IMPROVED TECHNIC OF AMPUTATION AND TREATMENT OF THE STUMP IN APPENDECTOMY.

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After the separation of adhesions binding down the appendix and ligation and splitting of the meso-appendix, the surgeon comes to the most important steps in appendectomy, namely, the abscission of the appendix and the disposition of the stump. By many operators the meso-appendix and the neck of the appendix are, as is well known, tied with strong silk ligatures, cut off and the stump of the appendix is cauterized with pure carbolic

Fig. 1.—Appendix forceps with shields attached.

acid and invaginated into the coats of the colon by Lembert sutures. Another popular method is that of turning down a cuff of peritoneum, pulling up the other coats, ligating these at the base, abscising, permitting the musculo-mucous stump to retract and suturing the peritoneal cuff over the stump. This is well known as Barker's method, and is used with slight modifications by Kelly, Deaver and others.

Many surgeons prefer not to ligate the mucous membrane, but simply to cut the appendix across, closing the distal end with a clamp or ligature and compressing the proximal end with the fingers, then invaginating the stump into the cecum and securing the whole with the purse-string or Lembert suture. When this method is used, particularly if the tissues be much thickened, there is liability of escape of the contents of the cecum or appendix, or both, into the peritoneal cavity during the operation.

Fig. 2.—Appendix forceps with shields detached.

Joseph Eastman applied a light clamp to the base of the appendix and removed the appendix by cauterization. He invaginated the stump with four or five Lembert sutures placed in position, while the clamp yet held the base of the appendix and prevented the escape of the contents of the intestine. The stump was invaginated by the tightening of the middle ligature simultaneously with the withdrawal of the forceps.

Deaver describes his technic as follows: "The meso-appendix is to be tied off and cut away from its appendiceal attachment. This is accomplished by transfixing its base by a small pair of forceps. A piece of catgut is

engaged in the jaws of the forceps, which are then withdrawn and with them one-half of the catgut ligature. After tying the ligature the meso-appendix is cut away with a pair of scissors. A circular incision is now made through the serous coat of the appendix one-quarter of an inch from its junction with the cecum. The serous coat is next stripped back toward the cecum, leaving a cuff of peritoneum, after which the appendix is ligated with silk and the organ removed. The mucous membrane of the stump of the organ is curetted and antiseptized with a solution of mercury bichlorid and carbolic acid (1:4000 and 1:60 respectively). The serous coat is stitched with a fine needle and silk over the stump thus left. The stump now covered with peritoneum is invaginated into the wall of the cecum with continuous Lembert sutures." Deaver adds that "when the appendix is gangrenous or friable, or is involved in inflammatory lymph, we have to content ourselves with a simple ligature, taking in all coats of the organ. The stump thus remaining should, if possible, be invaginated into the cecum."

Fig. 3.—Appendix forceps with detachable shields for the arrest of pus and intestinal contents from appendix verm. and for the protection of intestinal serosa from the heat of the cautery.

McBurney, after cutting away the appendix as usual, holds the edge of the stump with forceps. The permeability of the short canal is determined with a probe. A fine point of the Paquelin cautery is then pushed in so as to destroy the mucous membrane nearly to the colon and a fine catgut ligature is tied about the stump within the cauterized area. The button of the stump beyond the ligature is then reduced with scissors to very small proportions and its surface freshly cauterized.

Some operators prefer pure carbolic acid to the Paquelin cautery for the destruction of the mucosa of the stump.

Dawbarn (Dennis' System of Surgery) passes a purse-string suture of silk through the superficial layers of the cecum one-fourth of an inch distant from the base of the appendix. It is first placed but not tied. The appendix is cut off, leaving the stump about half an inch long. The canal of the stump is dilated with fine forceps and the stump is invaginated into the colon. The purse-string suture is now tied, the forceps used for invagination being withdrawn at the moment of tying. An objection to the purse-string suture consists

in the fact that where it is alone used reliance is placed on a single thread which, if it breaks or cuts out, may permit leakage. It should therefore always be reinforced by Lembert sutures.

Whatever the method employed, the operator seeks, as has been observed by Howard Kelly, to accomplish two things, the prevention of contamination of the surrounding tissues with bacteria or pus from the lumen of the appendix or intestinal contents from the cecum and to prevent injury to the intestines, large and small. It can hardly be denied that the removal of the appendix by the application of the cautery between the jaws of the two pairs of light clamps vouchsafes more protection against infection of the peritoneum than simply cutting off with the scissors or knife. When the stump is thick and rigid and much disorganized, invagination may be impractical, in which case annihilation with the cautery with accompanying destruction of bacteria will leave a condition of affairs more favorable for prompt healing than may be produced by depressing the dangerously infected stump into the wall of the colon (instead of into the lumen of the latter), in which case drainage of the septic stump into the colon may fail to occur.

Fig. 4.—Shields removed from forceps permitting introduction of purse-string suture. (After Dawbarn.) Suture is inserted before the removal of forceps.

Kelly further observes that "in some cases where there is extensive suppuration of the appendix, or where its peritoneal coat is friable, it may be impossible to obtain a peritoneal envelope for the stump. Where this can not be effected, he says, "it is better to throw a silk ligature around the entire appendix, tying it tightly, and then to cut it off beyond the ligature, sterilizing the end and covering it with the peritoneum by suturing a fold of the colon over it."

An objection to tying a circular ligature about the base of the appendix either internal or external to the serosa, is that such a ligature having been applied does not permit of exploration of the canal of the stump for the purpose of determining whether the same is patulous. If a ligature is thus applied beyond a stricture the operator will, as McBurney has stated, reproduce the conditions liable to produce a fresh attack. After the abscission is made the probe should always be passed "through the base of the appendix into the colon to determine that natural drainage for the stump will exist. If the canal is not pervious the interior up to the point of stricture should be dissected out or cauterized before suture or ligature is applied." The use of a light clamp

permits exploration of this canal. If two light clamps are used and the appendix is severed between the jaws of the clamps with the Paquelin cautery, the danger of the escape of pus, fluid intestinal contents, fecal concretions or other infectious material into the peritoneal

Fig. 5.—Tightening of the purse-string suture simultaneously with removal of forceps and invagination of stump.

cavity is greatly reduced. If the author's special clamp, shown in the illustration, be used, all material escaping from the appendix on severing it with the cautery will be caught in the shields which are at the sides of the

Fig. 6.—Lembert sutures in position before removal of forceps.

forceps jaws. These may also be appreciated for their value in holding back obtrusive coils of small intestine and portions of omentum out of the range of the heat of the cautery. No matter how accurately gauze sponges are arranged about the base of the appendix, they can hardly

protect the peritoneum from the heat of the cautery or from contamination with the contents of the appendix as can these shields.

After the separation of the appendix the shields may be very easily removed. No jerking is required. The slightest traction releases them. After they have been displaced the base of the appendix is held in a simple light clamp. It is now readily possible to introduce the purse-string suture, after Dawbarn's method, or the Lembert sutures, after the method of Joseph Eastman, the forceps remaining in place and preventing escape of infectious material until the purse-string suture is ready for tightening, or the Lembert stitches, all in place, are ready for tying, according to the choice of the operator and the shape of the stump. The purse-string suture, if used, should be drawn tight as the forceps are removed. On the release of the stump by the removal of the forceps the canal may be explored and the stump invaginated. All of these manipulations may, if it be desired, take place simultaneously.

If the method described be used there is hardly any time at which there is a possibility of pus or any infectious matter from the lumen of the appendix or cecum escaping into the peritoneal cavity. The jaws of the forceps are so light as to cause very little constriction or devitalization of the tissues of the stump.

The use of the forceps minimizes hemorrhage and will in most cases shorten the time of operation. As to the use of the cautery for the separation of the appendix there can hardly be a valid argument against its use. McBurney and many others cauterize the stump after removal of the appendix. Why, therefore, not secure the additional safeguard against infection by making an igni-amputation of the appendix with the cautery? In most cases a separation may be accomplished with the cautery almost as quickly as with the knife, and certainly with greater safety. The forceps should have slender jaws beveled on the under side to avoid cutting the serosa of the cecum where they compress.

The forceps as represented in the illustration appear somewhat heavier than they should be. The grooves in the jaws should not run transversely, but parallel to the jaws of the forceps. The jaws with longitudinal grooves may be more readily withdrawn from the appendix.

THE SUCCESSFUL TREATMENT OF GONORRHEA AND ALL INFLAMMATORY DISEASES OF THE URETHRA

BY PACKING IT WITH AN ANTISEPTIC OILED DRESSING.

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Neisser declares gonorrhea to be the most prevalent contagious disease, except measles, in all Europe, and that more than three-fourths of the urban population have had the disease. I believe reliable statistics would show the same condition to exist in America. So widespread is this disease that few practitioners are ever without one or more cases. The consequences and sequelæ of gonorrhea are so often hurtful and its treatment by the profession generally has been so uncertain and unsatisfactory that it really is to be considered a woeful disease.

The injection treatment, perhaps the most universally used, and, by the way, the most abused, can never be depended on to yield definite results. The irrigation treatment, now popular with a large number of physicians, is so often disappointing that it is scarcely more

commendable than the injection treatment. Internal medication is not to be considered a treatment *per se*, and should only be used as an auxiliary to local treatment. Certainly nothing approaching a specific has ever heretofore been proposed to treat this most common affliction of mankind. Hence it is with peculiar pleasure that I announce to the profession a new method of treating this intractable malady by packing the urethra with an antiseptic oiled dressing.

When a patient presents himself for treatment he is examined carefully to ascertain the real condition to be dealt with: whether the case be acute or chronic, anterior or posterior gonorrhea, and what complications, if any, exist. I believe in giving only the most important directions and require them to be carried out. When too many directions are given the patient he is not careful to follow any of them. I advise bodily rest only when convenient for the patient. A regular non-stimulating diet is allowed. Coffee, tea and tobacco are to be used sparingly. It is better if they are discontinued entirely. Alcoholic drinks and sexual indulgence are absolutely prohibited while under treatment. Salines are directed to keep the bowels open. The treatment proper is given in the following manner: After the patient empties his bladder completely the urethra is irrigated with a hot solution of potassic permanganate, about 1 to 3000. For this purpose I use the Valentine irrigator; though, if nothing better is at hand, the urethra may be flushed out several times with the ordinary rubber-tipped hand syringe. The packer

Fig. 1.—A. Groove for index and second finger. B. Slide. C. End slightly tapered and curved. D. Edge rounded and smooth.

is then dipped in a bottle of the solution used on the dressing, or glycerin may be used instead; after which the penis is grasped with the fingers of one hand and the packer introduced slowly and carefully into the urethra with the other hand. It is passed back about four inches in anterior gonorrhea and back to the neck of the bladder in posterior gonorrhea and prostatic troubles. Force is never used in introducing the packer. The urethra is then lightly packed with one inch continuous gauze strips, or better, a loosely spun cotton cord, which I now use, saturated with one of the following solutions:

R. Iodoform gr. xcv
Balsam of Peru ʒiv
Castor oil q. s. ad ʒiv

Rub iodoform in castor oil, then add balsam of Peru. You will notice that the odor of iodoform is practically masked in this solution. Or:

R. Ichthyol
Resorcin, aa gr. xl
Balsam of Peru ʒiv
Castor oil q. s. ad ʒiv
M. Ft. sol.

The instrument is gradually withdrawn as the dressing is pushed through, and when it emerges from the meatus the cord dressing is clipped with scissors, leaving about one-eighth inch of the cord outside of the meatus, which can be taken between the fingers when the cord is to be removed. A small piece of cotton is placed over the head of the penis and treatment is complete. The patient is now instructed to go as long as he possibly can before urinating, when the cord is slowly removed. The average patient will go from five to eight hours before urinating without much discom-