

TECHNIC OF REPAIR OF ENTEROCELE
(POSTERIOR VAGINAL HERNIA)
AND RECTOCELE

AS AN ENTITY, AND WHEN ASSOCIATED WITH
PROLAPSE OF THE UTERUS

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The subject of this paper is limited to hernias involving the posterior vaginal wall, which we frequently encounter and recognize under the designation of rectocele, and to the much rarer hernia which is made up of the culdesac of Douglas, with its intestinal contents dissecting its way downward between the posterior vaginal wall and the rectum, known as vaginal enterocele or posterior vaginal hernia.

The common condition of rectocele is the result of impairment of the function of the pelvic floor (the inability to properly close the vaginal mouth), due to injury in childbirth, thus allowing the vaginal wall to roll downward and outward with the attached rectum. This anatomic change in the relation of the parts alters the normal mechanism of defecation, the direction of the fecal current being changed so that the anterior rectal wall and the posterior vaginal wall receive the brunt of the strain and, consequently, protrude more and more until a distinct rectal pouch is formed, which renders complete emptying of the rectum difficult. In cases in which the fascial support of the vaginal wall has been torn or is attenuated, the rectocele may develop to a large size, with resulting aggravation of symptoms.

The usual methods in vogue for curing this hernia are based on the principle of either denudation of the

posterior vaginal tissue and approximation of the cut edges or resection of the excess vaginal wall with plication of the bowel. The result, so far as the bowel is concerned, is to throw it into folds, which must tend to be smoothed out by the daily passage of fecal masses, especially if constipation exists. In all these operations, a perineorrhaphy is relied on to close the vaginal orifice and thus prevent further descensus of the vaginal walls. In the majority of cases with a small or moderate sized rectocele, these methods are satisfactory in their results, the so-called "interposition" or levator muscle operation being superior to the typical Emmet, in my opinion, so far as the rectocele is concerned.

In large rectoceles, however, the usual operative procedures do not give as perfect a permanent result as is desired. For the last twelve years, I have been employing the principle in curing rectocele that is so successful in cystocele when the bladder is separated from its vaginal and uterine attachments and carried to a higher position, as in the technic of Goffe. I published a report of the operation in 1913.¹

The operation consists, first, in completely separating the rectum from the posterior vaginal wall as far up as the culdesac of Douglas, and then sliding the loosened rectal pouch high up along the vaginal wall by means of a suture. Thus, the denuded rectum is carried up and placed so as to adhere strongly to the upper undamaged third of the posterior vagina, which is above the former site of the rectocele. The pouched part of the vaginal wall which entered into the formation of the rectocele is then cut away, and the operation completed by a perineorrhaphy, in which the pubococcygeal portion of the levators are exposed and approximated in front of the rectum, thus making a strong barrier to further descent. An extensive experience with this technic in many hundreds of cases in my hands has proved the soundness of the principle

1. Ward, G. G., Jr.: *Surg., Gynec. & Obst.*, September, 1913, p. 361.

employed and has been uniformly successful in permanently relieving these patients of their symptoms.

Bissell has applied the principle of fascia lapping in the cure of this condition. My objection to this technic is that the normal balloon shape of the vagina is liable to be changed by it, the upper vagina being considerably reduced in size, and that it is too complicated and time consuming, although the results Bissell has obtained are excellent.²

Posterior vaginal hernia, or "enterocele," has been considered a very rare condition, and the textbooks either ignore it entirely or give but a few lines calling attention to its infrequency. Likewise, a search of the literature shows that very few cases are recorded. Sir Astley Cooper, in his classic work on hernia, in 1804, published an illustration of an undoubted case. For- dyce Barker and T. Gaillard Thomas have reported cases, and, in 1916, Hartman³ of Paris published a typical case, with the technic he employed for its cure from below. The most recent report I have been able to find was made by Sweetser,⁴ in 1919, illustrative of the extreme type in a nulliparous woman.

The rarity of this condition is undoubtedly due to the obliquity of the pelvic cavity in the erect posture, the intra-abdominal pressure thus being deflected forward, and to the very strong pelvic and rectovesical fasciae whose fibers are intimately interwoven with the walls of the canals passing through the pelvic floor. Moschcowitz⁵ calls attention to the fact that this fascia has a funnel shape attachment to the rectum and that a defect here will allow the intestine to push through along the rectal wall to the levators, pushing the peritoneal lining of the culdesac ahead of it. Such a congenital defect in the fascial attachments would, therefore, account for such condition in a virgin.

2. Bissell, Dougal: *Tr. Am. Gynec. Soc.* 43: 157, 1918.

3. Hartman, H.: *Ann. de gynéc. et d'obst.* 12: 351 (Nov.-Dec.) 1916.

4. Sweetser, H. B.: *Ann. Surg.* 69: 609 (June) 1919.

5. Moschcowitz, A. V.: *Surg., Gynec. & Obst.*, July, 1912.

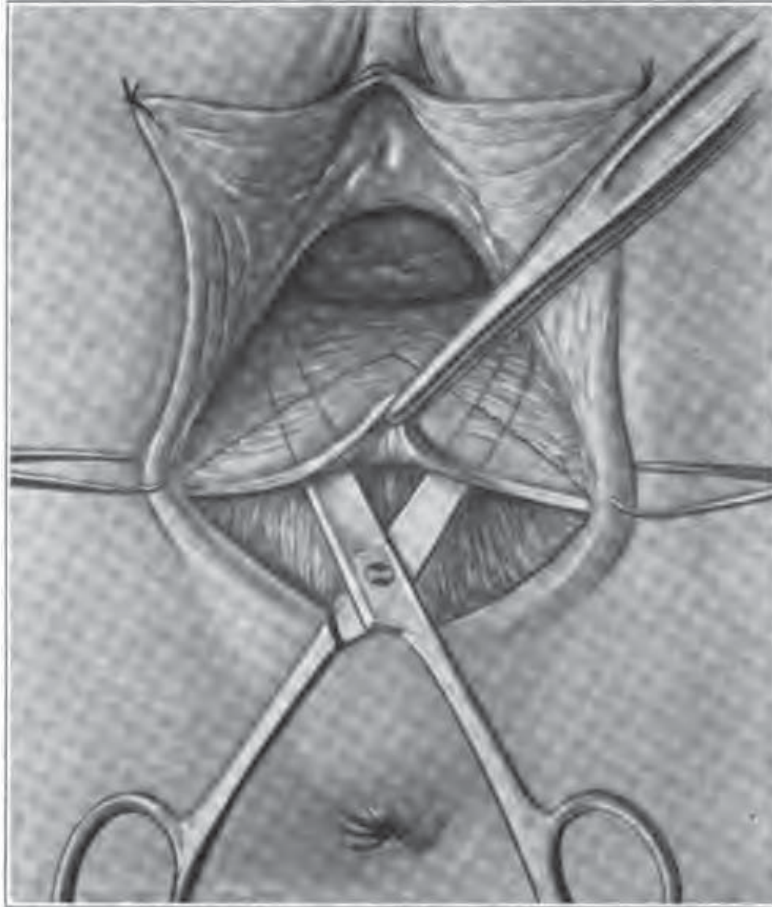


Fig. 1.—Technic of rectopexy for rectocele: The vagina is separated from the rectum with scissors; the dissection extends well above the line marked for the excision of the vaginal wall.

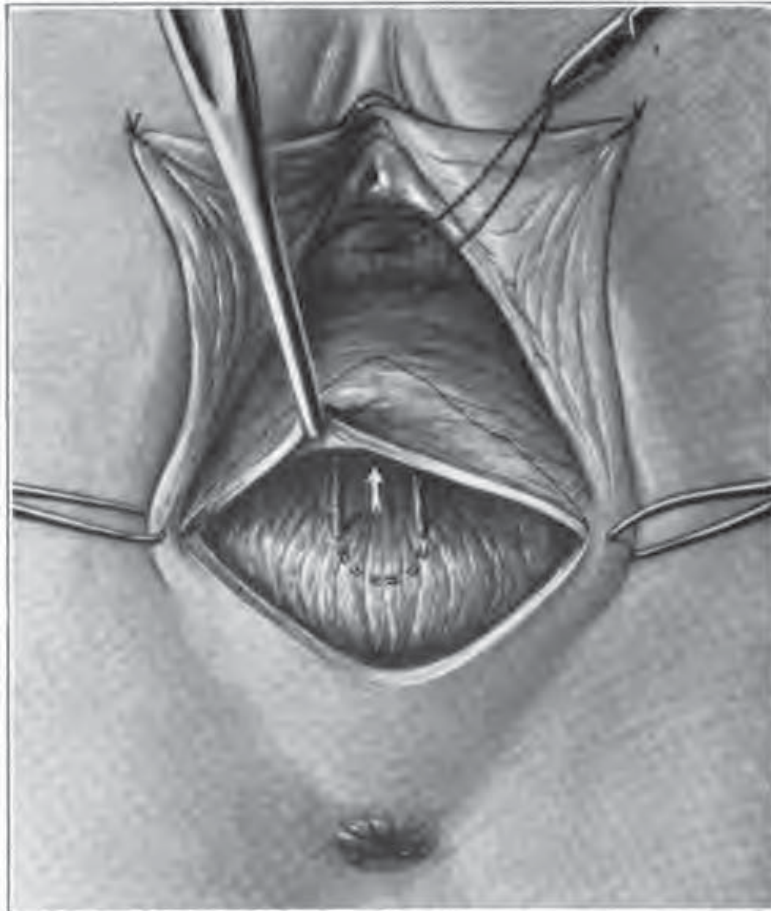


Fig. 2.—Technic of rectopexy for rectocele: The rectopexy suture that is to draw up the rectal pouch to the upper undamaged part of the vagina is in place.

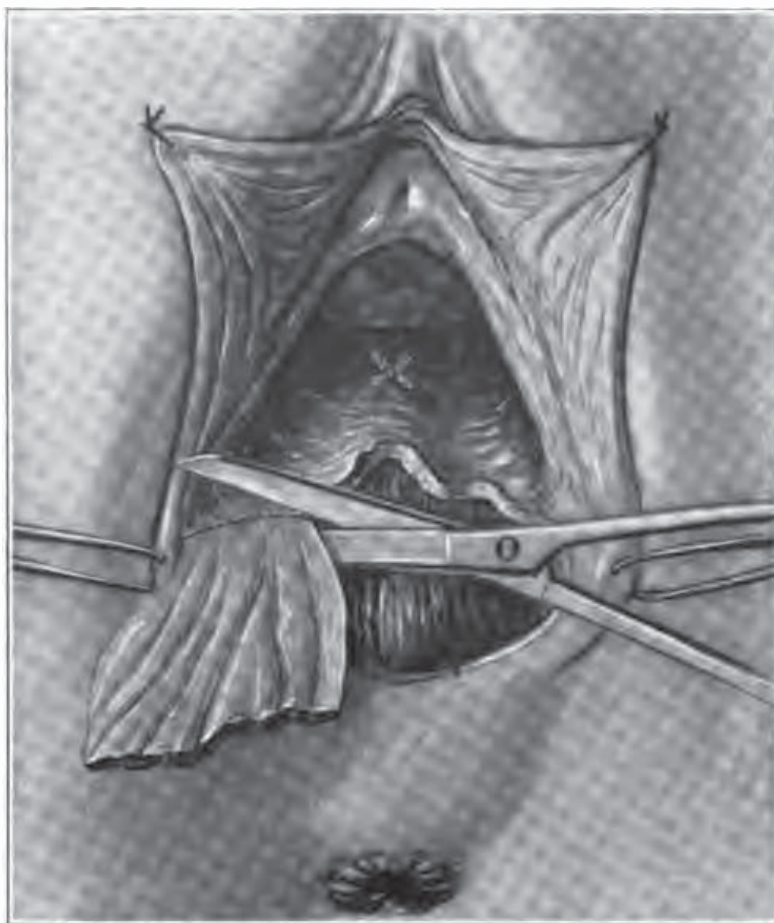


Fig. 3.—Technic of rectopexy for rectocele: The excess vaginal wall is cut away along the line previously outlined, the edges are united by interrupted sutures, and the perineorrhaphy is completed with an approximation of the levators and a subcuticular skin suture.

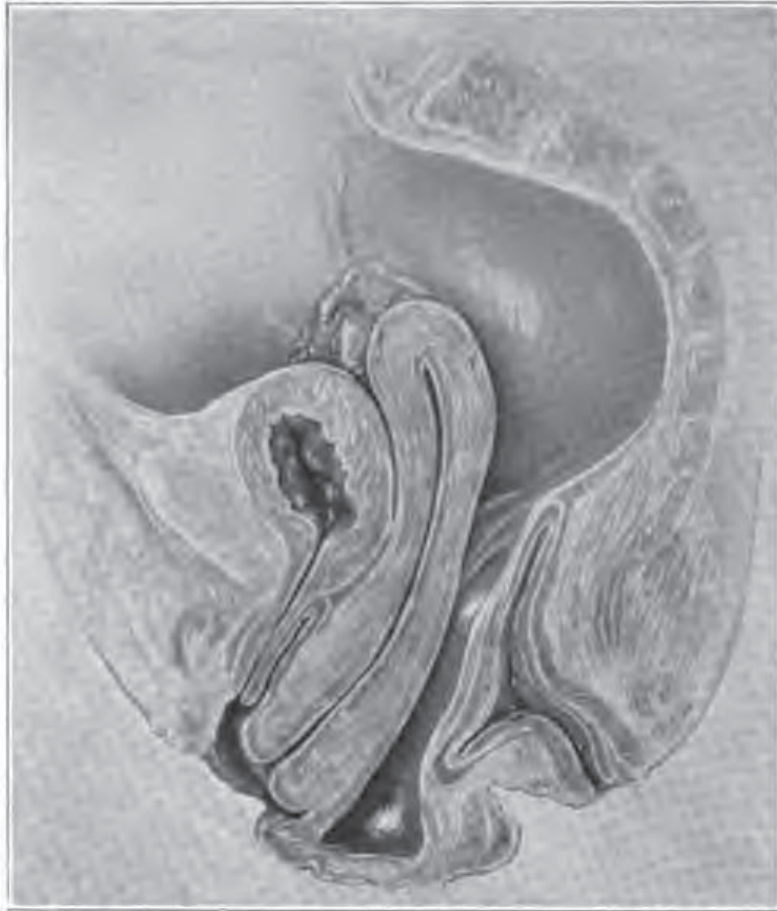


Fig. 4.—Enterocoele: Frozen section from Halban and Tandler, demonstrating the relation of a deep culdesac of Douglas to prolapsus. The pouch filled with intestine exerts traction on the cervix.

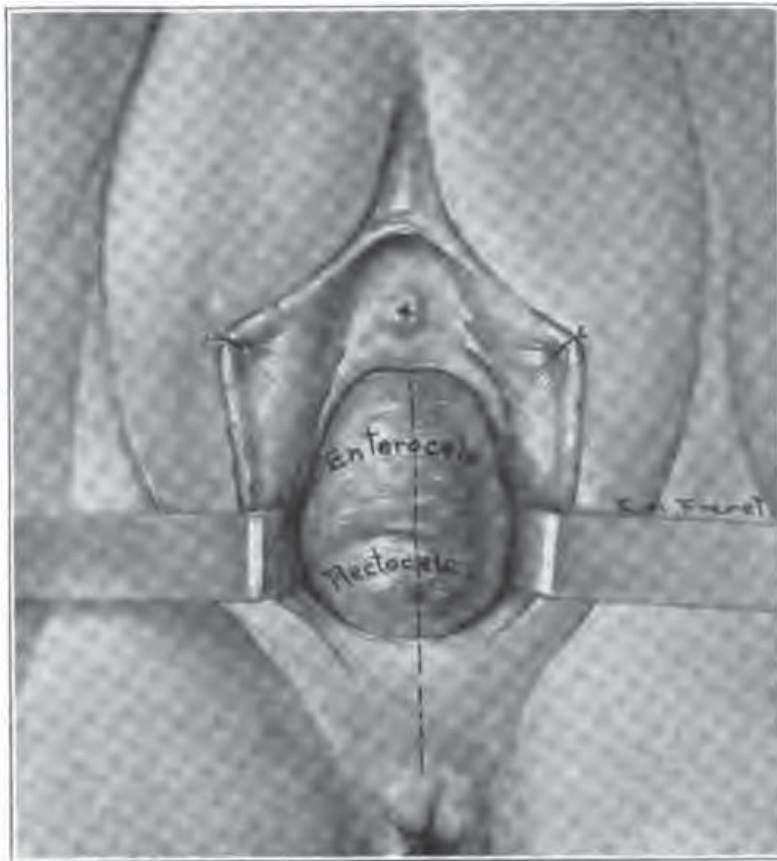


Fig. 5.—Enterocele: line of incision.



Fig. 6.—Enterocele: the enterocele exposed and its relation to the rectocele.

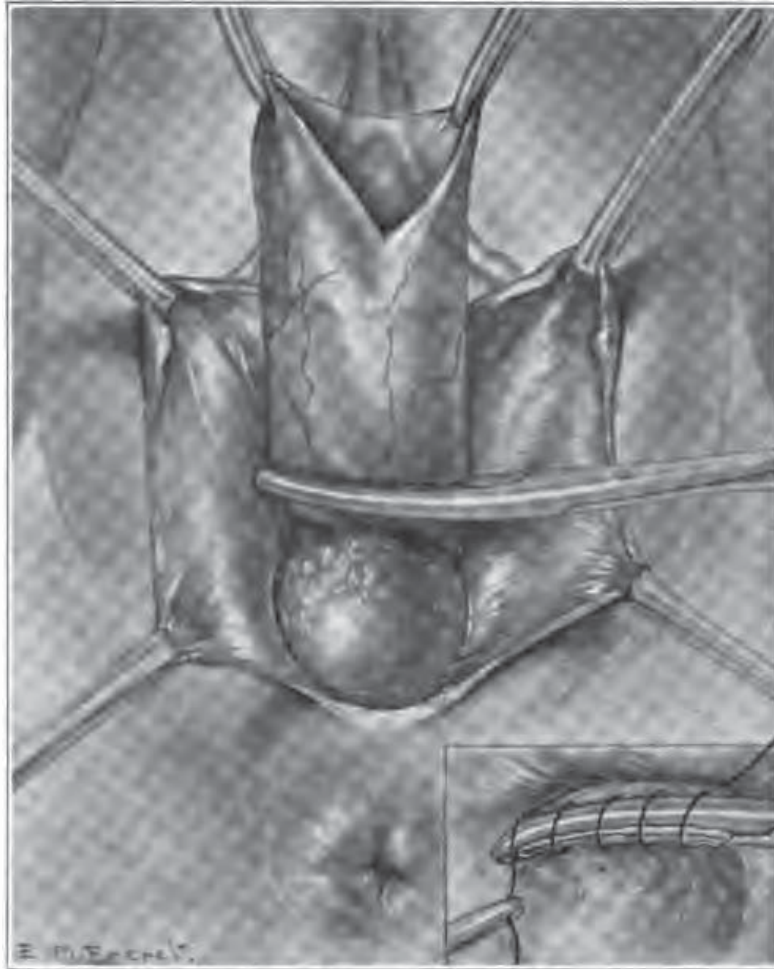


Fig. 7.—Enterocele: The peritoneal pouch of Douglas is dissected out, opened, clamped and ligated.

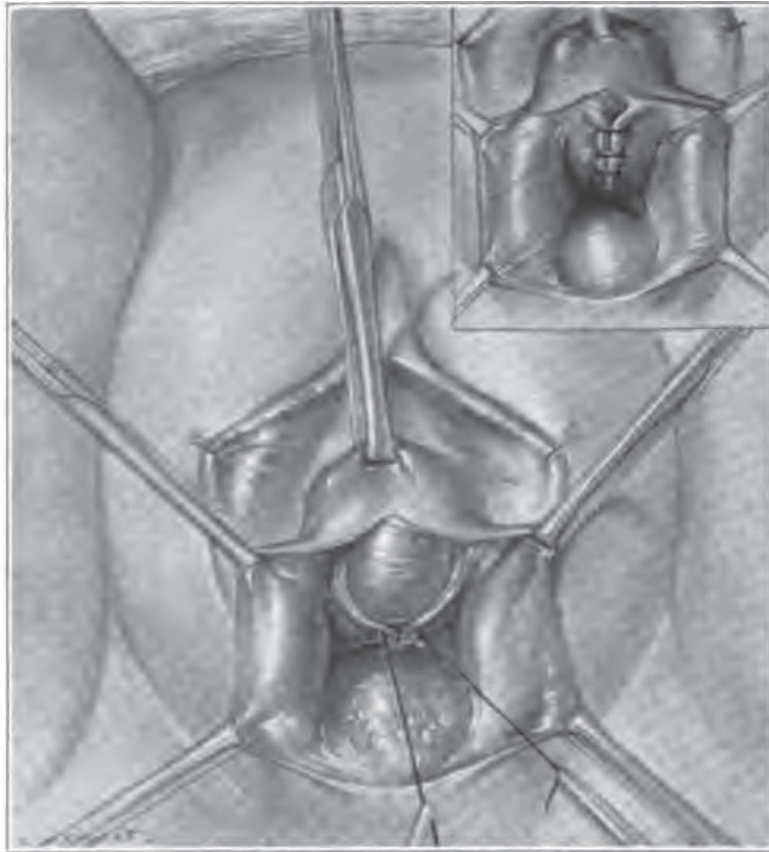


Fig. 8.—Enterocele with uterus retained: The uterosacral ligaments are united with interrupted linen sutures, closing the entrance to the culdesac, and continuous catgut sutures obliterate the space.

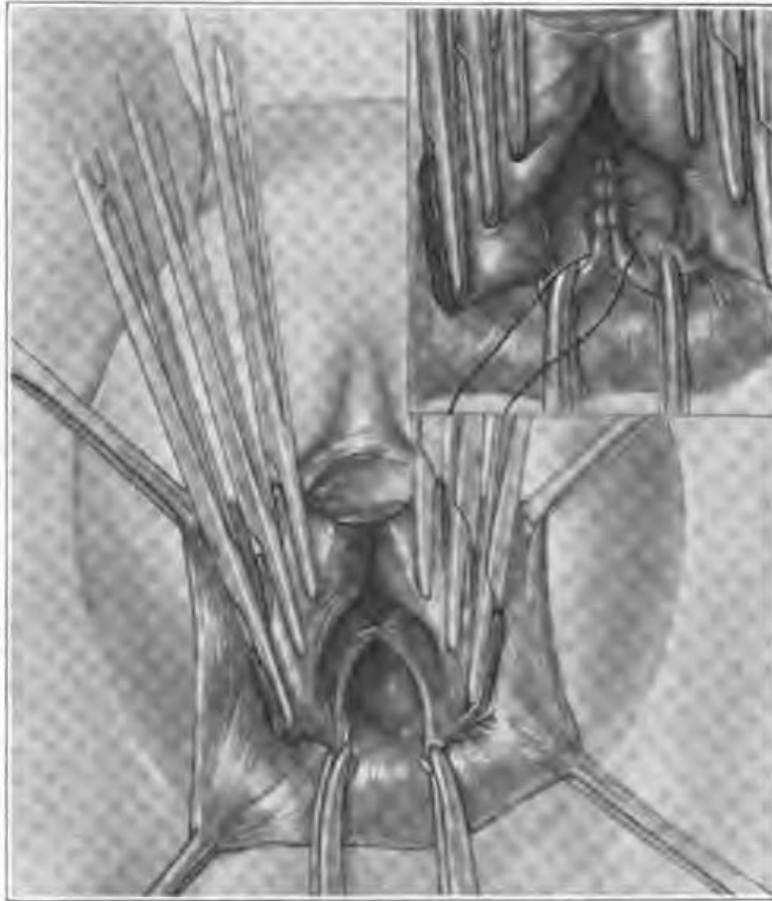


Fig. 9.—Enterocele with uterus removed: The clamps are on the broad ligaments, and interrupted linen sutures unite the uterosacral ligaments after the removal of the peritoneal pouch of Douglas.

Pregnancy and labor causing stretching or separation of the fibers of the fascia would account for the acquired form.

My interest in this subject has been aroused during the last four years as a result of encountering partially satisfactory results in several cases of prolapse of the uterus in which I had employed the Mayo technic of vaginal hysterectomy and the interposing of the united broad ligaments under the bladder. While the cure of the prolapsed bladder and anterior vaginal wall was all that could be desired, a well marked enterocele protruded from the vulva orifice in these cases, necessitating a second operation to establish a cure. A careful study of the culdesac of Douglas in all cases of prolapse of the uterus during this period has convinced me that an enterocele, either beginning or well developed, is present in a far larger proportion of these cases than we have realized, and that it is necessary to recognize and meet this condition with an appropriate technic at the time of the operation for the cure of the prolapse of the uterus, in order to prevent a certain proportion of partially satisfactory results. I am also convinced that enterocele (of the lesser types) without prolapse of the uterus is more frequent than we formerly believed, and that it is frequently overlooked and classed as a rectocele, both conditions being frequently present. The differential diagnosis with the finger in the rectum is easily made but not often employed. In the past four years at the Woman's Hospital, I have had occasion to operate on fourteen patients having abnormally deep culdesacs, with and without an associated uterine prolapse. Of these fourteen patients, three required a second operation because of my failure to appreciate the importance of investigating the depth of the culdesac at the time of the original operation. Zuckerkandl, Freund and others have shown that the culdesac of Douglas normally extends to the levators in the fetus and that its depth

gradually decreases from this time until puberty, when it reaches the level of the second or third sacral vertebra. Daniel Jones⁶ of Boston has pointed out that a deep culdesac is an important factor in favoring or producing prolapse of the uterus, and he states that downward pressure made in the culdesac against the posterior vaginal wall will demonstrate a strong pull on the uterus. He advocates the closure of the culdesac on this account. Jones believes that this accounts for uterine prolapse in virgins, as these patients always have a deep posterior culdesac of congenital type.

The value of the technic of Moschowitz for the cure of prolapse of the rectum lies in the fact that the closure of the Douglas pouch throws the weight of the intestines forward onto the bladder, symphysis and anterior abdominal wall, with the patient in the erect posture; while a deep culdesac allows the weight of the intestines and the pressure to come on the anterior rectal and posterior vaginal wall.

In view of my experience and in the light of the foregoing statements, it is now my custom to obliterate the pouch of Douglas by the vaginal or abdominal route, as part of the technic in all cases of operation for prolapse of the uterus. In cases of enterocele without uterine prolapse, the posterior vaginal wall is opened in the midline for its entire length, and the peritoneal sac of Douglas is dissected free up to the uterosacral ligaments. A sponge stick in the rectum serves as a useful guide. The sac is ligated and cut off, and the uterosacral ligaments are united with interrupted Pagenstecher linen sutures as close to the rectum as possible. The denuded space is obliterated with continuous buried catgut sutures, and the vagina is closed in the usual manner. In cases associated with prolapse of the uterus, in which the Mayo technic is employed, the obliteration of the culdesac is easily accomplished

6. Jones, D. F.: *Boston M. & S. J.* 175: 623 (Nov. 2) 1916.

after the uterus has been cut away from the broad ligaments. A finger in the pouch demonstrates its exact location and a median vaginal incision exposes the sac so that it can easily be dissected out, up to the region of the uterosacral ligaments, where it is closed by a suture and cut off. The uterosacral ligaments are then united with linen sutures and the denuded space closed with continuous buried catgut sutures. After the culdesac is obliterated in this manner, the broad ligaments are sutured together and interposed beneath the bladder in the usual way, and a perineorrhaphy completes the operation. The obliteration of the culdesac can be accomplished in a similar manner from above if an abdominal operation is indicated.

CONCLUSIONS

1. In large rectoceles, the usual operative technic of Emmet or Hegar does not give a permanent satisfactory result.
2. In these cases, a technic may be employed which insures a cure by treating the rectocele as a hernia and anchoring the rectal pouch in a higher position on the undamaged portion of the vaginal wall, where the fascial supports of the canal are intact.
3. Posterior vaginal hernias, or "enterocele," while rare in the extreme types, are far more frequent in the lesser degrees than is usually realized.
4. A deep culdesac of Douglas may be congenital or acquired, and is an important factor in the cause of uterine prolapse.
5. It is frequently not recognized in many cases of prolapse of the uterus, and the failure to correct it is a common cause of unsatisfactory operative results.
6. The technic of the obliteration of the pouch of Douglas by the vaginal or abdominal route is not difficult, and it should be a part of the procedure in operations for uterine prolapse.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. NEEL, SPALDING AND WARD

DR. T. J. WATKINS, Chicago: Dr. Spalding and Dr. Ward have given us some new and important ideas relative to treatment of high rectoceles. These have been difficult to remedy, and it is to be hoped that better results may be obtained from utilizing their operative suggestions. Dr. Neel's illustrations do not show sufficient elevation of the bladder to obtain desirable results. In conversation with him I have learned that he also believes in more bladder elevation than his illustrations show. Cystocele is a sliding hernia. After separation of the vaginal wall from the underlying fascia, and after separation of the bladder from the cervix, the sliding hernia can be as distinctly demonstrated as any case of a sliding inguinal hernia. The principle of repair is also the same. The hernia canal can be closed by suture of the fascia to the cervix or lower uterine segment as is needed in the individual case, or the opening may be closed by transposing the body of the uterus. In the closure, it is extremely important to suture the fascia so that the urethra will be retracted and fixed in its normal location, which is one of relative fixation; otherwise the incontinence will not be entirely relieved. In the fixation of the fascia, it is also important to obtain proper bladder elevation; otherwise the urethra may be retracted away from the pubes and would fail to relieve the incontinence.

DR. C. H. MCGEE, Burlington, Iowa: In regard to some of the slides we saw on the screen, while they may be made to instruct, at the same time they may be made so as to lead us into error. I would advise Dr. Neal to do a thorough dissection of the pelvic fascia before he comes before an audience again, and I would advise him then to destroy one of those pictures which showed the pelvic fascia so beautifully. One of his remarks was that the abdominal fascia was continuous with the pelvic fascia. That is not so. The fascia lining the abdominal cavity in front is called the transversalis fascia, and that does not connect with the pelvic fascia at all. The fascia covering the iliacus muscle is called the iliac fascia. It may or may not connect with the posterior fascia for about half an inch. Cunningham says that once in a while it does. In regard to those figures, all we need is a nimble hand and a lively imagination, and we can put things up in great shape. In regard to his overlapping this fascia, it is not like muscle structure, constant. The superficial layer of the deep fascia of the neck, where it comes forward from the trapezius, splits to enclose the sternocleidomastoid. Sometimes one will find a dense anterior layer, and sometimes it is almost absent. It is the same way with the pelvic fascia. It is not a constant structure. I have dissected nulliparous women and could scarcely find the different layers of fascia of the pelvis. If a careful dissector

cannot find it in a nulliparous woman, how can one find it so readily when dilatation (or tearing) has taken place and the fascia has been attenuated for eight, ten or twelve years?

DR. ALBERT GOLDSPOHN, Chicago: The statement of the last speaker I wish to deny; and I endorse the position taken by Dr. Neal, that the fascia referred to exists. It extends downward from the pelvic walls and covers the levator ani muscle on the visceral side. Gray calls it the rectovesical fascia. It is often injured by childbirth, as Dr. Spalding sets forth, and he labors correctly to restore it. An extension of it reenforces the anterior vaginal wall, from which Dr. Neal separates it in his restorative operation. In this I differ from him in not making such a separation, and then using the two weakened structures separately in the restorative technic. I believe that unitedly they serve a better purpose; by simply removing the vaginal mucous membrane from one side and sliding it into the wound of the opposite side, a firmer result is obtained more quickly and with less loss of blood. I am pleased with the anatomically correct procedures advocated by Dr. Spalding and Dr. Ward. For the more severe forms of injuries of the pelvic floor, of which they speak, they probably do not extend their operative wound and raise the posterior vaginal wall much farther inward than I have been accustomed to do even for less severe injuries of those parts, in the operation of which I have performed for many years and have been trying to induce the profession to adopt. To the wound that I ordinarily make, I can readily add the rectum-elevating suture which Dr. Ward advises, in those cases in which it is needed.

DR. JOHN F. HERRICK, Ottumwa, Iowa: During the summer of 1916 I prepared a paper on this particular subject. Before the paper was read, a paper appeared by Gibbon Fitzgibbon of Dublin, Ireland, describing very minutely the fascia mentioned today, and the operation for cystocele. I had been doing the operation for some time, with this difference: I had split the vaginal wall, separated the fascia, left it in contact with the mucous membrane, and drawn the fascia and mucous membrane together across and united them; and I must say, as the author has said, that of all operations that I have done or seen done for the condition described, there is nothing that compares with the results obtained in the operation described here. As to the presence of that fascia, Dr. McGee and I have differed for some time. I knew what he would say. However, if one remembers, in looking down into the pelvis, in the normal condition, one will see in the female the bladder lying in front, the uterus fixed on a point, or pivot. The cervix moves below, the body above. That is the point of contact of this fascia. Now, there are really two planes of fascia: one on the floor of the pelvis covering the levator ani that holds the rectum, and this one above

that acts as a sling attached to the fifth sacral vertebra, and around the white line to the pubis in front, perforated by the urethra in front, by the cervix part way back, and by the rectum near the posterior wall. If there is a separation of the fibers of that fascia, one can easily see how one or all of those can sink down and pass out through the pelvic opening. What must be done is to get hold of the fascia and lift the organs up; the bladder should be elevated, as was illustrated, and the fascia brought together tightly; this will cure acute procidentia, recocele, cystocele and incontinence of urine.

DR. J. CRAIG NEEL, San Francisco: It is very gratifying to know that there is but one "doubting Thomas" among those present. I have neither the time nor the inclination to enter on any argument regarding the presence of this fascia, but would refer the speaker to any standard work on anatomy. Dr. Watkins brought out a very important point regarding the reduction of the displaced bladder. The best results will be attained if the bladder is carried well up to the pelvic bones. The one-sided dissection of which Dr. Goldspohn spoke is simply another method of arriving at the same end. I am glad to know this method has given such excellent results. The point which I wish to emphasize is, first, the presence of this fascia, and, secondly, the importance of utilizing it in the treatment of cystocele.

DR. ALFRED BAKER SPALDING, San Francisco: I should like to have Dr. McGee visit us in San Francisco. I have all these things on platters in my laboratory, and I think if he should see them there he would see that we are not trying to call anything either false or foolish.