RETRODEVIATIONS OF THE UTERUS

with special reference to

STERILITY,

and

OBSERVATION OF CASES.

In choosing this subject for a Thesis, one is bound to state that it is hard for a busy general practitioner to make reports on cases, and much harder to follow these cases treated to end results. Much has been written about retrodeviations of the uterus and possibly what I shall say will not throw any particular light upon causation and treatment of this condition; but I thought I would endeavour to write about it with special reference to sterility, and follow up the cases treated.

To give a definition of retrodeviation and retroversion, I think Herman's definition[1] is a good one. He says that retroversion is when the body of the uterus is tilted backwards and downwards and the cervix upwards and forwards; retroflexion is when the cervix is in the normal position but the body is bent backwards. In most cases retroversion and retroflexion are combined. The condition is then sometimes called retroversio flexio.

ETIOLOGY.

Most common in multipara, following parturition, the ligaments/

ligaments then being soft and the patient lying on her back. It especially occurs if she rises before involution. Distended bladder and intra-abdominal pressure, acting upon the anterior surface of the body of the uterus, completes retroversion.

Relaxation of the utero sacral ligaments due to softening.

Thickening of the utero vesical ligaments is a rare occurrence[2]. I have never seen a case.

Associated with prolapse. If retro-displacement be partial, so that the uterus lies in line of the axis of the vagina, the position is favourable to prolapse. The posterior wall of the uterus is longer than the anterior, the uterus entering at an angle inhibits prolapse unless there be defect in some of the most important structures. The position of the uterus, therefore, depends upon:-

1. Integrity of the perineum.
2. Integrity of the pelvic diaphragm.
3. The size of the vagina.
4. Condition of the parametric tissue.
5. Tonus of the utero sacral ligaments.
6. The condition of the broad ligament.
7. In a minor degree, other ligaments will influence the direction of the uterus.

Antenatal conditions lead to defects in development and predispose to malposition.

Extraneous Conditions. Ballooned caecum with accumulation of faeces: pendant transverse colon.

Estimation/

Estimation of the Supporting Agents may be made when doing vaginal hysterectomy by dragging down the cervix with a vulsellum. The first resistance is felt at the utero sacral ligaments, if these are then divided; next, the broad ligaments; then after this, the parametrium in the neighbourhood of the uterine artery[3], the round ligament is not even then on tension. If, however, the fundus be driven further backwards, a marked angle is produced - this is called retroflexion. In this condition the tendency to prolapse is somewhat diminished (Schultz). In many cases retroversion is produced by prolapse associated with torn perineum and damage to the pelvic floor and levator ani muscles. The anterior vaginal wall descends, not being so fixed as the posterior wall, bringing with it the bladder and cervix, which comes forward, the fundus falling backwards. In these cases, the utero sacral ligaments are stretched and softened, allowing the cervix to be pulled forward. As to whether the uterus descends first, or the anterior vaginal wall, matters little.

Inflammatory adhesions drawing uterus backwards as after pelvic peritonitis, or ovarian tumour pushing the uterus backwards.

Retroversion may be the normal position of the uterus in women with short anterior vaginal wall. It is also found post mortem in young infants. It may also be caused by severe blows, falls, and straining on lifting.

ANATOMY.

The uterus. Is a hollow pear shaped organ flattened Antero posteriorly situated between the bladder and the rectum. It measures in nullipara 3 inches in length and 2 inches in width at the Fallopian tubes and 1 inch in thickness, and weighs about 1½ ounces.

It consists of a body cervix and fundus.

It is on its anterior surface nearly flat and convex on its posterior. The fundus is that portion above a line joining the entrance of the Fallopian tubes. The body is between this line and the isthmus which separates it from the cervix. The uterine canal is normally in nulliparous women 2½ inches. The cervix measures about 1 inch in length. Its anterior and posterior walls are in contact.

Into the body of the uterus open the Fallopian tubes on each side which communicate with the peritoneal cavity on each side and the os communicates with the vagina below.

Mucous membrane of the cervix differs from that of the body of the uterus by being thrown into folds which present what is called the arbor vitae appearance, there being a central ridge on both anterior and posterior walls from these secondary ridges extend obliquely.

The epithelum is ciliated on the ridges but not in the depressions.

The/

The mucous membrane of the vaginal portion of the cervix resembles that of the vagina consisting of papillae covered with squamous epithelium.

The mucous membrane of the uterus is smooth and velvety and of a grayish red colour and is directly connected with the muscular cord having no submucous layer consists of columnar ciliated epithelium on a base of connective tissue between the fibres of which numerous lymph spaces are found. It has numerous glands studded over it called utricular glands which penetrate the whole thickness of the mucous layer. These glands are tubular and frequently bifurcate at their blind extremities and are lined by cylindrical epithelium resting upon a membrane propria and are more or less oblique. (Turner). They secrete a thick tenacious mucus not so thick as that of cervix.

The nerve supply is from the inferior hypogastric plexus of the sympathetic and from lumber and sacral nerves.

Blood supply from the uterine and ovarian arteries which there is no need to describe in this paper.

The veins. The uterus is surrounded by a plexus of veins beneath the peritoneum called uterine plexus which receives blood from the uterine wall and communicates with pampiniform plexus above and vesical and vaginal veins below.

Ligaments of the uterus, are -

2 utero vesical ligaments.
2 round ligaments.
2 broad ligaments.
2 utero sacral ligaments.

Utero/

Utero vesical. Two folds of peritoneum passing between the bladder and the lower portion of the uterus on each side. They may become contracted after pelvic inflammation causing retro-deviation of the uterus by pulling the cervix forward.

Round ligaments. Two fibro muscular ligaments 4-5 inches long which extend from the superior angle of the uterus in the anterior folds of broad ligaments below the Fallopian tubes forwards and outwards to the inguinal canal pass through the canal and terminate in three points the exterior which blends with the pillars of the ring near Gimbernats Ligaments. Middle fibras which terminate in the upper portion of the ring. Internal unites with the conjoined tendon. They contain areolar tissue vessels and nerves.

Broad ligaments. Two folds of peritoneum which extends from the sides of the uterus to the walls of the pelvis along a line which is situated between the great sacro sciatic notch and margin of the obturator foramen as far down as the level of the ischial spine. In the upper border runs the Fallopian tube. The part superior to this and not occupied by the Fallopian tube is called the infundibulo pelvic ligament in which runs the ovarian artery.

Utero sacral ligaments. Are composed of muscular and fibrous tissue and are covered by peritoneum in front they blend with sides of the cervix and lower uterine segment pass backwards and outwards on either side of the rectum to become lost in the connective/

connective tissue in front of the sacrum from the third sacral vertibrae downwards. They limit the normal movements of the uterus; they are greatly taxed during labour when they fix the cervix and by so doing allow the uterine contractive to drive the head of the child against the pelvic floor. They involute with the uterus during puerperium. One realises their strength when one grasps the cervix with a volsella and pulls against them during the operation of vaginal hysterectomy also by their function during labour.

If these ligaments stretch from uterus to the sacrum as almost parallel sharp bands, which they do sometimes instead of being more convex and undulating as they ordinarily are they cause congestion of the uterus if it be displaced backwards between them by pressing upon the edges of the broad ligament and so interfering with the circulation in the veins.

On each side of these ligaments lie the pararectal pouches into which the ovaries may prolapse.

The above notes have been compiled from Gray's Text Book of Anatomy and from Hart & Barbour's Gynaecology, also from examining specimens of dissections and some observations during operations.

As retroversion is often preceded by prolapse in parous women, which is due to laceration and overstretching of the pelvic floor, the anatomy of this condition must be considered. The two main conditions are the levator ani muscle and the pelvic fascia.

Without/

Without entering into the more minute anatomy of the levator ani muscle, we can quote from Gray's Anatomy[4] that it is a thin muscle attached to the inner surface of the true pelvis and descends to unite with its fellow of the opposite side, and forms the greater part of the pelvic floor. It supports the viscera in this cavity, and various structures that pass through it.

Origin. It arises from the posterior surface of the body of the pubis, external to the symphysis, behind from the spine of ischium, and between these two points, from the obturator fascia. The fibres pass downwards to the middle of the floor of the pelvis; the most posterior fibres are inserted into two segments of the coccyx. More anterior, the fibres unite with the muscle of the opposite side in a medium fibrous raphe which extends between the coccyx and the margin of the anus. Middle fibres are inserted into the sides of the rectum, blending with the sphincters. Anterior fibres descend on the sides of the vagina.

The Pelvic Fascia. The pelvic diaphragm.

The fascia of the pelvic diaphragm is what we are most interested in. It covers both surfaces of the muscle, the lower one being called the anal fascia. It is attached along the line of the levator ani muscle. Below, it is continuous with the deep layer of the triangular ligament. The layer covering the upper surface of the pelvic diaphragm is at a level of a line extending from the lower part of the symphysis to the spine of the ischium.

It/

It is a thickened white band in the upper layer of the pelvic diaphragm and is called the "white line" and marks the attachment of special fascia.

Perineal Body. Also forms a compact support for the pelvic floor. It is composed of muscular fibres, fibrous tissue and adipose tissue lying between the lower ends of the rectum and vagina. It measures 1½ inches in height, 1½ inches in breadth and ¾ inch antero posteriorly. Its base is covered by skin which is often wrongly called the perineum. Muscles attached to it are bulbo cavernosi, transversus perinei, sphinchter and levatores ani. It prevents vaginal rectocele and serves as a fixed point for the attachment of muscles.

PHYSIOLOGY of the UTERUS.

The uterus has a normal position with regard to the relations of other viscera, but not a normal direction[5]. It is movable within prescribed limits and must be so to functionate properly. It moves upwards and downwards with the bladder, pregnancy, and respiration and exercise. It is held in position by a most delicate co-ordination in action of several structures, none strongly fibrous and none inelastic, the most important being its meso or mesentery, improperly called the broad ligament. The muscular round ligament keeps the uterus forwards and, being attached distally, prevents free lateral movements. Muscular fibres run in the base of the broad ligament to the utero vesical ligaments, also to the utero sacral ligaments, which is more important./

important. These are covered by peritoneum, and are the first to feel effects of the descent of the uterus, and are therefore considered the most important ligaments, as was seen in treating the Estimation of Supporting Agents. The uterus contains ganglia, like the heart and intestines, and therefore the parametrium is connected with a sympathetic system from which ganglia pass to the urinary and intestinal tracts. More nerves are said to depart than are received, suggesting an originating centre which is connected with the first, second, third and fourth sacral nerves, and through branches of the pneumogastric may send reflexes to the respiratory centre.

The Blood Supply is controlled by the sympathetic. Internal secretion of the ovaries has a special selective effect upon the vasomotor system of the pelvic organs, so that any antenatal anatomic or physiological effect in development will be shown by irregular functionating of the nerves and muscular tissue. This is the best description I can find of Physiology of the uterus as there seems to be very little written about it in Text Books or Journals. In consideration of symptoms, it forms a good working basis for treatment.

PATHOLOGY of retroversion must be considered by observation of symptoms. Some retroversions of the uterus give rise to no symptoms; it cannot then be considered a pathological condition. It is only when descent is present with congestion or adhesions, that it becomes pathological. If the uterus is so much retrodeviated/

retrodeviated that it causes a disturbance in the circulation of the pampiniform plexus and veins in the broad ligament, then congestion occurs.[6] It is only in one case in ten of retrodeviation that congestion occurs. Herman says that if the uterus is so much retrodeviated that it sinks between the sharp firm utero sacral ligament in Douglas's pouch, the veins in the broad ligament are pressed against the sharp sides and congestion occurs which causes tenderness and enlargement of the uterus. This leads to endometritis, endocervicitis and, possibly, metritis, with all their accompanying symptoms.

Endometritis. There are two kinds of chronic endometritis:-

1. Chronic interstitial inflammation with proliferation of connective tissue. Glandular changes which may be dilated, compressed, or diminished in number, due to pressure and contraction of the connective tissue. It may finally become atrophic endometritis.
2. Hyperplasia of the endometrium. This is a common form of endometritis. It is the result of congestion and is not due to bacterial infection. It affects the glands which increase in length and become tortuous, penetrating the mucosa in corkscrew fashion, which frequently dilate, forming cysts.

SYMPTOMS.

With retrodeviation of the uterus there may be no symptoms and a woman may go all her life and never know she has an abnormal/

abnormal condition of her womb. This being the case, she should certainly not be told, the same rule applying to this condition as to floating kidney. It is only when the retrodeviated uterus gives rise to symptoms of surplus tension, or congestion, or affects the sympathetic nervous system, that it causes symptoms which are distressing. A woman with a placid temperament, good nerve tone, a good cardio-vascular system, by nature constituted to think little of her inconvenience, will find little distress: but women with unstable sympathetic system, subject to flushings, and with weak cardio-vascular systems, complain considerably. The train of symptoms, or what might be called the uterine syndrome, are:-

1. Bearing down.
2. Backache.
3. Pain in the thighs.
4. Constipation.
5. Irritability of the bladder.
6. Leucorrhoea.
7. Menorrhagia.
8. Dysmenorrhoea.
9. Abortion.
10. Sterility.
11. Reflex neuroses.
12. Dyspareunia.

And to these might be added, occipital neuralgia at times.

Bearing down pain and backache.

These are more marked in cases which have, in addition, prolapse. The pain is usually felt at the back of the sacrum.

Pain in the Thighs.

This is of reflex origin: patient becomes tired quickly on walking./

walking.

Constipation.

Said to be more frequent in retroflexion, but as women are often very careless in this matter it is not a strong point in the symptoms.

Irritability of the Bladder, due to pressure of the cervix on the neck of the bladder.

Leucorrhoea.

This is due to endometritis or endocervicitis.

Menorrhagia.

The menstrual flow is altered in about 40% of cases - increased in quantity, frequency, or both, and is no doubt due to the congested condition of the uterus.

Dysmenorrhoea is marked, especially when flexion is present, and occurs in about 38% of cases.[7]

Reflex Neuroses.

Many symptoms may be complained of, and amongst them those already mentioned - pain in the back, pain in the thighs, sometimes occipital headache, nervous dyspepsia, asthma, and hyperaesthesia. The discussion of this question is well commented upon by Gordon Dickinson, M.D.[8] who says he would be a bold surgeon who guaranteed relief by operation for these symptoms, as the distress associated with malposition is not local and there is no local change. The Pathology of this condition is that/

that of the contiguous nervous system, and these symptoms are dependent upon the nervous system and control of blood supply to it, and the internal secretions of the ovary.
Dyspareunia, is sometimes present. I have found this condition generally associated with metritis, endometritis, or prolapsed ovary, the uterus being large and tender, also the prolapsed ovary.

STERILITY.

Herman[9] says, in his book, that without symptoms retrodeviations of the uterus do not cause ill-health or sterility. This is perfectly true; many women have retrodisplacement of the uterus and have families. But they run the risk of incarceration of the uterus and abortion, and if the displacement is discovered at the time of the abortion it should be remedied before the next pregnancy has advanced to the third month. Bland Sutton[10] says there is a mechanical obstacle to conception as the cervix is turned forward and is thus away from the semen which in sexual intercourse is deposited in the posterior vaginal fornix and spermatozoa are unable to make their way through the os and then adds what is much more important and the key to the whole situation is that the prospect of cure is best when due to an inflammatory condition of the uterus but bad in tubial disease.

His classification of the causes of sterility is a good one/

one:-

I. Conditions which do not allow of conception.

II. Conditions which allow of conception, but not of development.

I. Conditions which do not allow of conception:-

1. Age. Sterility is more likely when near the menopause.

2. Deficient ovulation.

3. Uterine changes:-
Small uterus: delay or absence of pains at the menstrual period are no absolute indications of sterility.

4. In complete intercourse, but conception may occur ~~with~~ without penetration.

5. Mechanical:-
Atresia of the vagina internal or external. Atresia of the os or Fallopian tubes. The latter is believed to be a common cause of sterility. An article by Dr. Hope Lewis[15] treats of two cases of dilatation of the Fallopian tubes for sterility.

6. Retroversion and retroflexion of the uterus. Noxious discharges, septic or gonorrhoeal are injurious to the vitality of spermatozoa.

7. Endometritis and adenomatous disease of the cervix.

8. Douching.

Webster[11] divides sterility into what, I believe, is a usual classification - Absolute and Relative.

Absolute. Permanent failure owing to disease, congenital defect, absence or removal of organs.

Relative. Long interval between pregnancies (some authors include cases in which there is abortion or premature labour). He also states it may be due to abnormal flexion of the uterus and/

and that it is probably associated with inflammatory changes in the uterine mucosa.

Reviewing the literature in connection with sterility, I find very little mentioned, or stress laid upon the fact that in retrodeviation of the uterus there is always some endometritis or endocervicitis and generally leucorrhoea. It has been my experience in several cases to find these conditions. I do not think that the cause is a mechanical one, but is due to the congested condition of the uterine mucous membrane, whereby it is unable to form a suitable *n*midus for fertilization of the ovum. One often sees cases of women who have had a slight irregularity of the monthly period being a week, ten or fourteen days over time; the period has come on with a little more pain than ordinary, more clots, and lasting a little longer than usual. If one examines the clots, one finds a little tissue like decidua. I take these cases to be early abortions. It is not often that one gets the opportunity of examining the clots.

The second cause is in cases of endocervicitis in which the cervix is blocked with thick mucus, causing an absolutely impenetrable barrier to the entrance of spermatozoa. Thirdly, leucorrhoea, which is due to some infecting organism, causing a discharge which is fatal to the vitality of the spermatozoa. This may be a gonorrhoeal or septic organism. Of gonorrhoea I have little experience as the disease does not seem to be so prevalent in New Zealand. Bovee[12] says that 10% of women are absolutely/

absolutely sterile and gives, among many causes, malposition of the uterus, and, as a common cause, endometritis.

DIAGNOSIS - Retrodeviation.

On making a bimanual examination, we find the cervix nearer to the vulva than normal, and the fundus is absent from the front, and the os pointing more or less forward. On passing the finger backwards along the posterior wall of the cervix, we find the body of the uterus moves with the cervix, and is continuous with it. In retroflexion it makes an angle with it. The body of the uterus moves as a part of the cervix if a sound is used, it passes forward about an inch then, if one turns the concavity backwards, it passes full length.

Differential Diagnosis, must be made from:-

1. Fibroid in the posterior wall of the uterus.
2. Faeces in the rectum.
3. Inflammatory deposits in the pouch of Douglas.
4. Prolapsed ovary or small ovarian tumour.

In the case of a fibroid in the posterior wall, the sound passes forwards anf the fundus may be felt in front. The fibroid is felt at the back as a hard irregular mass; it is harder than the uterus.

Faeces in the rectum. The fundus is felt forward, and faeces felt as a doughy mass which pits on pressure. If in doubt, give an enema and empty the rectum.

Inflammatory/

Inflammatory mass in Douglas's pouch.

In acute inflammatory conditions it may be difficult, as a sound cannot be used. Finding the fundus in the front is the chief element in diagnosis. When the inflammation has subsided, use the sound.

From an ovarian cyst or prolapsed ovary. The fundus is in front of the cyst or ovary and distinct from it. Pass the sound or drag down the cervix with vulsellum. If in doubt in cases of fibroid, inflammatory deposit or prolapse of the ovary, when the fundus cannot be felt owing to rigidity or fat in the abdominal wall, give an anaesthetic and then examine. Before using the sound, always ascertain that there is no pregnancy.

TREATMENT.

Prophylaxis during labour is the most important part of treatment in this condition, and should be carried out by careful attention at the time of delivery. Precautions should be taken to preserve the perineum and any rupture of the same, however small, should be stitched up promptly, at the time if possible, or within twelve hours. I have often found that with the use of forceps with the administration of chloroform, not using any forcible pulling movement, I have been able to manipulate the head over the perineum, using forceps to restrain the head if the pains are strong and the perineum rigid, thus allowing the perineum to gradually stretch. If it is not possible, owing to the/

the condition of the patient, to stitch at the time of delivery, the patient is carefully douched and a dressing of antiseptic gauze applied to the wound. If a trained nurse be in attendance, the dressing is changed and the wound bathed with a solution of lysol or creolin (℥j to the pint) every four hours. Just before the arrival of the doctor, the vagina is again douched before being stitched. Special attention should be paid to the lateral tears which involve the levator ani muscle at the time of stitching. If a tear is extensive at the time of delivery, I think it is much better to leave it until assistance can be got than to do it at the time, more especially if the light is bad and one is working by the light of a candle. It is better to wait until daylight, then put patient in the lithotomy position, where everything can be seen satisfactorily, and where the cervix can be examined and stitched if necessary. For stitches I use Red Cross catgut, which is put up in sterile envelopes, for the internal stitches, and silk-worm gut for the skin.

Prophylaxis during puerperium.

Rest in bed for ten days in the ordinary labour for multiparous women; for primiparous, fourteen days. If there be any perineal or cervical complication, they may be kept in bed for three weeks. Examination before rising to see if the perineum has healed, to ascertain if there be any subinvolution or descent of the uterus on strain or coughing. If there is descent of the uterus or any tendency to retrodeviation, this should/

should be remedied and a ring pessary worn for a variable period of three months or more, examination being made monthly to ascertain the progress.

If one gets a case properly under one's control, one can prevent retrodeviation and prolapse, with all their sequelae. Unfortunately this is not ~~often~~ always possible.

Anticipation of rupture by inserting sutures into the perineum before delivery is a good method of stitching the perineum, passing the sutures through the skin into the vagina, and out through the skin on the other side, taking a good bite of the vaginal mucous membrane. These stitches are very good but must be well inspected before tieing them to see that they fulfil all requirements, and if not, must be supplemented by other sutures afterwards.

Treatment may be divided into two classes - Minor, not needing active surgical treatment; and, major, needing active surgical treatment.

In class 1 I include those cases in which a mild curetting and cauterization with iodised phenol, or repair of cervix, replacing the uterus and putting in a pessary which should be worn until the involution has occurred and structures have gained their tone, which may be in about three or four months time. Sometimes pregnancy has occurred before pessary has been removed, the most important part of this treatment is the curetting and cauterization, as in all the cases/

cases I have seen, whether a nullipara or parous woman, the retrodeviation has always been complicated with endometritis, endocervicitis, and leucorrhoea.

There are cases in which all these conditions are present, and it is to be wondered at sometimes how pregnancy occurs. It may be due, in these cases, to the strong mobile power of the spermatozoa which enable them to find their way into the uterus. With restoration of the uterus to its normal position, thus relieving congestion, and curetting, the conditions for pregnancy are more favourable. As a rule, the curetting should be light, but in those cases associated with large, tender, soft and what I call succulent uterus, curetting is no good unless it be sharp and cauterization perfect. I often pack the uterus with iodoform gauze for twenty-four hours to get absorption of the discharge and stimulation of the uterus.

Cases requiring active surgical treatment.

Repair of the perineum. Many operations are described for repaur of perineum, all having for their object the restoration of the vaginal outlet of the perineal body, and the uniting of the torn levator ani muscles. The operation I have done mostly is one described by Victor Bonney, in his Text Book on Gynaecological Surgery[13], which consists in raising a flap of mucous membrane just behind the posterior limit of the vaginal outlet, by means of scissors. This is extended up to just behind the posterior extremity of each labium minor of each side, forming/

forming a U-shaped flap. This may be facilitated by passing a gloved finger into the rectum or, what I think is better, having an assistant to do this. When the flap has been thoroughly dissected out, a V-shaped portion is cut out of it with its apex towards the cervix. This is done to get rid of the redundancy or mucous membrane which is present in all tears because the raw surfaces are covered over by newly formed mucous membrane, and a condition more approaching the normal is obtained by excising it. The V-shaped ~~incision~~ flap is now held up at each extremity of the V by two pairs of artery forceps, while the gap is closed up with cat gut sutures with a curved needle. The edges of the levator ani muscle are now approximated where great relaxation of the vagina is present. The edges of the muscle are seen in the depths of the wound as a couple of ridges, one on either side. Their origin at the symphysis pubis may be felt per rectum sometimes.

The edges being thus defined are united with cat gut sutures interrupted. This is not always necessary as the edges can be included in the deep sutures used for closing the wound, if there be not too much separation of the muscles. Deep sutures are put in through the skin of one side with a curved needle, the needle entering the skin external to the raw surface on the right side, and emerging at the corresponding point on the left side, being passed as deep as possible without wounding the/

the rectum. Three or four are passed, the most anterior one corresponding to the upper limit of the incision. The posterior one is tied first, the others being held out of the way in the meantime, and tied afterwards.

Victor Bonney threads the two ends of the suture through a coil of silver wire, and afterwards through a perforated shot which is crushed when the wound is approximated and tension sufficient.

Operation on the Uterus and Round Ligaments.

1. Alexander Adams' operation is an excellent procedure if one can be certain of :-

(1) Of finding the round ligaments and that they are sufficiently strong to be used in holding the uterus forwards.

(2) That there are no adhesions holding the uterus backwards.

(3) That the appendages are normal.

Symptoms complained of may not be due to the uterine conditions altogether.

I have never done the operation myself, but have assisted at it in the case of a patient of my own in which I considered her symptoms more ovarian than uterine. I was not on the Staff of the Hospital at the time and, on admission, her symptoms were put down to retrodeviation of the uterus, the prolapsed ovary not being diagnosed. At the operation a big round ligament was found on the right side, but was absent on the left. The right liagment was fixed/

fixed, but the operation did no good. She returned to Hospital and a laparotomy was done and a large cystic ovary removed and ventrosuspension done, which relieved the symptoms.

2. Ventrofixation done by opening the abdomen, stitching the fundus of the uterus to the posterior layer of the aponeurosis of the rectus muscle, omitting the peritoneum, allowing it to fall as a curtain on to the fundus closing in the dead space between the bladder and the anterior abdominal wall. The peritoneum over the bladder in the middle line is picked up and sutured to the anterior abdominal wall, so as to make it impossible for the bowel to become strangulated into the aperture. Three stitches of cat gut are passed through the anterior surface of the uterus and the aponeurosis of the rectus muscle, one-third of an inch apart, commencing at the utero vesical reflexion and ending at the fundus, omitting the parietal peritoneum. The peritoneum of the anterior abdominal wall is closed up to the level of the uterine stitches. This operation now is reserved for women past the child bearing age, except in exceptional cases such as great relaxation of the pelvic floor.

3. Ventro-suspension.

This operation consists in stitching the fundus of the uterus to the parietal peritoneum in the way described by Kelly[14], the needle being pushed through the peritoneum about one-third of an inch/

inch from the cut edge, and emerging about half an inch away, then being passed through the uterus and through the parietal peritoneum again in the same way. In closing the abdominal wound, the cut edges of the peritoneum are sutured in the ordinary way. This may be called the loose suspension method, as the loose peritoneum forms a ligament which slings the uterus up. I have abandoned this operation, after having one case of intestinal obstruction when the woman became pregnant. The obstruction, however, was relieved by copious enemas and the patient went on to full time.

4. Gilliam's operation, or intraperitoneal shortening of the round ligaments, gives very excellent results, but is open to the objection that it encroaches upon the integrity of the peritoneal cavity by passage of the round ligaments across it. I have never seen any ill effects from it and it is easily done.

The round ligaments are grasped one and a half to two inches away from the uterine cornea, that is, midway between the uterine cornea and the abdominal ring, by passing around them a ligature of stout silk or Pagensticher thread. A pair of long jawed forceps are then thrust through the aponeurosis of the rectus muscle, the rectus muscle itself, and the peritoneum, and made to grasp the silk ligature around the round ligament which is pulled through the opening, bringing with it a loop of the ligament which is stitched to the opening anteriorly in the aponeurosis of the rectus, the same/

same being done to the peritoneum posteriorly to prevent ventral hernia.

If there is much prolapse this operation is not to be recommended, as it does not exert a sufficient direct pull on the pelvic floor.

5. Retroperitoneal Shortening of the Round Ligament.

This operation can be performed in the place of Gilliam's if the round ligaments are suitable strong. The abdomen having been opened, a strong silk ligature is passed round the round ligament midway between the uterine cornea and abdominal ring, as in Gilliam's operation. A slit is now made in the broad ligament at this point. An aneurism needle, with a good wide curve, is now threaded with the silk ligature and is passed through the slit between the peritoneum and the aponeurosis of the internal oblique to the internal abdominal ring, then forwards to the rectus muscle about half an inch from the primary incision. If any difficulty is experienced in doing this, the rectus fascia is incised with a knife, the needle carrying the ligature is then thrust through. The ligature is then pulled up, bringing with it a loop of the round ligament, which is stitched to the fascia in front and the peritoneum behind. I generally do the operation in this way, using a right and left Cleveland's ligature carrier with blunted points instead of an aneurism needle, the curve being well adapted to carrying the ligature.

The operation can be done the reverse way if preferred, going from/

from before backwards.

I think this operation a good one, it does not interfere with the peritoneal cavity and seems to fulfil all requirements.

Reflex Neurosis.

As has been pointed out in the Physiology and in commenting upon symptoms that operative treatment does very little good for these conditions and treatment must be devoted to the nervous system.

In France vaginal and perineal massage is used but has not met with much favour in this country. It is considered a dangerous remedy.

General massage with electrical treatment combined with cold douches and treatment of constipation with the use of bromides and tonics is much safer, but must be persisted in for a long time as these cases are very obstinate. Pregnancy will often do more towards a cure than anything else. In unmarried women marriage often cures all their symptoms.

REPORT UPON CASES.

I have divided my cases into 3 groups according to treatment.

I. Cases not needing active Surgical Treatment.

II. Cases needing active Surgical Treatment.

In addition to these, 2 cases of acute Retrodeviation.

Of class 1, I have not many cases I can quote, but in these three out of the four cases became pregnant after treatment. In order to avoid repetition of symptoms which have already been given I will not repeat them unless to add some unusual condition.

A. Mrs. A., aged 24. After being married about six months had a slight irregularity in her period, going over her time for a fortnight. When called in she stated that period had come on with good deal of pain. She had passed clots, where were, however, thrown away and could not be inspected. I told her it was an early miscarriage and that I wished to examine her but she did not wish it and both she and her husband treated the matter very lightly. She had been married two years when her husband came to see me to ask if I could give any reason for her not becoming pregnant. I saw her by appointment and examination found a retroversion of uterus with some amount of prolapse. As anything in the way of an operative treatment was strongly objected to I cauterised the cervix which was eroded, replaced the uterus by putting patient in the knee and elbow position and pulling on the cervix with a volsellum, placing in a Hodge pessary which I moulded/

moulded by heat to the size required. This gave a good deal of relief to the pain in the back and dragging sensation which she experienced formerly. She became pregnant within one year of the time of insertion of the pessary and was delivered of a full time child after a short and easy labour. After birth of the child she discarded the use of the pessary but the uterus kept in a fair position for a time then sank back into the old position and pessary had to be replaced. The next pregnancy a year afterwards was a ruptured tubal ectopic upon which I had to operate and at the same time did a ventro suspension of the uterus.

B. Mrs. B., aged 25. Consulted me for symptoms of uterine trouble She had one child 5 years old. On examination I found prolapse of the uterus with retroversion, leucorrhoea and endometritis, uterus soft and flabby. A sharp curetting was done, uterus cauterised with iodised Phenol and a ring pessary inserted. Within the year she became pregnant and was delivered of a full time male child.

C. Mrs. C., aged 26. One child, 3 years ago, born dead, after stiff forceps delivery. On examination revealed torn perineum, prolapse and retroversion of the uterus, profuse leucorrhoea and endometritis.

This was a case in which active Surgical Treatment should have been carried out but any operation of a cutting nature was strongly objected to, so uterus was curetted, cauterised and ring pessary inserted. Within six months she became pregnant and was delivered/

delivered safely of a full time male child. The labour was a very difficult one with rigid os necessitating dilatation with De Ribes bag and forceps delivery.

D. Mrs. D., aged 30. Married 7 years. Two children. Youngest 4 years old. Complains of symptoms referrable to uterine trouble.

Examination was unsatisfactory. Fundus of the uterus could not be felt but there was prolapse.

She was again examined under an anosthetic when a somewhat peculiar condition was found. The fundus was found to be neither anteverted nor retroverted but seemed to stand straight up at a very obtuse angle from the cervix which was pointing more or less forward. 16. Pryor classifies this as the first degree of retroversion. An attempt was made to bring the fundus forward but failed. As she took the anosthetic badly no more was attempted. She wore a ring pessary on and off for about 3 years which seems to have cured her condition as she no longer complains. She did not become pregnant, however, until 10 years later when she had an early miscarriage, but the pregnancy is too remote, I think, to have any bearing upon the treatment 10 years before.

Active Surgical Treatment.

I. Miss E., Nullipara, aged 18. Shop girl. Complained of uterine symptoms. She had to go to bed for two days at period. Blood passed in clots with great pain. Peried lasted 7 days. Became so bad that she had to give up her occupation.

On/

On examination her uterus was found retroflexed to a marked degree and there was a prolapsed ovary erosion of the cervix and profuse leuorrhoea. As she was unable to follow her occupation on account of being away so often I advised an operation. She was admitted into the Hospital and operated upon May 25th. 1906. Curetting was first done. The uterus was fixed by ventrofixation, stitching the fundus of the uterus to the posterior layer of the rectus sheath omitting peritoneum. The left ovary was found large and cystic with practically no ovarian tissue in it so was removed. She was dismissed from the Hospital on June 25th. 1906. Since has married and has had 2 children, both easy forceps case and no profuse hemorrhage.

II. Mrs. F., aged 32. 3 children, last one five years old. Consulted me about uterine symptoms and protrusion of the mucous membrane of the vagina.

Examination revealed torn perineum, erosion of the os, retroversion and prolapse of the uterus. I advised operation as I did not consider in this case pessary would do any good.

Admitted into Hospital, September 1907. Curetted perineum. repaired. Ventrofixation done. Discharged October 12th. 1907, relieved of all symptoms. Five months afterwards became pregnant and was delivered at 2 a.m. one morning after a labour of 14 hours with chloroform and forceps. There was no excessive hemorrhage at the time. At 4 p.m. I was called again to see her on account of/

of bleeding and found her blanched with rapid pulse and respiration. The Nurse had already given her hot douch, raised the head of the bed and bandaged the legs before I arrived. With a full dose of ergotoxin, 1/20 gr. of strychine and uterine massage, hemorrhage soon ceased and did not recur. She made an uninterrupted recovery and has since had another baby, without any excessive hemorrhage. Uterus in position all right. This is the only case in which I have seen severe hemorrhage follow fixation of uterus.

III. Mrs. G., aged 29. One child, 5 years, suffering from signs of prolapse and retrodisplacement of uterus and dysparaeunia with neurasthenic symptoms.

Examination revealed torn perineum, retroversion of the uterus and prolapsed ovary. I advised operation. Admitted into the Hospital April 16th. 1909, and ventrofixation done in the same manner as formerly, curetted and perineum repaired. Cyst of ovary was removed. Was discharged 5th May, 1909.

Result not much relieved of symptoms and it was hoped that if pregnancy resulted she would be cured. She was not willing to become pregnant, but has evidently changed her mind as just before I left New Zealand she was eight months pregnant and was carrying the child well and feeling much better. Up to the time of the operation no preventative means had been used to prevent pregnancy but after I was informed by her husband that they were used and as soon as they were stopped she became pregnant.

IV. Mrs. H., aged 28. One child, 10 years old. Husband dead. She has been married again 3 years and no children. She had 2 miscarriages which had to be curetted. It was found that the uterus was retroflexed and at last miscarriage at between 3 and 4 months was incarcerated in the pelvix, producing abortion.

Attempts were made to replace uterus and keep in place with a pessary, but the result was not a good one and one could not straighten the retroflexion so operation was advised. Admitted into the Hospital, May 27th. 1909. Examination shewed that perineum was sound so a light curetting was done. Operation in this case was ventrosuspension, the uterus being stitched to the peritoneum only by loose suspension. She was discharged June 26th. 1909. Became pregnant 3 months afterwards and was delivered with chloroform and easy forceps after a labour of 12 hours with a full time child and no excessive bleeding. During pregnancy she had three attacks of intestinal obstruction, already mentioned in describing this operation.

V. Mrs. I., aged 33. First confinement 10 years ago was a bad one, necessitating dilatation of os, high forceps with extensive laceration of pelvic floor and perineum due to the large head of the child. The perineum was repaired at a subsequent date 3 months afterwards. It was not done at the time as she suffered from puerpural sepsis. The perineum broke down and she had a prolapse of the uterus with retroversion.

Further/

Further operation was refused. At intervals of a year and a half she had two miscarriages, one at the second month and one at the third month. On each occasion that she became pregnant the prolapse became worse and finally the out vaginal wall protruded and ulcerated.

She was admitted into Hospital on February 1st 1910 for operation. Perineum was repaired and ventrofixation done. Fixation was thought to be better than suspension in this case on account of the great degree of prolapse. Discharged March 5th. A year later she was delivered of a full time child before I could arrive after a short labour. Had again become pregnant before leaving New Zealand.

VI. Mrs. J., aged 24. Two children. Admitted into the Hospital September 20th. 1909. Suffering fron retroflexion. Gilliams operation was performed. Discharged October 16th. 1909, relieved of her symptoms. She has since been confined by another doctor so that I have no particulars of her case except that she became pregnant shortly after the operation.

VII. Mrs. K., aged 28 years. One child. Was admitted into the Hospital for operation in my week, suffering from retroversion of the uterus. In this case Gilliam's operation was done and ovarian cyst excised. Delivered a year later by me of a full time child. She had previous to the operation 2 miscarriages for which she was attended by another Medical man.

ACUTE RETROVERSION OF THE UTERUS.

I. Mrs. A., aged 21 years. Married one year. While hanging a picture on the wall the steps upon which she was standing gave way and she was thrown violently to the ground and in making an attempt to safe herself felt something give way inside. On examination it was found that the uterus was displaced backwards and on straining was found to be prolapsed to a considerable degree and was moveable with pain.

Symptoms.

She had an acute pain at the time in the back, bearing down pains in front, with a feeling of some weight in the vagina, frequency and painful micturition and some abdominal distension and shock.

Treated with rest in bed for 14 days, then allowed up with a ring pessary inserted. In this case, although many pessaries were tried none fitted. Uterus was very mobile and had a big range of movement upwards and downwards. Operation was refused. She became pregnant and had a miscarriage at the third month and again a year later between the third and fourth month.

Whether the retroversion existed before the accident it, of course, is impossible to say, although she never complained of any symptoms referrable to this condition.

What most likely happened in this case is that the uterus was forced between the layers of the levator ani muscle in the same/

same way as inguinal hernia is driven through the anterior and exterior abdominal ring followed by the prolapse of a small intestine due to sudden increased intra-abdominal pressure, thus causing the relaxed condition of the vaginal walls.

What one would have liked to do in this case was to repair the vaginal outlet, making an attempt to bring together the fibres of levator ani.

This is a case in which the uterus being enlarged and congested is an unstable nidus for fertilization of the ovum.

II. Mrs. B., aged 45 years. Multipara. Six children. Youngest 14 years. Not yet at the menopause.

Was digging in the garden and with a greater muscular exertion than usual she attempted to dig up a tough root of a bush. She felt something give way inside. Became very faint and sick and almost immediately had a desire to micturate with bearing down pain. On examination she had an old laceration of perineum not very bad but the uterus was retroverted and tender, os hypertrophied and eroded. As it looked somewhat suspicious a section was cut out of it and submitted to the Government Pathological Department in Wellington but was found to contain only ordinary cervical tissue. The erosion was treated with Iodised Phenol and uterus was replaced and ring pessary put in. Many attempts were made to put in a properly fitting pessary but it was not possible to get one to fit on account of the want of support/

support of perineum. Advised operation which was consented to. In this case undoubtedly the hypertrophied condition of the cervix added considerably to the weight of the uterus, hence assisting in the acute prolapse. Admitted into the Hospital, June 5th. 1906, and the uterus was fixed to the posterior sheath of the rectus, the perineum being also repaired. After the operation she got immediate relief from the bearing down pain and urinary symptoms passed off more gradually. She was discharged July 7th. 1906.

I have had an opportunity of observing this case for the past 6 years and by patient's consent have examined her on occasions and have found the uterus firmly fixed into position. The last time I examined her she had reached menopause. She does her ordinary duties in the house and by advice avoids heavy lifting and straining and is perfectly well.

Mrs. A. Case of retroversion complicated with ovarian cyst. In this case patient was formerly Sister in the Male Ward of our Hospital. She came to me saying that she had been married 3 years and had no family. She had no symptoms referrable to any uterine condition, no dysmerrhoea, menorrhagia or pain.

On examination she had a retroverted uterus with cervical erosion and endocervicitis which was cauterised.

I told her that I did not see any reason why she should not become pregnant, that although her uterus was out of place it was not/

not causing any symptoms and she had better wait a little. She insisted on operation and after interviewing her husband and ascertaining there was no deficiency upon his side, I operated doing the ventrosuspension. On opening the abdomen I found the ovarian cyst the size of an orange with thin walls on the left side which lay in front of the body of the uterus pushing it backwards.

This operation was done just before leaving New Zealand so I do not know what the effect has been.

In this case the uterus was displaced by the ovarian cyst which could not be felt by bimanual examination and possibly was the cause of her sterility and would have had to be removed sometime or another.

So far the cases examined ~~do not~~ shew the relationship of retrodisplacement to sterility but I may say that I have done operations where it does not seem to have affected the condition so far as one can see. On going over cases I have been able to trace I find out of 15 operations done upon married women at a child bearing age 9 have become pregnant, all having full time confinements with practically no complications. In all these cases reported, the presence of sterility of the male has been excluded. As regards ~~the~~ gonorrhoea and the semen, have examined microscopically in some cases of doubt.

Choice of operation. In the Napier Hospital, New Zealand, there have/

have been an evolution in operations, the one usually done at first was Ventrofixation about the year 1900 and was practiced for some years, then ventrosuspension operation came in. Next Alexander Adams which was not used very much. After that Gilliams, then finally Montgomery's retro peritoneal shortening of the round Ligaments. The latter operation is I think the operation of choice provided the round Ligaments are strong.

At a Medical Congress this year in Brighton in the discussion on Mrs. Scharlieb's (of London) the Paper upon retrodisplacement of the uterus, there seemed to be a great difference of opinion as to which was the best operative measure to pursue, some doing ventrofixation omitting the peritoneum, others doing Gilliams and Montgomery's operation was specially commended by others. Dr. Giles (London) recommends hysteropexy and numbers his operations by some hundreds. Others operate less frequently, among whom is Mr. Cuthbert Lockyer who is inclined to use rest in bed, massage to the perineum and vagina and tonics, if in a patient of the working class a ring pessary. Dr. Dickinson (New York) recommends retroversion to be left alone unless complicated by prolapse.

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