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NEW OPERATION

FOR

RUPTURE OF THE PERINEUM THROUGH THE SPHINCTER

BY

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A NEW METHOD OF OPERATION FOR THE RELIEF OF RUPTURE OF THE PERINEUM THROUGH THE SPHINCTER AND RECTUM.

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THE operation to be described is intended chiefly for the most serious cases of rupture, where not only the sphincter muscle, but also a portion of the anterior wall of the rectum has been torn through. The rent in these cases usually involves that portion of the rectal wall which bounds the perineal body posteriorly. During the process of cicatrization there is little or no union of the sides of the rent, but the recto-vaginal septum is drawn downwards by cicatricial contraction, and is thus made to cover a considerable portion of the exposed rectum. The outlets of the vagina and rectum are, however, continuous, and form at the vulva a large cloaca. Fig. 1 shows the vulva, with the labia drawn apart so as to display a considerable portion of the posterior wall of the vagina. Below, between the letters *A* and *B*, we see also a portion of the posterior wall of the rectum bounded above, in the picture, by the semi-circular margin of the septum, and below by the retractedsphincter muscle.

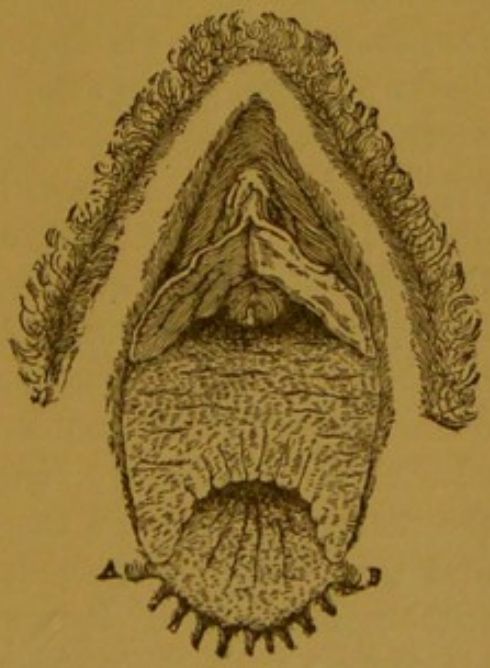

FIG. 1.

The weak point of every operation hitherto devised lies in the management of the rectal wound. The perineal body is not situated in front of the rectum, but forms, as it were, the floor of that cavity, which at this point takes a sudden curve backward to reach the anal orifice. A freshly united linear rectal wound at this point must, therefore, present itself at right angles to the axis of the rectum, and must sustain the full force of a column of gas or feces coming down from above. If the wound be a long one and the perineal body not sufficiently thick, the point of least resistance will be in the direction of the vagina, and a recto-vaginal fistula may result. Emmet, who, it must be acknowledged, has done more than any other surgeon to place this operation upon its present comparatively firm basis, has sought to overcome this source of danger by drawing down the edge of the septum to the sphincter muscle by means of his bag-string suture, and thus do away with a rectal wound as completely as possible. The moment, however, the edge of the septum has been released from its cicatricial bands by the scissors, it begins to withdraw itself to its original position ; a point much further inside the pelvis than one would imagine who judged by its position in the cicatrized state. The tension of the recto-vaginal septum when drawn still further down by the bag-string suture is greatly increased, and displays itself first when the parts have become swollen by inflammation, the lower stitches being frequently sucked up, as it were, into the rectum ; later, when the tissues are softer, the stitches cut through and the rectal wall retracts, forming an open wound in the rectum and exposing the lower portion of the perineal body. If we extend the line of the axis of the rectum downwards through the perineal body, we shall find that it emerges usually between the second and third stitches externally. It is at this point that the contents of the rectum force their way out, so far as the writer's experience goes, and establish a fistulous opening around which the freshly united tissues gradually melt away. The principle of the method described in this article consists in

shutting out the rectum entirely by a flap operation, so that it shall no longer enter as an element to be considered in the healing process. The material of which the flap is composed is that usually cut away by the scissors, and consists of vaginal and vulvar mucous membrane, and also of a certain amount of cicatricial tissue which is to be found at the margin of the rent. The flap is formed by dissecting the "butterfly" from within outward, preserving the materials just mentioned in one continuous mass, the pedicle being formed by the entire free margin of the septum (Fig. 1, *A B*), a hinge on which the flap is swung over so as to exclude the rectum from view. The dissection will be performed with greater ease and nicety if the knife is used, and should be made chiefly from the sides in the manner indicated in Fig. 2. In reflecting the central portion it is important to avoid "button-holeing;" and for this purpose it is well to keep the septum between the thumb and forefinger of the left hand, liberating the flap by gentle strokes of the knife to and fro, while the tissues are made tense by traction on the flap with the forceps in the hands of an assistant. The dissection should stop just short of the free margin so as to leave it intact, otherwise the pedicle of the flap would be severed; on the sides the dissection is carried down sufficiently far to expose the ends of the ruptured sphincter muscle. We have now not only the customary butterfly, but, in addition, a twin butterfly hanging from its lower edge and forming a sort of apron (Fig. 3). A portion of the vaginal and vulvar mucous membrane has been folded over as in turning out one side of a hat-lining, and the vaginal mem-

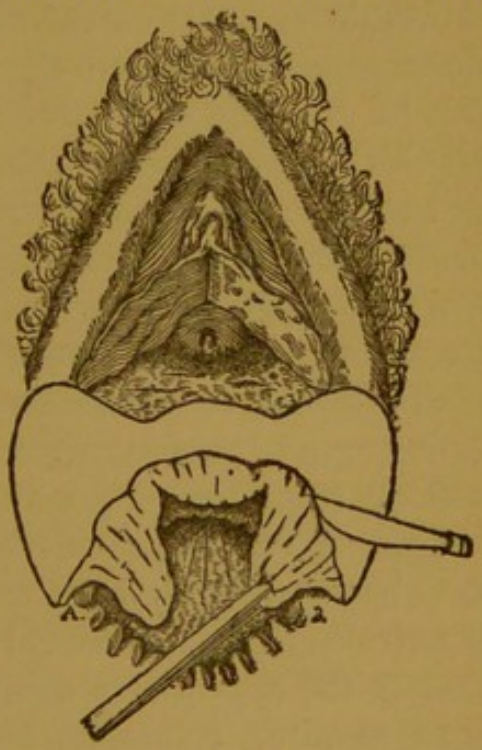

FIG. 2.

brane becomes now a portion of, and continuous with, the anterior rectal mucous membrane.[1] The bowel now terminates in a sort of fimbriated extremity. This flap is redundant not only in length but in breadth, and must, therefore, be thrown into longitudinal folds and be pressed downwards, while the twisting of the first stitch brings the divided ends of the sphincter together over it. After the remaining stitches have been taken we find the end of the flap still projecting at the anterior margin of the anus. It is well not to trim this off short, as subsequent retraction will draw a considerable quantity of it into the rectum; on the other hand, if all is left, the flap is unnecessarily long and the tip of it is liable to slough. It can be disposed of by folding in longitudinally, as when we pinch the lower lip together between the thumb and finger, and stitching the apposed raw edges; or it can be spread out in a fan shape, and adjusted to a short curved incision through the edges of the skin at the bottom of the wound, as in Fig. 4. This curved incision might be continued all round the anus and the free margin of rectum, then readjusted so as to be more evenly distributed around the circle. The anus would then have exactly the appearance of an artificial anus as after colotomy, but such an additional dissection is hardly necessary. When the flap has been formed and allowed to drop down over the rectum, the cavity of the bowel is no longer seen and in finishing the operation we have a prob-

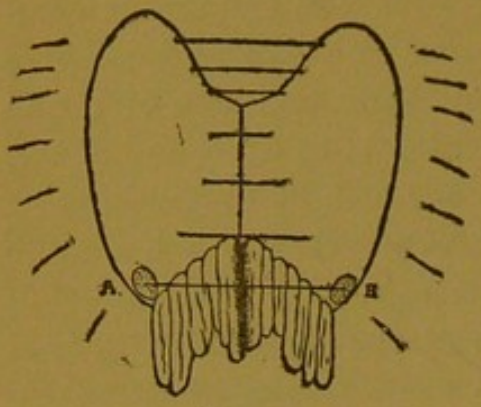

FIG. 3.

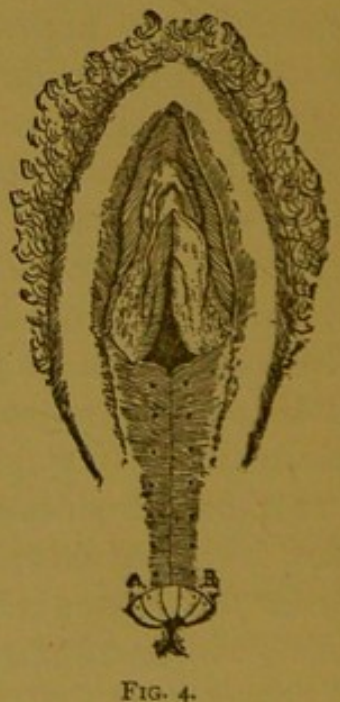

FIG. 4.

[1] This method was first proposed by the writer in the *Boston Medical and Surgical Journal*, January 3, 1878.

lem almost as simple to perform as the formation of a perineum when the sphincter has not been ruptured.[1] The general plan of taking stitches is shown in Fig. 3. It will be noticed that undue constriction is avoided, there being no necessity for the use of the bag-string suture, and the thickness of the perineal body is preserved. These deep sutures are so arranged as not to touch the flap or septum that it may have free play to assume its normal position, or that the flap may not be so restricted as to endanger its vitality. The adoption of the flap as a feature of the operation consequently involves a radical change in the method of taking stitches as laid down by Emmet. For these sutures annealed copper wire, silver-plated, is used of No. 29, Brown and Sharp gauge; the next finer grade used at the hospital, No. 24, though taking less room, being liable to break. Before they are twisted a few superficial catgut sutures are taken in the vaginal mucous membrane for greater security from vaginal discharges.

The first patient operated upon by this method was thirty-one years of age, and had sustained a severe laceration of the perineum involving the sphincter and rectum, during a long and difficult labor three months before her entrance to the hospital. She was in a poor condition and anemic, but complained of no uterine symptoms, and desired an operation for relief from the incontinence of the rectum. As a preliminary step in the operation, the sphincter was thoroughly stretched by seizing the free ends and pulling upon them much as one would pull molasses candy. The operation was then performed in the manner above described. The portion of the flap projecting from the anus being found unnecessarily long was trimmed slightly and then folded on itself longitudinally, and the raw edges were sewed together, giving it the appearance of a small hemor-

[1] As a convenient way of distinguishing the two varieties of rupture, the writer would suggest: that those cases in which the perineal body alone has been torn be called "simple rupture of the perineum;" and in those cases in which there has been a laceration of the sphincter or rectum, the term "compound rupture of the perineum" be used.

rhoid at the anterior margin of the anus. During the operation the exposed surfaces were irrigated by a warm stream of carbolized water (1–200) flowing from a fountain syringe, and a narrow strip of lint soaked in carbolized oil was placed on each side of the sutures after the operation and renewed daily for almost a week. The wound was thus kept in perfectly aseptic condition, and instead of the customary smart reaction there was scarcely a perceptible rise in the temperature, the thermometer ranging as high as 100.2° F. on one evening only. Vaginal douches were used after the second day, and the urine was drawn regularly with the catheter.

A special feature of the after treatment was the *diet;* a free use of milk, prescribed generally as a convenient form of liquid diet, has the great disadvantage of being followed by a large accumulation of fecal matter, the fatty portions being rolled together in hard or putty-like masses, which subjects the delicate union to a severe strain and may destroy it altogether. This peculiarity of milk as an article of diet in the sick-room has not been sufficiently recognized. Its extensive employment in diseases of the intestinal canal will doubtless be somewhat curtailed when this fact is more fully appreciated. The proportion of residual material in different forms of food is a point in the regulation of the diet which should receive more attention than it has hitherto. A liquid diet from which milk was rigidly excluded was prescribed in this and the other cases. It is well to begin this regimen the day before the operation, and for the first twenty-four hours after it to give little else than cracked ice and small doses of some fluid beef extract. The discomforts and dangers of flatus are also avoided. The following is the diet list of the case above mentioned :

First day, beef tea ℥viii., brandy ℥ii.
Second day, beef tea ℥xvi., brandy ℥iii.
Third day, beef tea ℥xxxii., cup of tea without milk for breakfast.

A few days later beefsteak was given, at first in small

quantities, and broths were substituted.[1] The stitches were removed on the fourteenth day, and the perineum was found to be firmly united throughout. The projection at the anterior margin of the anus had retracted so as to be imperceptible. As an experiment the bowels were not moved until the twenty-first day, and then, following a small dose of oil, an abundance of soft, slippery, and well formed scybala, in other words normal feces, was discharged.

In the second case the patient, thirty-five years of age, had a rupture of three and a half years' standing, which had been operated upon twice without benefit, the incontinence of the rectum being still complete; the rupture did not, however, extend beyond the sphincter. The entire flap made in the operation in this case was allowed to remain, and subsequently a portion of the tip about the size of a pea sloughed and was removed. Union of the perineal body was complete and there was absolutely no febrile disturbance. The same antiseptic precautions were observed during the operation and after treatment as in the first case. The stitches were removed on the twelfth day, and the bowels were moved by a small dose of oil on the twentieth day, the evacuations being normal in character.

The third case was one of the most aggravated forms of rupture one has an opportunity to see. It had existed but three months and involved the anterior wall of the rectum for a considerable distance from the anus. On separating the labia a large cloaca was disclosed, lined, particularly posteriorly, by a membrane in a state of irritation, a granular condition existing at some points. The patient was kept under preparatory treatment for two weeks to restore the parts to a healthy condition. The method of operating was precisely the same as in the other cases. The flap projecting at the anus, after the wound was closed, was folded on itself and held together by two fine silver sutures. The diet consisted chiefly of beef tea and chicken broth. The character of the bill of fare can be varied considerably, and

[1] A similar diet is also prescribed by the writer after operations on the rectum and uterus.

even solid food be taken at an early day, provided milk in every form is rigidly excluded. As illustrative of the tendency of the septum to retract, it may be mentioned that the flap was gradually sucked up into the rectum during the healing process, and was subsequently found nearly an inch from the outer margin of the sphincter. It could be felt in the rectum for some time as a little polypoid tumor, but eventually disappeared. If the tip of the flap was at this point, its base must have been situated from two to three inches from the sphincter muscle, showing how far the edge of the recto-vaginal septum withdraws into the pelvis when it has been liberated from its cicatrized position. The thermometer registered 100° F. on the second evening only. The stitches were removed on the thirteenth day, and the bowels were moved by an enema on the twenty-first day, when an abundant and natural evacuation occurred. No cathartic was given and no opiate was necessary, except one sub-cutaneous injection of one sixth of a grain of morphine the day following the operation. The body was not completely restored, but the union of the rectum and sphincter and a considerable portion of the body took place.

The points which the experience of the writer has shown to be of value in the treatment of this injury are: first, the restoration of the recto-vaginal septum by a flap, which does away with a rectal wound and with tension of the septum also; and secondly, the selection of an appropriate diet by which the character of the fecal discharges can be controlled. The plan, adopted by some operators, of having frequent and early movements of the bowel during the process of union does not seem to be in accord with good surgical principles, which recognize rest as a most important factor in the healing of a wound. It was designed to avoid a danger which with appropriate diet will not occur. The diet here recommended would doubtless be well adapted to such a method if it were thought desirable. The antiseptic douche, although it favors hemorrhage, keeps the parts well cleaned during the operation, and prevents inflammatory reaction, which, however, may be partially accounted for by

the lack of tension in the tissues. The stitches were kept in somewhat longer, as is the habit of the writer, than is customary. Experience shows that they do no injury, and serve a useful purpose in preserving the shape of the perineal body. The patients were all seen six months after the operation, and each one expressed herself highly pleased with the result.

NOTE. Since this paper was written, further experience in several cases shows the method of handling the flap as given in Figure 4, to be quite satisfactory. It is not necessary to dissect down the entire butterfly, but the dissection may be begun high enough on the vaginal wall to secure a sufficiently long flap. The denudation can then be continued with the scissors.

Emmet's plan of drawing down the vaginal mucous membrane by the upper stitch so as to cover the vaginal portion of the perineal body has been tried in two cases, with satisfactory results.