A NEW METHOD OF VENTRO-FIXATION, BEING A MODIFICATION OF ALEX- ANDER'S OPERATION FOR RETRO- VERSION AND PROLAPSE.

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It will, I think, be admitted by all that the operation of ventro-fixation of the uterus as usually practised is accompanied with disadvantages and in some cases ends in failure. First, there is the presence of buried sutures connecting the uterine fundus with the abdominal wall. Secondly, the injurious effects which these sutures and the accompanying adhesions exercise on the normal progress of any subsequent pregnancy. Though these effects may not be so serious as in the case of vaginal fixation, yet trouble has arisen in several recorded cases. Finally, the operation in a certain number of cases fails to cure the disease. The failure seems to be due in some cases to actual elongation of the uterus itself by the forcible drag of vaginal walls and bladder; these are protruded and pull on the lower uterine segment at the point of reflection or attachment and eventually carry this point below the vulva, even though the adhesion of the fundus to the abdominal wall remains unbroken. In one case of my own this occurred and was only cured by hysterectomy. In other cases the adhesions themselves seem either to have stretched or given way, allowing a re-prolapse of the organ as a whole. It would seem therefore desirable that any method which might obviate some of these troubles should be tried.

In the last three cases of complete prolapse in which I have operated I have proceeded as follows. The abdomen is opened in the usual way. The round ligament on one side is then identified as it passes from the fundus to the pelvic brim; the ligament, with its investing fold of peritoneum constituting the free edge of the broad ligament, is pinched up between the finger and thumb at a point a finger's breadth distant from the uterus. The peritoneum is in this way made tight over the ligament. A small incision is made through the peritoneum just over the ligament and the loosely connected fibres of the ligament isolated, and the exposed portion freed and turned out of its investing membrane, by means of the finger and thumb nails, blunt dissector, or hook. When well isolated it can be pulled upon and made tense peripherally, and when thus tightened, it is divided with a snip of the scissors as it stands up covered with peritoneum near the brim of the pelvis or at any spot which gives enough length of tendon to work with. This should not be less than three inches. Now, by sliding back the peritoneum with the finger and thumb of one hand and at the same time making traction on the ligament in a peripheral direction with the other, the ligament can be pulled out of the peritoneum along its entire course up to the point at which it has been divided like a finger out of a glove, leaving it of course still attached to the fundus. The same process is repeated on the other side. It is important in doing this to see that the whole thickness of the ligament is included and liberated in the first instance, in order to avoid drawing out a few only of the frayed-out fibres. It should come out as a whitish cord as thick as a No. 8 or No. 12 catheter, or in some cases larger. If any small vessel be divided in the peritoneum either in the first incision or in the cut with the scissors, pressure with a Wells forceps for a few minutes will be sufficient.

We have now the uterine fundus with the two ligaments or animal ligatures attached, and it remains to describe the way in which they may be used to fasten the uterus in its new position. Up to the present I have proceeded as follows. Sliding the skin on one side, I pass a pair of sinus forceps through the whole thickness of the abdominal wall on one side of the incision, not, however, including the peritoneum. The end of the ligament is seized with the forceps and drawn through and the same process repeated on the other side; the uterus is now steadied against the abdominal wall and the sides of the incision approximated. In some cases I have then tied the two ligaments in a knot over the abdominal incision in front beneath the skin; in others I have stitched the ends together or stitched each one down, folded on itself, to the abdominal wall; the rest of the incision is closed in two or more layers and the skin sutured over in the ordinary way. It is important to raise and fasten the fundus

to the abdominal wall at a sufficiently high point above the pubes, as I feel sure that in many cases the uterus is fastened too low down and the stretched vaginal walls are not pulled fully up.

The advantages which this method of fixing the uterus offers over those in which sutures are used are, firstly, that all dead ligatures are avoided within the peritoneum; secondly, that no suture is passed into the uterus itself; and, thirdly, that in the case of subsequent pregnancy the suspending round ligaments would by undergoing hypertrophy and lengthening allow the fundus to rise in the abdomen.

As to the permanency of the results. I have inquired into the conditions of three patients, all multiparæ above middle age, and all bad cases, in which pessaries had been tried and failed, operated on eight months, seven months, and four months ago respectively with the following results. In the case of the patient operated on eight months ago she now gets about and can walk two miles in comfort, though there is still some prolapse of the posterior vaginal wall, yet the os can be felt in the standing posture well up behind the pubes. In the second case the patient is travelling about with a barrel organ, but I have not been able to make an examination. In the third case the medical man under whose care the patient is writes that the operation has been a success as regards the prolapse. But it is not only in prolapse that the method of utilising the round ligaments within the abdomen may be practised. In cases of retroflexion which cannot be satisfactorily treated by pessaries—for the class of cases, in fact, in which Alexander's operation would be appropriate—I find that good results can be obtained. The method is as follows. The abdomen is opened in the usual way; this at the onset secures the great advantage, absent in Alexander's method, of finding out exactly the condition of the uterus and its appendages and the presence or absence of adhesions or inflammatory disease. If it be now decided to treat the retroflexion by shortening the round ligaments from within the abdomen we proceed thus: The round ligament is identified and raised in its investing fold of peritoneum on one side at a point between the fundus and the brim of the pelvis, an incision is made over it and the ligament isolated as in the case of the operation for prolapse; then, partly by traction and partly by pushing back the peritoneum, a loop of the ligament is drawn out of sufficient length to cause the necessary amount of forward traction on the uterus; and the loop thus isolated is ligatured at its base with silk, the part of the loop beyond the ligature being cut away and the ligatured portion allowed to drop back within the broad ligament. The same operation is then repeated on the other side. In the case of a young unmarried girl, aged twenty-five years, in whom I performed this operation two months ago I have heard lately that she is now able to carry out the duties of a domestic servant. I was led to try this simple plan of finding and shortening the round ligaments partly because I had myself failed in one instance after careful search to find sufficient of the ligament in the inguinal canal to successfully carry out Alexander's operation and partly because other surgeons have also failed in the same way.

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THE BACTERIOLOGICAL DIAGNOSIS OF CERTAIN INFECTIOUS DISEASES IN CONNEXION WITH PUBLIC HEALTH WORK.¹

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III. DIPHTHERIA.

So much is already known of the methods in use for the bacteriological diagnosis of diphtheria that I shall simply describe the way in which the work is carried out in my laboratory, and though we cannot claim in Manchester to have been the first to apply this method of diagnosis in public health work we have by careful consideration of the

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