TAIT'S PERINEAL FLAP OPERATION.

By F. BYRON ROBINSON, B. S., M. D.

PROFESSOR OF GYNECOLOGY IN THE CHICAGO POST GRADUATE SCHOOL; GYNECOLOGIST TO THE WOMAN'S HOSPITAL, THE POST GRADUATE HOSPITAL, THE CHARITY HOSPITAL AND THE COLUMBIA DISPENSARY.

Perineorrhaphy is an operation to restore the integrity of the perineal body. The object in restoring the perineal body is to prevent prolapse of the public segment of the pelvic floor and the uterus. The pelvic floor is the levator ani muscle with the recto-vesicle fascia above it and the anal fascia below it. The pelvic floor is composed of two segments divided by the vaginal lumen. To the anterior or pubic segment belong the retro-pubic fat, the bladder and the anterior vaginal wall. The anterior pubic segment of the pelvic floor is called the (a) anterior, (b) the pubic, (c) the visceral, (e) the movable and (d) the obstetrical pelvic segment.

To the posterior segment of the pelvic floor belong the posterior vaginal wall the perineum and the rectum. The posterior segment of the pelvic floor is named (a) the posterior, (b) the vertrebral, (c) the sacral, (d) the fixed pelvic segment. Now these two segments of the pelvic floor, viz: sacral and pelvic segments act like two valves which close an opening by overlapping each other. The chief valve of support is the sacral segment. The anterior edge of the sacral valve or pelvic segment is tipped or bound by dense fibro-elastic tissue known as the perineal body. The uterus lies immediately above the valve, while the perineum lies immediately below the valve.

The only way we can have uterine prolapse or sacro-pubic hernia is by the opening up of this valve. In the virgin the segments or valves of the pelvic floor are closed. The valves are opened up naturally by labor. They are opened up artificially by the admittance of air into the vagina. The valves are opened up pathologically by uterine prolapse, which should be termed sacro-pubic hernia. If a woman suffering from descensus uteri is placed on the table and told to strain one sees coming out first the anterior vaginal wall, second the cervix uteri, and third the posterior vaginal wall. So that the anterior pubic segmen, retro-pubic fat, bladder and anterior vaginal wall, are all involved in the prolapse. But besides we find that a part of the sacral segment, the posterior vaginal wall, is included in the prolapse.

Now the three great factors in uterine prolapse are: 1. Intra-abdominal pressure. 2. Deficiency of the sacral segment. 3. Loss of tone in the pubic segment. The sacral segment is a curved segment and the tip is the perineal body. Now if the sacral segment is straightened out and its tip, the perineal body, is torn, then the uterus simply slides or glides out of the pelvis between the pelvic valves. Then the perineal body is an indirect support in preventing uterine prolapse or sacro-pubic hernia.

Difference of opinion still prevails as to the utility of the perineal body in the economy of the female genitals, but from considerable clinical and operative work and many dissections I will claim for the perineal body the following: 1. It sustains the lower end of the anterior rectal wall and the posterior vaginal wall. 2. It supports and directs the discharging end of the rectum backward and the discharging end of the vagina forward. 3. It not only keeps the discharging ends of the rectum and vagina widely apart but it gives both a substantial support in a curved direction at their termination, thus affording mechanical advantages for maintaining closure of both apertures and preventing the easy escape of the contents of either canal, the wide separation of the two ends of the canals avoids mingling of the secretions and consequent infection and irritation from decomposition. The backward curve of the rectum and the forward curve of the vagina is an important factor in support and prevents gaping and eversion. 4. The perineal body is the point of union of four muscles: the levator ani, the sphincter ani, the bulbo-cavernosus and the transversus perinei, besides the collections of dense connective tissue and elastic tissue. The perineum is the skin covering the perineal body and extending from rectum to vagina. The perineal body

extends up between the rectum and vagina, but dissections show that it has been exaggerated in its length by many gynecological text-books. 5. The perineal body acts as a support to the pelvic floor. 6. It strengthens a tried point in labor. 7. Laceration of the perineal body to any considerable extent destroys the nice balance between anatomical structure and physiological function.

The object of the flap perineorrhaphy is: 1st. To restore partial ruptures. 2d. To restore rectal function from complete ruptures. 3d. To prevent prolapse of the pubic segment. 4th.

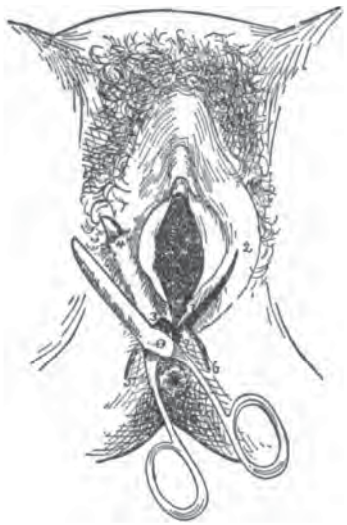

FIG. 1.—The dark line running from the vaginal orifice toward the rectum represents the old perineal laceration. The dark line running from 7 to 1 and then up on the labium to 2 shows the exposed tissue made by the scissors clip on the left side. From 1 to 6 shows another scissors clip and is known as the "back cut." From 3 to 5 shows another "back cut." From 3 to 4 represents the blade of the scissors beneath the labial tissue ready to be clipped.

To prevent uterine prolapse. The etiological factors of lacerations are: 1. Labor. 2. Coitus. 3. Trauma. Partial perineal lacerations may be accompanied by: 1. Increased vaginal secretions. 2. Vulvar patency. 3. Instability from pathological conditions of nerve endings. 4. Neurosis from continued reflexes. 5. Endometritis from infection. 6. Descent of anterior rectal wall, posterior vaginal wall and uterus. 7. Prolapse of bladder.

Complete laceration may be accompanied by: 1. Anal and vulvar patency. 2. Increased vaginal and rectal secretions. 3. Hemorrhoids. 4. Incontinence of vaginal and bowel contents.

5. The mingling of secretions induces disease by decomposition, e. g., eczema. 6. Neurosis from reflex irritation due to disease at the nerve ends. 7. Hypertrophy as well as atrophy of lacerated parts will induce reflexes. 8. The malnutrition of the parts will cause relaxed tissues and prolapse will ensue.

Perineorrhaphy began with Paré. It passed on and was cultivated by Guillemeau, Noel, Sancerette, Mursina, Mensel, Osiander, Zary, Diffenbach, Simon, Sims, Horner, Brown, Voss, Stein, Sanger, Duneau, Simpson, Colles and others. At present the most useful and simple method of reforming the perineum is by Tait's flap-splitting method.

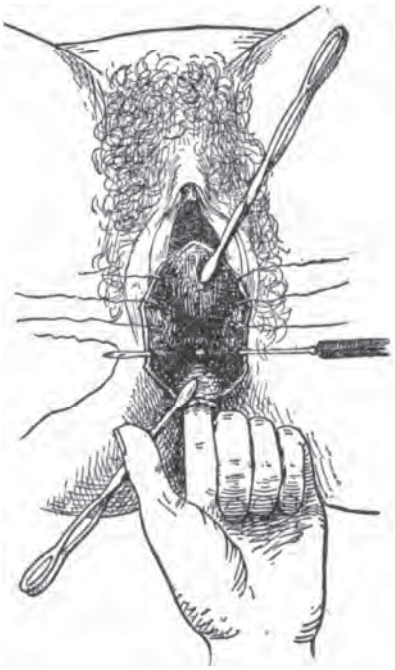

FIG 2.—The vaginal flap is seized at 7 by forceps and drawn up toward the vagina, and the rectal flap seized at 7 and drawn toward the rectum. The raw surface is now drawn into an oval shape by tension on the two forceps. The needle shows itself entirely inside of skin and mucous membrane; It penetrates neither. The needle is best managed by introducing a finger into the rectum so as to avoid penetrating the gut wall.

If a woman with a lacerated perineum is placed on the table on her back and the labia are well separated, one can see the old white cicatricial line which represents the healed scar. Now it may be observed that this linear cicatrix is transverse in

direction, while the fresh tear in the perineal body was perpendicular. The perineum tears in a direction from the vagina toward the rectum, but the peculiarity is that it heals in a perpendicular direction to the original rent, so that if the perineum tears in the direction from the vagina toward the rectum, it will heal exactly at right angles to the original wound, and we will have a cicatrical line running toward the tuberosities of the ischia.

Now the flap splitting is based on the very peculiar method of healing in the perineal laceration. Sharp pointed elbow scissors are required. A curved needle with a handle and an eye at its pointed end is also necessary.

To do Tait's flap operation the point of the scissors is entered at the middle of the recto-vaginal septum for about one-half inch, say at 7 in Fig. 1; the scissors' point is then carried beneath the tissue, as deep as desired, to the side of the vagina, and up to the labium as high as desired, say at 2 in Fig. 1. A clip is then made by the scissors, exposing the tissue, from 7 to 2, Fig. 1; the point of the scissors is again entered at 7, and the point is carried under the tissue to 3 and up the labia to 4, when it emerges. A clip is then made with the scissors, exposing the tissue from 7 to 3 and to 4. The "back cuts" are then made by entering the point of the scissors at 3, and making it emerge at 5, when the scissors are clipped, exposing the tissue from 3 to 5. The point of the scissors is again entered at 1 and carried to 6 and the scissors clipped, exposing the tissue from 1 to 6. We now have a U-shaped incision around the vaginal orifice, and a U-shaped incision around the anal orifice. Now the anterior vaginal flap is seized at 7 by a forceps and drawn up toward the vaginal orifice, see Fig. 2. The posterior flap is also seized by a forceps at 7, and drawn back toward the rectum, see Fig. 2. The points 7 and 7 will represent the apices of a long, narrow oval, as seen in Fig. 2. The second step is the introduction of three to six silkworm gut sutures. The silkworm gut should be put into hot water a few minutes before using, so as to make it flexible. A handled needle with an eye in the point is used. Its point is entered just inside the margin of the wound, not in the skin or mucous membrame, and is carried under the exposed tissue to the bottom of the wound, and then, still under the tissues up to the opposite margin of the wound, where it emerges. A thread of silkworm gut is put through its eye and the needle is withdrawn. Three to five of such sutures are employed. The sutures may be left in for six to eight weeks. The operation is easily done

in ten minutes. I have frequently seen Mr. Tait do it in five minutes. On tying the sutures one will note, to his delightful surprise, that the original perineum is rebuilt. I would urge that the clips with the scissors be made deep, so as to expose wide areas of tissue. The labial incisions should be carried high up on their wall; I sometimes carry them as high as the urethra. I have so far not seen tension disturb the operation. A little practice is required so that a man will not make a pocket above the perineum in the vagina. Be sure that the sutures grasp

FIG. 8.—The results after tying the four sutures. Notice the wound gapes a little from 7 to 7 and that the vaginal flap peeps over the upper 7. The needle may be introduced from the margin of the wound to the bottom and then emerged, threaded, and drawn out on one side. Then the other side may be done likewise. I note this, as in a thick, fat perineum it may be impossible to pass the needle from one margin of the wound to the other without threading it twice. The sutures are all introduced before any are tied. The newly built perineum from 7 to 7 will look amazingly large, but it will soon sink to a natural appearance.

plenty of tissue, so that firm and uniform coaptation will exist after tying. The operation is alike applicable to partial and complete perineal lacerations. During my six months' course with Mr. Tait he would frequently remark that the worse the laceration the better the operation showed itself. Mr. Tait has performed many hundred perineal operations by the flap method. He has twenty-six recorded cases of labor after the operation, and he told me that he had never known the peritoneum to be retorn.

The after-treatment of the operation is simply rest. I prefer

to keep the bowels loose, and just before movement give an enema. The chances of union by first intention are superior to the denudation operation, as the rectal and vaginal flaps divert secretions from the wound.

The advantages of the flap operation are: 1. The ease and simplicity of its performance. 2. It wastes no tissue; if it fails the patient is no worse off than before the operation. 3. It is the only operation that restores in a natural method the perineal body. 4. It withstands subsequent labors. 5. The sutures are not passed through skin or mucous membrane, and therefore are not so liable to suppurate. 6. Its certainty of healing, 7. The flap operation secures in the easiest and most convenient manner the widest possible surface for coaptation and healing. 8. The pain after the operation, in my experience, is less than after the denudation operation. 9. Tait's flap operation can be practiced successfully where the repeated denudation operation cannot be performed because of loss of tissue and excess of tension. 10. The short time required to do Tait's flap operation minimizes shock. 11. The resulting cicatrix is in its natural location and linear, and will thus cause less peripheral nervous disturbance. 12. The stitches leave no cicatrices, and therefore will cause no irritation. They act like Dr. Bayard Holmes' buried sutures.

I will say that I have seen men doing what was called Tait's flap operation with a small bistoury, but in my opinion it was so much inferior to Tait's operation performed with scissors that it appeared like a totally different operation.

When one ties the sutures the newly formed perineum will look enormously large, but it will soon shrink to a natural appearance. By a little experience one can do Tait's operation so that, on healing, the linear cicatrix will so resemble the old raphé that one can scarcely tell that an operation has been done. I have done the operation and in some eight weeks after the healing, the result was so perfect that some practitioners almost doubted that any operation had been done.

In performing the operation one must not penetrate the rectum or vagina with either the point of the scissors or the point of the needle. In either case a vaginal or rectal fistula might result; or, if fistula did not occur, healing of the wound might be retarded or interfered with. One should, of course, avoid entering the point of the scissors into the vaginal bulb and so creating profuse hemorrhage. The operator should be careful not so sever the ducts of the vulvo-vaginal glands. Again, there is some danger

that the flap may not heal high up in the recto-vaginal septum. I saw such a case in a colleague's practice. I make the incisions from one-half to one inch deep. One of the difficulties to understand in Tait's flap operation is how such incisions can be made to produce an oval raw surface. I think the illustrations which accompany this article will show it clearly. The incisions made are, say, one-half to three-fourths of an inch deep between the rectal and vaginal wall. The raw surface on the rectal flap, then, is one-half inch, and the raw surface on the vaginal flap is one-half inch, making one inch of raw surface. I nearly always have one and one-half inches, so that when the middle of the vaginal flap is drawn up toward the vagina, and the middle of the rectal flap is drawn toward the rectum, as seen in Fig. 2, there will be an irregular oval raw surface, whose closure will represent the new perineum. The cicatrix in the new perineum will be linear, as shown in Fig. 3. If the index finger is now introduced into the rectum, and the thumb, or other index finger, is intraduced into the vagina, the thick, newly formed perineum is plainly felt. Its healing is quite certain, as the rectal and vaginal flaps act as sheds to direct all secretions away from the wound. The advantage of avoiding the skin or mucous membrane in passing the sutures is clearly shown by the subsequent absence of stitch-hole marks. The suffering after the operation, so far as I have noted, is far less than after the denudation.

Tait's flap operation can be reversed and performed for prolapse of the bladder, but as I have had no experience with the performance of the reversed flap, I will leave that for experienced surgeons to report on. In the case of the reversed flap the newly acquired strong tissue would necessarily be formed in the vestibule. It seems to me that there is a future for Tait's reversed-flap operation, for the principle of the operation is just the same whether the scissors makes the incision clips between the rectum and vagina or between the urethra and clitoris. The amount of episiorrhaphy in either perineal flap or vestibule flap will depend on the operator's individual judgment. Tait's flap extension will be discussed under operations for prolapse. It is simply the addition of episiorrhaphy, in the form of the flap method, to the perineal flap. It may be called perineo-episiorrhaphy.

The two types of perineorrhaphy by denudation differ in the method of suturing. The old method was to pass the sutures through skin across the denuded surface under the exposed tissue. A later method is to use what is called the "étage" stitch. It is

the buried catgut suture of Werth, of Kiel. In English it would be called the buried spiral catgut. It is an excellent method of doing perineorrhaphy. I found by experience that when the laceration extends up into the rectum the best way is to use no rectal sutures at all, but use the spiral catgut right down to the mucous membrane of the rectum. Also, use no vaginal sutures, simply carrying the catgut spiral suture up to the vaginal mucous membrane and no further. The same may be said about using no perineal sutures unless tension is dangerous. Hence I can close a laceration of the perineum into the rectum by simply using a continuous catgut suture which never goes through skin or mucous membrane. So far as the rectum is concerned, I found it much better not to introduce sutures into its mucous membrane. So that Dieffenbach's vaginal, perineal, and rectal sutures are all left out, while the denuded surface is held in fixed coaptation by a wholly buried spiral catgut suture. But even this, I think, is inferior to the flap method.

The flap splitting operation is very useful for a partially prolapsed uterus. I have now practiced the flap-splitting in perinorrhaphy for two years and I have never had one failure. I have one case in which a fistula exists between the vagina and rectum about the size of a knitting needle, three months after the operation, but I think that will heal as soon as the portion of suture, which no doubt exists there, shall slough out. That case had had several of the denuding operations performed unsuccessfully and was of thirty-four years standing. As time goes on and I become more experienced in the operation I split the rectum and vagina higher than I did formerly and I extend the "clips" higher up against the urethra. At the Charity Hospital many of the cases have complete laceration extending from one to three inches up into the rectum, and I have had so far no failure even in such cases. Dr. Lucy Waite has also performed the flap operation in my service at this hospital and so far she has had no failure with it. I also note that other gynecologists of the city are employing it with reported success. It may be noted that when several denuding operations have been practiced on a patient with complete laceration and tissue loss and atrophy have made necessary tissue scant that side cuts to relieve tension may be made.

VENETIAN BUILDING.