

The greatest objection to using the tubes of the present construction for "deep tubing" is their length. The O'Dwyer tubes (Fig. 4) when placed deep in the larynx, will reach to the seventh ring of the trachea, as shown by an autopsy. This, owing to the mobility of the lower end of the tube in the trachea in the varying positions of the neck, is a source of irritation exciting cough and inducing pain. One of my patients would invariably point to that locality when asked to locate the tube.

Finally, I would recommend "deep tubing" of the larynx as being preferable to "intubation," even though the long tubes are used, holding that long tubes are preferable only in very exceptional cases.

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### EMMET'S NEW OPERATION FOR PROLAPSE OF THE POSTERIOR VAGINAL WALL,

Or So-called Laceration of the Perineum.

*Abstract of a Paper read before the Obstetrical Society of Philadelphia, February 3, 1887,*

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Since I have become familiar with the subject it has each day seemed more incomprehensible to me why the Emmet operation has not come into more general use. I have come to the conclusion that the fault lay in defective description of the operation as set forth in most cases, and in the fondness of men for working on the skin perineum, and not in the operation *per se*. The operation, as described by most of the writers on the subject, is hopelessly mixed up with long discourses on side issues. Too much is left to be understood from diagrams alone, with insufficient attention to details in the procedure. These are prominent faults in the descriptions given by Drs. Emmet and Dudley. Dr. Dudley also obscures his paper, as presented in "Pepper's System of Medicine," by introducing several "modifications." The first of these is one of the essential steps in the operation, though not clearly described by Dr. Emmet in the third edition of his "Gynecology." It consists in carrying the denudation into the vaginal sulci. The second consists in passing deep sutures where Dr. Emmet passes superficial ones. In reality, Dr. Emmet's "superficial" stitches are only relatively superficial. His description of them distinctly calls for their being passed deeply enough to include the posterior wall. My excuse, therefore, for offering a contribution on such an old subject, is to attempt to make the steps of this operation clear; and if I seem tedious in detail to those who are familiar with the subject, I hope you will bear with me patiently.

The belief that the female perineum, or perineal body, gives any support to the pelvic viscera, is an erroneous one. The distance between the uterus and the perineal body is quite measurable, and the intervening tissues, which consist merely of the mucous vaginal canal and surrounding connective tissue, are by no means of such a firm character as to be able to uphold the uterus either *per se* or through

the support given by the perineal body below. The only aid this body could give the supposed support would be by the uterus resting directly upon it. Dr. Emmet puts it very happily when he says "it would be as rational to assume that a man's pantaloons were supported by the legs resting on the instep or foot." The principal support of the pelvic organs is their ligamentous attachments, on the same principle as the organs contained within the abdominal and thoracic cavities are suspended. A good proof of this is the fact that we constantly see women going about their daily work who have their superficial or skin perineum, not including the fasciæ or muscles, torn even to the sphincter ani, and who never have suffered any inconvenience therefrom, and who probably never will. The cause of all the various ailments following parturition, beginning proctidias, etc., will be found inside the vagina on the posterior wall. If any one will place his fingers on the posterior vaginal wall of a woman who has never borne a child, and move them first to one side and then to the other, he will find a firm resistance to pressure in any direction. If he now introduce his finger into the vagina of a woman who has had an injury to the pelvic floor during parturition, he will fail to meet with the resistance which he met in the first case. He will find instead a *rectocele* of greater or less extent, with deep divulging sulci running up each side of the recto vaginocèle, into which he can easily sink his finger without finding much resistance, and yet the external or skin perineum may be perfect.

To fully and clearly understand this change it will be necessary to consider the attachments of the pelvic viscera. The pelvic fascia descends until it reaches its attachment on a line drawn from the symphysis pubis to the spine of the ischium, where it divides into two layers, the outer or obturator, and the inner or recto-vesical fascia. This line of separation in great part also corresponds to the line of attachment of the levator ani and coccygeus muscles. The levator ani extends from this attachment downward, and passing under the vagina is inserted into the rectum at different points. It is covered on its upper surface by a reflexion of the recto-vesical fascia, which binds it closely to the vagina and sphincter vagina muscle, and on its under surface by a reflexion of the obturator fascia, which binds it closely below. The transversus perinei, when it exists at all, arises from the pubic arch, and its fibres are lost in the sphincter vagina directly under the vagina. In speaking of the use of the sphincter vagina Dr. Goodell says that "the property of this muscle is to pull down the rigid clitoris into contact with the male organ, to squeeze out the contents of the vulvo-vaginal glands, and to compress the dorsal vein as well as the bulbs of the vagina, so as to obstruct mechanically the current of blood and produce a tumescence of these erectile organs." If this be correct, we have an explanation of the loss of sexual power and desire so often seen in women who have suffered from a tear of this muscle. The recto-vesical fascia sends out reflexions from its bony attachments also over the vagina as well as over the other pelvic contents, forming the strong ligaments which

hold them in place and give firm support to the different venous plexuses; amongst others the vaginal plexus.

The advancing head of the child, under certain circumstances, crowds the soft parts in advance as it sweeps along the pelvic floor and the fasciæ and muscles just described, becoming over-distended, separate and retract, forming deep sulci laterally. Frequently the injury is sub mucous. The external soft parts or skin perineum may be torn or not; very often it remains perfectly intact. There is no question in my mind that this injury is caused with unnecessary frequency both by the injudicious use of the forceps and by our vain efforts to "support the perineum." As a rule our patients would be far better off if we were to throw our forceps away and keep our hands off the perineum, as far as any idea of giving it support is concerned. If we hold the head back the vis-a-tergo must be spent somewhere, and that somewhere is the pelvic floor, which suffers accordingly.

The mere rupture of the fasciæ and muscles would cause the woman little trouble of herself, but the results are far-reaching. The fasciæ being the chief support of the blood vessels, we now have these large veins with no support but their own walls; consequently we soon have a chronic engorgement, with dilatation and a very sluggish return of blood from the parts. The viscera become engorged and heavy. The anterior wall, which has lost its main support—the posterior wall—begins to roll down and out, forming a cysto-vaginocele; the posterior wall gradually pushes forward and bulges from the vaginal orifice as a recto-vaginocele. The fundus uteri becomes or remains enlarged and falls backward from its weight and the traction of the vaginal wall. Gradually but surely the ligamentous attachments of the uterus are stretched and the whole organ slowly descends, dragging everything with it. We eventually have all the phenomena of complete procidentia if things go on unheeded. This theory of the injury in the female pelvis in parturition is by no means new. It is substantially the same view held by Emmet and expressed by Hadra, in the *American Journal of Obstetrics*, April, 1884, by Wylie, in the *N. Y. Medical Record*, March, 1885; Skeene, in *N. Y. Medical Journal*, April, 1885, and by James Price, in a paper read before the Philadelphia County Medical Society last spring.

The old operations, devised on the supposition that the injury of the perineal body was the cause of all the symptoms, included far more labial tissue than had been involved in the tear, and were entirely inefficient for restoring the pelvic floor. They caused an unnecessary barrier to coition, and frequently left the patient with a certainty of return of all her ailments, and a probability of the tear being reproduced at a subsequent labor.

The only satisfactory surgical procedure suggested as a cure of the injury is that of Dr. Emmet, for "restoration of the pelvic diaphragm." The patient is placed in the dorsal position, and the labia separated by assistants; hook a tenaculum or a ligature (which remains a permanent landmark to the end of

the operation) into the crest of the rectocele and draw it upwards, without undue traction, to the meatus, and place it in the hand of an assistant. Hook another tenaculum into the labial tissue on each side directly opposite to or in the lower caruncle or remains of the hymen. If slight traction in diverging directions be made in all the tenacula at the same time three triangles are formed having the crest of the rectocele for their common apex. The base of the first is a line drawn from caruncle to caruncle, and the bases of the others a line drawn from each caruncle to a point far up the sulcus of the same side. On denuding these surfaces and bringing the three tenacula together, "the vaginal canal will be found reduced in size, the perineum will have been apparently drawn up toward the arch of the pubes, and the tissues of the previously gaping outlet will have been rolled in until the vaginal entrance is no longer larger than that of any female who has not given birth to a child at full term." The posterior wall is brought firmly up against the anterior wall and bladder, giving them their natural and necessary support, and preventing their rolling down and out. Care must be taken not to denude too much surface in the sulci, as failure may result, the sutures cutting out from undue traction. The scissors should be used for all plastic work in the vagina. Any one becoming accustomed to their use will never go back to the knife. The bleeding is infinitely less and much time is saved by the celerity with which they can be handled.

The most essential part of the operation is the introduction of the sutures. They are passed from the apex of each sulcus toward the operator. A tenaculum is hooked into the apex of one of the sulci and drawn away toward the cervix uteri, thus preserving the line on which the sutures are to be introduced. The sutures are then all passed toward the operator to the bottom and median line of the sulcus, plenty of tissue being included; the sutures emerge at the median line of the sulcus and are reintroduced in the same spots and carried away from the operator, emerging just beyond the freshened edge of the rectocele directly opposite the original point of introduction, on the other side of the sulcus, thus taking a V-shaped course. The number of sutures is usually four or more. The other side is sutured in the same manner. When these sutures are all drawn up into place and closed, there remains a small triangular space of freshened surface in front of the rectocele, which is closed by the so-called crown stitch and one or two superficial external stitches. The crown stitch is introduced through labial tissue at the lower caruncle, the original point of introduction of one of the tenacula carried across through the crest of the rectocele and then through labial tissue at the lower caruncle on the opposite side. All the other sutures are now lost to view within the vagina. The resulting shallow line directly in the median line of the perineum is closed by one or more superficial external stitches. They are passed deep enough to include a portion of the posterior vaginal wall.

The day for plunging a great perineal needle through glutoid tissues, skin, muscles, fasciæ, nerves

and blood-vessels, is past. It is as much a relic of barbarism as searing the stump of an amputation to stop hæmorrhage, and causes much pain and suffering. The material of the suture is immaterial. Catgut can be either shotted or tied. As moisture causes the gut to swell, it should be shotted as soon as passed and fastened to the pubic hair with a pair of hæmostatic forceps. This will keep them out of the way of the operator. Dr. Emmet always uses silver wire twisted and then shotted so as to be easily found; the end is bent over and lies flat on the tissues. Silkworm gut should always be shotted. It makes an excellent suture, and forms a good splint to the tissues. Whatever is used, the stitches are equally hard to find and remove. A very easy method for either wire or gut is the use of "Aveling's wire coil." These can be made by wrapping a piece of silver several turns around a straight needle or other staff, to form a close coil about half an inch in length. This coil is slipped over the two ends of the suture and secured in its proper place by a compressed shot. In removing, snip off the shot, remove the coil, and the suture has ends as long as the coil was.

The after-treatment is very simple. If the patient would stay quietly in bed she would recover with perfect union without the doctor's attention. As a rule the patient complains of no pain, and opium and alcohol are not needed. The bowels are kept soluble from the first; and the urine is passed every four or five hours, the patient getting on her hands and knees if necessary. There is no necessity for binding the knees together, nor for keeping the woman in one position for days. The stitches may be taken out on the eighth day.

#### A CASE OF INTRA-LIGAMENTOUS OVARIAN CYST; GENERAL PERITONITIS; UNIVERSAL AD- HESIONS; OVIOTOMY; RECOVERY.

*A Paper read before the Central Kentucky Medical Association.*

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In previous reports of cases of ovariectomy to this Society I have described the technique of the operation, and discussed points relating to the diagnosis and pathology of ovarian tumors. So much has been written of late upon this subject, and such brilliant results have been obtained by many operators, that an eminent authority suggests the idea that the last words are said upon the subject. While this degree of perfection may apply to a few expert operators working amid the dense population of certain European countries, the subject of ovariectomy cannot be regarded "a closed chapter" by the profession of the United States, where a large population is scattered over a vast area and the work necessarily distributed among a large number of operators. Hence I make no apology for reporting in detail the following difficult and complicated case, illustrating, as it does,

so many important points in advanced abdominal surgery.

On November 18, 1886, I was called to Williamsburgh, Ky., by Dr. E. S. Moss, of that town, to see Mrs. G. W., aged 29 years, the mother of six children, the youngest being 3 years of age. The patient was confined to her bed, vomiting daily, and suffering severely from the effects of intra-abdominal prepuce. The tumor was first observed two years ago. Six weeks previous to my visit she was tapped and a large quantity of fluid drawn off. This was followed by a severe attack of general peritonitis, the temperature ranging above 105° F., during which her life was almost despaired of by her physician. Three weeks before my visit she was tapped the second time, and the fluid again rapidly accumulated. A careful physical examination confirmed the diagnosis and suggested extensive adhesions.

The operation was performed at 11 o'clock on Thursday, November 18, 1886, the following gentlemen being present: Drs. E. S. Moss, Gatliff, Watkins, Parker, Blain, and Ellison. Dr. Gatliff administered ether, and Dr. Moss kindly assisted me throughout the operation. On making the incision through the abdominal wall I found the peritoneum and cyst firmly adherent, and dividing this layer the tumor was opened. Turning the patient on her side a large portion of the contents was discharged. Introducing my hand, the tumor was found to be multilocular; the additional compartments were torn open and emptied. At this stage of the operation I was first able to appreciate the immense size of the cyst and the extent of adhesion. Only three weeks having elapsed since the last tapping, and the fluid not having fully refilled the sac at the time I saw the patient, I had failed to realize the immense size of the sac. I now discovered that the tumor extended from Douglas's cul-de-sac to the diaphragm, and that the adhesions were absolutely universal.

Being unable to evert the sac, I sought for some unattached point through which I might gain entrance to the peritoneal surface and remove the cyst by enucleation. In this I failed, for the preceding peritonitis had firmly fused the peritoneum and cyst wall, leaving no unattached point. To determine this point thoroughly I enlarged the incision from three to about five inches. Finding it impossible to gain an entrance by an unattached point, I began the dissection of the cyst with scalpel and forceps at the edge of the incision. I succeeded in getting "a hold" in this way, and proceeded cautiously, but as rapidly as I could, in the work of enucleation. I stripped the cyst from the pelvis, the bladder, and the whole surface of the womb, from the ascending, transverse and descending colon. I then stripped the small intestine and omentum from the cyst. The latter was extensively and firmly adherent, and required a number of ligatures. I was careful to avoid injury to the ureters on each side, an accident not unknown in such cases, and, of course, one of the utmost gravity. The lower portion of the cyst I found included between the folds of the broad ligament, and had to be carefully enucleated. The tumor sprang from the right side. When all the adhesions were