncomplicated, and they differ widely from each other. In the former, the complication is due to diseases of the uterine appendages arising independently of the displacement. In the
complicated retroversion the displacement is of secondary importance. It is only an incidental accompaniment of the actual disease, and bears but a trifling relation, if any at all, to the patient's symptoms. The displacement is the result of the adnexal disease, and treatment is directed to the removal of these conditions. The correction of the displacement in such cases is secondary and subsidiary.

In nearly every complicated case the uterus is fixed. The remedial measures to be pursued in this class of case consist in treating the diseased appendages by abdominal section, removing the diseased tubes and ovaries, or merely releasing them from their adhesions. The uterus will then be rendered freely movable, and can be brought back into its normal position and fixed there by one of several methods.

The method to be adopted depends on whether or not the patient has been unsexed. If both tubes or both ovaries have been removed the proper procedure is ventro-fixation. This operation consists in fixing the fundus uteri with non-absorbable sutures into the abdominal wound. If, on the other hand, one ovary and one tube have been removed, and the patient is still able to bear children, the operation of ventro-suspension, or better still shortening of the round ligaments by drawing them through a stab wound in the abdominal wall and fixing them to the fascia, might be the method adopted, because after either of these operations the uterus, should it become impregnated, will not be hindered in its ascent into the abdominal cavity.

Uncomplicated Retroversion.—We will now consider some clinical features of the pure uncomplicated retroversion, and when we speak of retroversion we include retroflexion. Before proceeding further, however, it is necessary to qualify the word "uncomplicated," because there are very few retroversions that are free from the complication of metritis, but such complication is subsequent to and consequent on the displacement. In the sense used here, the term "uncomplicated" means that there is no inflammatory complication of the surrounding parts. I will mention, in the first place, three outstanding clinical features. The first is that in nearly every case the displacement is of puerperal origin; the second is that nearly every case dates from the first confinement; and the third is that in all the uterus is freely movable. The displacement is invariably as old as the patient's oldest child. Retroversion does not prevent pregnancy, and it is nearly always in the first labour that yielding of the supports takes place. The
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Retroversion of puerperal origin, even when it has existed for years, is still mobile. The displaced uterus does not contract adhesions. It becomes hypertrophied, and is often so firmly held in its new position that one is apt to think it is fixed. But before concluding that such is the case, give the patient an anaesthetic to enable you to use some degree of force in your attempt to dislodge it, and in the great majority of cases, if not in all, you will discover that fixation was only apparent.

Symptoms.—It is true that many old-standing cases of retroversion present no symptoms, but these cases do not concern us, because they do not consult us; such displacements are only occasionally discovered when the patient asks our advice regarding some other trouble. The great majority of patients with retroversion have symptoms, due, in the first place, to the displacement itself, and later to the metritis which develops as a consequence of the displacement. Some state that the symptoms which a patient with retroversion complains of are not due to the displacement but to something else. This statement can be disproved by the fact that symptoms quickly disappear when the displacement is corrected, say with a pessary, and as quickly appear when the pessary is withdrawn. The earliest symptom is bleeding in the puerperium. This may continue for months, and though constant is never abundant. Bleeding in the puerperium might be associated with other conditions, such as cancer of the cervix, but it is most commonly due to retroversion. Another symptom, though not met with in every early case of retroversion, is absolutely pathognomonic when it does happen, i.e. the occurrence of menstruation during lactation. I have never met with a case in which this was present without there being at the same time retroversion of the uterus. Down-bearing pain and backache may be considered the cardinal symptoms of an established retroversion. The down bearing is due to the low position of the uterus, and is especially marked when the retroversion is accompanied by a degree of prolapse. The backache is caused by the stretching of the utero-sacral ligaments. An ache is also frequently complained of in the sides, and is probably due to stretching of the attachments of the broad and round ligaments. All these symptoms disappear when the patient lies down. The metritis, which is the chief complication, is responsible for the menorrhagia, leucorrhoea and dysmenorrhoea. These appear when the displacement has been in existence some time. The commonest referred symptoms are headache and gastric pain, and
a very troublesome symptom, which is not uncommon, is mental depression. In talking of symptoms, one is struck with the fact that while there are always one or more symptoms which may be said to specially characterise any pelvic affection, yet there exists a similarity in symptoms common to many gynaecological affections differing widely in origin and position. So much so is this manifest, that it is in very few cases that a diagnosis can be made from symptoms alone. If, for example, one compares the symptoms of fibro-myoma and retroversion, the similarity is found very marked. Many patients with fibroids pass through life without presenting any symptoms. Many retroversions behave in the same way. Menorrhagia is common to both, and in most cases is due not to the disease but to the accompanying metritis, which is a consequence of the disease.

Retroversion does not preclude pregnancy. Many women with retroversion conceive and carry the fœtus to full time without any symptoms. The uterus in such cases as it enlarges ascends into the abdomen and all goes well. Some, however, are not so fortunate. About the third month the uterus, instead of rising into the abdomen, becomes incarcerated, and then gives rise to pressure symptoms, the chief of which is retention of urine, and this is the only occasion in which the urinary organs are markedly affected by retroversion. A large swelling appears in the lower abdomen, formed by the distended bladder, and if the incarceration is not relieved abortion is inevitable and also serious bladder changes, such as exfoliation of the mucosa.

Production of Retroversion.—I have stated that in most cases this retroversion is of puerperal origin, and it is easily understood how it is produced. When the uterine supports are normal and the bladder is empty, retroversion cannot be produced. Increased intra-abdominal pressure can only increase the anteversion. In the puerperium the uterus is heavy, the ligaments are lax, the pelvic floor may have yielded, the uterus frequently lies retroposed, the mother makes an effort and the increased intra-abdominal pressure easily produces the retroversion. It is also possible for increased abdominal pressure to retrovert the uterus at other times, as when the bladder is distended, then the uterus is retroposed and abdominal pressure may so act on it that the fundus is dislocated behind the promontory of the sacrum and remains there, while intra-abdominal pressure will continuously act on the anterior surface of the body.

Let us now look at the diagram of retroversion and compare
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it with one of the uterus in normal position. Compare the position of the fundus, the position and direction of the cervix. Look at the altered state of the utero-sacral ligaments. Here the pelvic floor and utero-sacral ligaments have given way. The cervix has rotated to the front, the fundus to the back, and the uterus lies low in the pelvis.

Treatment of uncomplicated retroversion consists of replacement and retention. Replacement can be performed by several methods. Retention is accomplished by (1) pessaries, (2) surgical means. The pessary is usually palliative only. It seldom cures the condition. It may be successful in maintaining the position of the uterus and in relieving the patient of her symptoms, and in some cases may even effect a cure, viz. in those cases where the structures concerned in the support of the uterus have not undergone such changes as to make them utterly useless in maintaining the organ in good position. The pessary gives the supporting structures rest and thereby enables them to regain tone. This we expect to happen in recent cases, and it is correct treatment to give those cases a trial of pessary treatment first. Surgical treatment is indicated when the pelvic structures have lost their power of supporting the uterus. How can we tell that this power is lost? If a pessary has been worn for some months, and if, after its removal, the uterus falls back, the supporting power is gone. You can form an idea of the tonicity of the structures by replacing the uterus and noting if it stays up for a short time. If it stays up the supports have tone. If it immediately falls back the prognosis as to the recovery of the tonicity is not good. The pessary has, however, a field of usefulness, not only in recent cases, but in cases that are complicated by serious organic disease, forbidding operation, and also in cases where the patient won't hear of operation. The great drawback to pessary treatment is its indefiniteness—indefiniteness as to the length of time the patient will require to wear the pessary, and indefiniteness as to the result after it has been worn, and in this respect it compares unfavourably with surgical treatment, by which you can definitely promise the patient that she will be cured in a month. But if, when called to a case of retroversion, you decide to adopt pessary treatment, you may temporarily relieve the patient, and if you do not cure the condition so as to be able to dispense with the pessary, still your labour will not have been altogether thrown away. Your treatment will have been of service in preparing the patient for the operator. But before
a pessary is introduced, the uterus must first be prepared for replacement, and be afterwards replaced.

Preparatory Treatment.—When you examine a uterus that has been retroverted for some length of time, you will find that it is congested, enlarged and tender. Before attempting replacement, it is well to get rid of this congestion and of this tenderness. The best medicament for this purpose is boro-glyceride applied on cotton-wool. The following prescription, which I think was a favourite of Marion Sims's, I have used for years, and have found most satisfactory:

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\begin{align*}
\text{R} & \text{ Boro-glyceride} \\
\text{Aluminis} & f \\
\text{Glycerinum} & .\end{align*}
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\(\text{ad } 3\text{ss.}\)

A pledget of cotton-wool is soaked in this mixture and introduced up to the vaginal roof with the aid of Sims's speculum, the patient being semi-prone, or, better still, in the elbow-knee position. The action of the boro-glyceride and glycerine is to provoke a free watery discharge and thereby deplete the uterus and surrounding tissues, removing the congestion, and also by its sedative action getting rid, at the same time, of the tenderness. Boro-glyceride is superior to ichthylol which is so commonly used. This pack can be left in the vagina for days without any decomposition taking place. I generally introduce one twice a week, say, on Mondays and Thursdays. The pack introduced on Monday, the patient removes on Wednesday night, takes a douche that evening, and also on the following morning before another pack is given. After a short time, say, three weeks of this treatment, you will find on examination that the uterus is smaller, is not tender, and that its mobility has increased, rendering its replacement an easy matter. In some instances, indeed, you will be surprised to find that the uterus is no longer retroverted, but is in normal position.

Replacement.—The uterus being now ready for replacement, the question is, how are you going to do it. Are you to use an anaesthetic or not? In many cases an anaesthetic is not necessary because replacement is so simple, but in the majority of cases it is better to use an anaesthetic on account of the manipulative freedom which it gives. The important point is to make sure, whatever method of replacement you employ, that the uterus is in good position when you introduce the pessary—that it has not fallen back. The patient lying on her back, the fundus is
held forwards with the left hand, while the pessary is introduced with the right. After the pessary has been placed make the bimanual examination, and be satisfied that you leave the uterus anteverted, and the pessary in position.

Not only must you be sure that the pessary is in position, but you must make certain of a point of equal importance, and that is that the pessary fits, that it is of the correct size. The success of the pessary, I believe, depends on this more than on the shape of the pessary. How are you to determine that the instrument fits? Pass your finger between the lower end of the instrument and the pubic arch. If you find that you can comfortably place your finger in that space, the instrument is of proper size. If you cannot do so, the instrument is too large. If more than one finger can be easily inserted there, the instrument is too small. This simple guide I have found to be practically invaluable.

Another aid is to ask the patient half an hour or so after the pessary has been introduced to rise and walk about, and if the adjustment is correct, she will tell you she feels nothing, is quite comfortable, and may ask if you have really put in an instrument. Make sure before introducing the pessary that it is perfectly clean, else vaginitis may be provoked. Pessaries are made either of soft or hard rubber. The soft are cleansed by boiling, the hard by brushing and antiseptics. They must not be boiled, because boiling changes their shape. Whilst wearing a pessary, the patient uses the vaginal douche daily. The soft rubber pessary must be removed frequently and thoroughly purified. When left longer than a month it becomes very foul. The hard rubber pessaries may be left in for months. Keep a note of all your patients wearing pessaries. When a pessary fits comfortably the patient may neglect to have it removed, and she may come to you, or more likely to another practitioner, years after, to have the instrument dug out.

I have, as yet, said nothing to you, gentlemen, as to the kind of pessaries that you are to use for retroversion. Their name is legion. I seldom use any other than the "Hodge" or "Hodge-Smith" pessary; occasionally the soft rubber ring. I think the "Hodge" fulfils the requirements as well, if not better than any other, but I would again state that I consider the size of the instrument is of as much importance as the shape. Always replace the retroverted uterus before introducing the pessary. Don't expect that the simple introduction of a pessary will change a retroversion of the uterus into an anteversion. Such does not
occur, but what takes place is that the body rides over the upper bar in a state of exaggerated retroflexion, and the cervix gets between the instrument and the pubes—a state of affairs which cannot be tolerated by the patient. Having chosen and adjusted our instrument, we may now ask ourselves, how does it act? You will remember at the beginning of the hour, in speaking of the uterine supports, I said that the function of the utero-sacral ligaments, combined probably with this newly described ligament, the transversalis coli, was to keep the cervix towards the sacrum so that intra-abdominal pressure would act on the posterior surface of the uterus, and in this way keep the uterus in antever-sion. When the uterus is retroverted, the utero-sacral ligaments are lengthened, and no longer possess this function. The pessary acts by forcing up the posterior fornix, by making tight the vaginal wall in this position, and thus carrying back the cervix towards the sacrum—by taking on, in fact, the function of the utero-sacral ligaments. The pessary is kept in its place chiefly by the integrity of the levator ani muscles, and also by the perineal body.

Now, gentlemen, as I have said, when the instrument is chosen aright, and is properly introduced, the patient may, in a suitable case, feel perfectly comfortable and perfectly satisfied, and, indeed, may have no desire to part with her pessary. The unfortunate feature with regard to all this is, that after all your patient in most cases is not cured. Remove the pessary, the uterus falls back, and the old symptoms return. After months or years of this treatment either you or your patient, or both, may tire of it, and wish something done that is curative. Well, gentle-

men, what are you to recommend? Surgical means. In my opinion there is one operation, and one only, that holds the field, viz. the operation of shortening the round ligaments, and I will tell you why. (1) It is an extra-peritoneal operation, and therefore one of little risk. It has no mortality. I hold that for a minor ailment, such as an uncomplicated retroversion, which does not cause any danger to life, we have no right to perform a major operation. We have no right to open the peritoneal cavity. (2) It leads to no interference with pregnancy or parturition, and after delivery the uterus remains in normal position. (3) It is practically certain in its results, and these results are as good as those of any intra-peritoneal operation. I have now performed this operation over 200 times, and I am not aware that one out of that number regrets having had the operation. The statistics testify to its efficacy.
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Table of Cases.

| Total number of cases | 214 |
|-----------------------|-----|
| Number of uncomplicated cases | 147 |
| Number of complicated cases | 67 |

| Number of uncomplicated cases heard from | 78 |
| Number well | 77 |
| Number married | 68 |
| Number single | 10 |
| Number pregnant (full time) | 31 |
| Number miscarried | 2 |
| (8 had 2 children) |
| (22 had 1 child) |
| (1 had twins) |

| Number of complicated cases heard from | 24 |
| Number well | 9 |
| Number married | 22 |
| Number single | 2 |
| Number pregnant | 4 |
| (2 had 2 children) |
| (2 had 1 child) |

I have performed the operation which I will presently describe 214 times for retroversion of the uterus. Of that number 147 were uncomplicated cases, the uterus being movable and unattended by disease of the adnexae, and therefore eminently suited for the operation. Seventy-eight of these patients have either been heard from or have been examined by me subsequently, and in 77 instances the patients have been found free from their old symptoms, and in every instance that I have been able to make an examination the uterus has been found in good position. Of the number who answered our inquiries 68 were married women, and 31 of these had been pregnant since the operation and have carried to full time.

In 67 patients the operation was performed as an experiment in complicated cases where the uterus though mobile was accompanied by enlarged ovaries, and therefore not typically suited for the operation, the idea being that the correction of the displacement might be followed by the cure of the ovarian trouble, especially if the disease were in an incipient stage. Twenty-four of these patients answered our inquiry, and 9 of the number expressed themselves as being well. Twenty-two of these were married,
and 4 of their number had had successful pregnancies after the operation.

The function of the round ligaments being to restrain the uterus from excessive backward movement, the operation of shortening the round ligaments enables those ligaments to resume the function which they have lost.

Alexander's original operation consisted in cutting down over the external abdominal ring, isolating the ligament, drawing it out the desired length, stitching it to the columns of the ring, and cutting away the superfluous pubic end of the ligament.

Various modifications have been made by different operators. Two essentials are requisite for success—first, a suitable case, and, secondly, an operation correctly performed. A suitable case is an uncomplicated retroversion. The operation which I recommend is as follows:

1. After curetting the uterus, an incision is made immediately above the pubes, extending for a distance of about 2 1/2 inches. The incision is made through skin, superficial fascia and fat (Fig. 1). Retractors are then placed at one end of the wound, one being placed parallel to Poupart's ligament, the other parallel to the inner aspect of the thigh. Strong traction is now made with those retractors, so that the edges of the wound are widely separated, and the inguinal canal area is exposed; but before reaching the inguinal ring, a well-defined layer of deep fascia has to be reflected (Fig. 2). This is best done by dividing it parallel to the fibres of the external oblique. Divide it about an inch above the pubic spine, carry the knife down to the aponeurosis of the external oblique muscle, and then reflect it downwards until the external opening of the ring is exposed. You have now before you the glistening tendon of the external oblique muscle, and you will have no difficulty in recognising the ring, which is situated immediately external to the pubic spine. Here you will recognise the columns of the ring, the fat protrusion, and the genital branch of the genito-crural nerve.

The suprapubic transverse incision has two advantages over the one commonly used. Its position above the pubes renders it less liable to contamination, and it also permits of free retraction and good exposure of the inguinal area.

2. Before proceeding further divide the intercolumnar fascia, pick up with a hook the mass, filling up the external ring, then separate carefully the ligament from the fascial sheath (Fig. 3). Having done this, you will be able to draw out the ligament.
In doing so, make gentle, steady traction, and withdraw it until it presents a distinct shoulder. This indicates that a point near the uterine horn has been reached.

3. Treat the ligament of the opposite side in a similar manner (Fig. 4.—Note the position of the nerve on hook).

4. Divide both ligaments near the pubic spine and suspend them. Make equal traction on both to keep the uterus in the middle line (Fig. 5).

5. Pass two fingers of the right hand into the vagina to ascertain that the fundus is in the desired position, and at the same time introduce a Hodge pessary.

6. Pass a stout catgut suture through each ligament at the outer end of the ring, passing the suture through Poupart's ligament, the round ligament, and the external oblique muscle successively (Fig. 6). Draw the ligature tight—take care not to include the nerve. Close the external ring carefully with strong catgut.

7. The ligaments are now anchored, but for additional security pierce the aponeurosis in the middle line and again about an inch from the external ring and draw the detached end of one ligament through (Fig. 7). Repeat this manoeuvre on the other side, and suture both ligaments to the fascia in the middle line, and also at the other points where they emerge through the aponeurosis. If the ligaments are long enough, the ends may be farther carried down to each pubic spine and fastened there (Fig. 8, semi-diagrammatic).

8. Bring the fat and fascia together with medium catgut, and, lastly, close the skin wound with a subcuticular stitch of fine catgut (Fig. 9).

9. Keep the patient in bed a fortnight. Remove the pessary before dismissal.