

DR. C. L. BONIFIELD, Cincinnati—In the remarks made credit has not been given to an American operator to whom it is due. Dr. I. S. Stone, Washington, D. C., originated the idea of lifting the bladder up and attaching it to the uterus at a higher level. He proposed this method in a paper before the Cincinnati Academy of Medicine two or three years ago and he is entitled to priority in the principle involved. Dr. Stone also recommended, although this was not original with him, that after the bladder had been lifted up and attached to the uterus higher than before, that the uterus be fixed to the abdominal wall. This is one of the best operations that can be done for bad degrees of prolapse. I think the operation that Dr. Thienhaus speaks of, turning the uterus in the vagina, and stitching the vaginal wall to the posterior wall of the uterus, should be mentioned only to be condemned. It does not appeal to reason.

I agree with Dr. Boyd in almost everything he said. Prolapse of the uterus and posterior vaginal wall are to be regarded as a kind of hernia. These things are particularly apt to occur after a woman has had several children and her health has been much reduced, and when the subcutaneous fat is being absorbed. This is also true of hernia. I have known men, as well as women, who, when they were run down from any cause, had an inguinal or femoral hernia. When the general health was improved, the hernia disappeared, without operation or truss. With advancing years the hernia reappeared, proving that the general tone of the system has a good deal to do with it. The real cause of prolapse is disproportion between the strength of the supports of the uterus and the weight of this organ itself.

If you weaken the supports, you are bound to have a prolapse, as they can not hold the uterus in place and the first step in a prolapse is retroversion. The cause of weakening the supports is absorption of the subcutaneous fat, relaxation due to frequent pregnancies or poor health. Dr. Goffe said that the uterus was held in position by the ligaments. That probably was true when we went on all fours. If you look at the uterus as an organ to be held in place by ligaments, you can see that these ligaments would answer admirably if we were quadrupeds, but they do not hold the uterus in position now, when we are bipeds. Intra-abdominal pressure is one of the most important factors in holding the uterus in place, and we can not have this unless there is a certain amount of tone to the abdominal wall.

If weakened supports and increased weight of the uterus are the causes of prolapse, the indications for treatment are to diminish the weight of the uterus and increase the strength and, if necessary, add to the number of the supports. The weight of the uterus can be diminished by rest in bed, tampons, curettage and amputation of the cervix. The strength of the supports can be increased by tonics, exercise and massage. Ventrosuspension or fixation gives the uterus an additional support of value. Ventrofixation should not be done in a patient that is liable to become pregnant, but there is not the same objection to doing a ventrosuspension. No matter by what method a woman who has suffered from an extreme degree of prolapse has been cured, she should not permit herself to become pregnant.

Dr. Thienhaus mentioned a European operator that has 8 per cent. of hernias following abdominal section. I should feel very much chagrined if my abdominal sections were followed by that percentage of hernias. The best operators in this country, men who close the abdominal wall with due care and pay especial attention to the after care of patients, secure better results than those quoted.

I agree with Drs. Boyd and Ingraham that the uterus should never be removed in these cases. I have never done it, and never will, but I have had a number of patients come to me where someone else had removed the uterus and the last condition was worse than the first. Dr. Thienhaus pointed out that his operation is not applicable to cases that are liable to become pregnant.

DR. EDWIN RICKETTS, Cincinnati—I heard the paper read by Dr. Stone at Cincinnati, and it affords me great pleasure to hear out what Dr. Bonifield has said in regard to it. If you have not already looked up the operation suggested by Dr.

Stone, you will find it of great interest to do so. As has been said, these cases should be classified, and in all those cases where abdominal fixation is done, the patient should never be permitted to become pregnant afterwards. In abdominal fixation another thing must be taken into consideration, and that is the condition of the perineum. No matter what you do, your efforts will be futile if you do not repair a lacerated perineum. High amputation is a thing that must be considered in some cases if we wish to obtain the best results. There are things that go hand in hand, and we must always be careful to exercise our best judgment in determining what is best to do for these cases of prolapse.

DR. THIENHAUS, in closing—I have not much to add to what I have already said in my paper, and if I have succeeded in arousing your interest in the subject I shall feel myself well repaid. Dr. Metcalf will find that in many of the cases of prolapse of the uterus, in which a vaginal hysterectomy has been performed, a hernia develops later on. When we have to deal with an umbilical hernia of larger size we split the sheath of the rectus muscle and make use of this muscle in one way or the other. In the same manner we can make use of the muscular wall of the uterus in cases of prolapse and this principle I have advocated in my operation.

SURGICAL TREATMENT OF HEMORRHOIDS.*

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DETROIT.

I bring this subject before the Section on Diseases of Women because hemorrhoids so frequently accompany pathologic changes in the uterus and its adnexa. The gynecologist who does not treat the rectum can not get the best results.

From the time of Samuel, when, as is recorded, the men of Ashdod, Gaza, Askelon, Gath and Ekron had emerods in their secret parts, and I know not how long before this period, the treatment of hemorrhoids has been of interest. In those ancient times the priests instructed the Phillistines to prepare five golden images of the emerods which "mar the land," place them in the ark of the Lord and return them as a trespass offering to the Israelites, from whom they had taken it. This they did and were accordingly healed. The same act on the part of the laity prevails to-day, with this difference, the golden images are given to the surgeon, or more often to the quack specialist instead of to the priest. Last year, while visiting southern Mexico, I found some of the inhabitants there carrying a species of native bean in their pockets, believing that so long as they did so they would not be troubled with piles.

We will pass from these faith cures to treatment based upon the thought of their being material entities of only local significance. This thought produced methods of treatment in which the comfort of the patient and the welfare of the organism received little or no consideration, and some of these methods are in use to-day. The thought governing the best treatment lies midway between these extremes.

I believe that to the presence of internal hemorrhoids is due many of those reflex phenomena frequently ascribed to pathologic changes in the organs of generation. Arguments to substantiate this statement are to you, gentlemen, unnecessary, and I will pass them by with a few observations. I have seen tic of the orbicularis palpebrarum muscle of twenty years' standing disappear immediately upon the removal of internal hemorrhoids; long-continued pain in the epigastric region disappears within a week not to return; sciatica cured;

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intestinal fermentation attended with constipation or diarrhea disappear; improvement in the circulation; a desquamation of the cuticle; improvement in hearing; relief of hyperemia; improvement in digestion and nutrition, and numerous other manifestations which compel my recognition of internal hemorrhoids as a possible cause of numerous systemic disturbances. Any or all of these phenomena are occasionally observed following correction of pathologic changes in the uterus and its adnexa.

External inflamed hemorrhoids which produce local discomfort are productive of less disturbance in distant parts of the body than is caused by internal hemorrhoids of which the patient has no thought.

When possible, operation on the rectum should be done at the same time as operations on the genital organs. A method should, however, be used which leaves less immediate irritation than the system has been subject to from the condition which attempt is made to correct. Thorough dilation of the sphincters should accompany any traumatism within their grasp. The result is to cause dilation of all capillaries and thus to relieve local congestions by equalizing the circulation. This insures better results, both immediate and remote, in operations on other parts.

The thought of prevention of hemorrhoids and of the permanence of cure compels a consideration of their causes. According to David's report in the LXXXVIII Psalm, God smote His enemies in the hinder parts because of their high living. Intemperance and worry are still recognized as potent factors in their causation. We may add to the anatomic causes which are recognized as chief, inherited tendency to weak vein walls; undue straining at stool, which, in some cases, is necessitated because of disease of the rectal valves, as pointed out by Dr. Martin of Cleveland; morbid growths or pathologic changes which obstruct the veins of the portal system; any disease in any part of the body which disturbs the equilibrium of the circulation; or any irritation which reflexly disturbs the peristalsis of the intestine or the quality or quantity of the digestive secretion. Thus in the preventive treatment of hemorrhoids the gynecologist plays an important rôle.

The question of contra-indications to operation upon hemorrhoids commands a much less serious consideration when we recognize that practically no danger attends such operations. The life of a patient who has had or is having a condition of more or less definite portal obstruction, may, in many cases, be made more endurable even if we do not, as I believe, vastly improve the prospect for a substantial gain in general condition. And of no class of cases is this more true than of those which come under the eye of the gynecologist.

The method of treatment which I shall endeavor to present for consideration is based upon an experience of more than seven hundred cases operated upon during the last ten years. You are all undoubtedly familiar with the methods advocated by Mathews, Ball, Allingham and Gant.

Of the method by ligature Mathews says: "Scarcely has there ever been such a consensus of opinion among noted surgeons in regard to the surgical treatment of any disease as of internal hemorrhoids." All the authorities to which he refers agreeing that the ligature is the "simplest and most radical cure for internal hemorrhoids." Ligature *en masse* is meant. In this connection Mathews says: "It is important to use two sizes of thread—a small size for the small tumors and a larger size for the larger tumors." Further he says:

"I think a stout linen thread quite as good as silk, but it must be understood that it must be so stout that it will not break with the hardest pulling. Much confusion arises, especially after transfixing a tumor, from having the thread break. It is best, also, to have it well waxed, for the reason that it adds somewhat to its strength, but mainly because it makes the knot more secure." I will not quote further, as you are all familiar with the method. He raises the question as to how much of the pile should be cut off above the ligature, with reference to which he says: "I think the advice usually given by authors is a little too careful, for this reason, if we only clip off a little portion of the tumor we leave the major portions to be pushed back into the bowel, consequently that much more tissue is left to slough." Further, he says: "I am in the habit of cutting off two-thirds." Thus one-third of the tumor above the ligature, we should observe, is replaced to slough. In this connection Ball of Dublin says in substances: "Ligatures, or sloughs following crushing and the use of the cautery, come away about the end of the first week. There remain, however, ulcerated surfaces which require about another week to heal. During this period it is better for the patient to remain in bed because the rectal veins have no valves, which condition may prevent healing."

Does not the surgical principle of avoidance of tissue strangulation apply to this as to other parts of the body? There is a better method. Internal piles are tumors formed by dilated vein extremities embedded in exudate, the result of congestion, and lying wholly or in part above the external sphincter. This exudate in time becomes fibrous. The arterial supply of these tumors is from above, the vessels extending parallel with the gut. The tendency of these arteries when cut is to retract within the loose tissue above the tumor. The vein extremities can be cut without danger of hemorrhage. I am now speaking of uncomplicated internal hemorrhoids, which I believe always arise between the sphincters. In some cases they do extend above the internal sphincter, in dealing with which the danger of hemorrhage is greater and ligation of arteries is occasionally necessary.

Allingham¹ describes his method of excision as follows: "In performing excision I first gently but fully dilate the sphincter muscle and employ a retractor to keep the anus well open. I then seize the pile deeply by the base, cut it off below the level of the vulcellum, and do not let it go till all the bleeding is arrested by torsion of the arteries. Rarely more than two vessels spout and require twisting. I wait for a little while to see that all bleeding has ceased, and then I treat the other piles in the same manner." Mathews says of this method: "I think that those who have done much operating around the rectum will bear me out in saying that in but few hands could this operation be regarded as a safe one, and can never become popular." I do not agree with Dr. Mathew's prediction, and would add to Dr. Allingham's description that in many cases even torsion of the arteries is not required.

In my opinion uncomplicated internal hemorrhoids should be treated in the following manner: The comfort of the patient is dependent on the closest attention to detail. Two or three days before operation a physic should be given. A gentle physic should be given the day preceding operation, a high enema the night before, and an ordinary enema the morning of operation. The patient is fully anesthetized and placed in the dorsal

1. Mathews: "Diseases of Rectum," p. 149.

position, the legs being held by a Clover crutch. I prefer the dorsal position because in the majority of cases genito-urinary work is required, and should ordinarily be done before the rectum is touched. I prefer to clip off the hair with the scissors. If parts are shaved great discomfort attends its outgrowing at a certain stage. The most satisfactory speculum that I have found is known as the Pratt bivalve. After adjusting the speculum so that a pile tumor presents between the separated blades, I take hold of the margin of the mucous membrane below the tumor, and with the sharp-pointed scissors curved upon the flap I strip off the membrane covering the vein extremities, which often present the appearance of grapes and should be clipped off with scissors. If there be but a small quantity of fibrous tissue, this is all that is necessary; the tumor will have disappeared. If there be much fibrous tissue, I cut it off smoothly from the surface of the muscle. If a spurting vessel presents I pick it up with a pair of artery forceps and proceed to deal in the same manner with the next tumor. (The largest arteries are found, one anterior and one upon each side near the center.) When I have thus passed around the whole circumference I remove the artery forceps. I then dilate the sphincters gently but thoroughly and examine for bleeding points, which if found are again picked up with fine-pointed artery forceps and ligated with fine catgut, placed through the tissue as a stitch that it may not slip off. The thorough divulsion is a potent factor in the lessening of the venous hemorrhage. This ligation is seldom necessary, as the artery, freed from the fibrous tissue, retracts, and its intima being wounded by the forceps, its lumen is closed. If irritable tags of redundant skin about the margin of the anus have to be removed, leaving a considerable surface denuded, the skin edges should be approximated by suture to lessen the formation of cicatrix. A plug of gauze dusted with antiseptic powder should then be inserted. This plug lessens capillary hemorrhage. It should be removed as soon as the patient complains of pain, but before consciousness is gained. Its removal clears away any small clots which may have formed. Sterile gauze wrung out of water as hot as can be borne is at once pressed firmly against the anus. This is repeated by the nurse every few minutes until the patient is comfortable, when a larger compress should be firmly secured by a T-bandage. This gentle but firm pressure lessens the tendency to spasm.

If the patient be a woman morphin is seldom required—in fact, many will never know that the rectum has been operated on when it is done in connection with other operations. In men there is usually a greater tendency to spasm of the sphincter muscles, and an anodyne often has to be given.

It will be seen that this method leaves strips of mucous membrane longitudinal to the gut and attached to the skin margin and to the membrane above. This makes subsequent stricture impossible, and from these strips of membrane new will develop to cover the entire circumference in about a week. Such surface can be more easily kept clean and has greater power to resist infection than has a tissue crushed to the point of sloughing by ligature. After the first day comfort and cleanliness are insured by letting a stream of some antiseptic solution play upon the parts, the patient being placed upon the side upon a rubber pad and instructed to strain down. Water need not be thrown within the sphincters. In fact, I think it better not to pass anything into the rectum until healing is well-nigh complete, unless colic is troublesome, which may and should be relieved by the

passage of a sterilized rectal tube. The wounded surfaces usually induce constipation until a stool is forced, which should be done about the fifth day, by which time if there has been no infection the surface is covered with epithelium.

In discussing the question of scar formation, the principles of general surgery should hold here as elsewhere, that the relative approach to asepsis will induce a consequently less marked degree of inflammatory reaction, small-celled infiltration and formation of new connective tissue. The closing in of the epithelial structures from both the columnar above and the squamous below is prompt and is evident microscopically, as I have repeatedly demonstrated in dogs, as well as in a case who died a month after operation. In this case the operation was combined with others and the result could not be traced to any relation with the rectal operation since healing had proceeded as usual by what was practically first intention.

Dr. Henneage Gibbs, pathologist of the Detroit Clinical Laboratory, reports as follows, after examination of the rectal mucus membrane taken from a dog five days after operation: "Result of examinations of sections through the whole affected part in three series by differential staining shows the part from which the mucous membrane was removed to be covered by a layer of squamous epithelium derived from and continuous with the healthy tissue. The new covering is only two cells in thickness, but it has covered the exposed part without the formation of pus, and is, therefore, a healing by first intention."

In comparing the healing process beneath this mucous membrane with that beneath a new-formed skin the same essential features are observed. The conditions presented when proper precautions are taken before the operation are such that the irritation of the surface is reduced to a minimum. I believe the serum thrown out by the denuded surface the ideal protective after the first slight hemorrhage is checked. Again, the conditions after operation are here much more favorable than in the skin. The underlying muscular structures serve to protect the area denuded and are less subject to inflammatory reaction than the subcutaneous tissue, and when the repair process is under way and the actual contraction of the new-formed connective tissue, which is small in quantity compared with that found in skin, tends to take place, there is instituted a regular and frequent dilatation of the bowel by the passage of its contents.

In certain cases the whole circumference of the rectum is diseased and prolapses. In these cases I think amputation of the redundant membrane advisable. The success of this operation, as much as of any other, depends upon the careful attention to detail. The first step is a thorough dilatation of the sphincters. The diseased membrane is then pulled down around the whole circumference and held with T-forceps, six pairs being required. With one finger upon the external sphincter to guide the point of the scissors, which is entered above the grasp of the forceps, the entire circumference is amputated. The arteries in the membrane above are caught with hemostatic forceps as they are cut. The pile tumors cling to the membrane removed. The external sphincter is now wholly and clearly exposed, and if there be any break in its fibers it can be restored by bringing their ends together with fine catgut suture. We now have the diseased membrane, to the upper edge of which the T-forceps are attached, hanging outside the anus and attached to the skin margin. This separation may be made first, the dissection being carried from be-

low upward. If too much encroachment be made upon the skin a mucous-producing surface will always remain outside the sphincter. If too little is removed the skin margin may be drawn within the grasp of the external sphincter. The membrane which has retracted upward is now pulled down, the longitudinal fibers cut near its margin, and the circular fibers forming the internal sphincter pushed upward, when it is stitched to the margin of the skin. For this I use a continuous suture of catgut passing each time through the loop, as in making buttonholes. The epidermal layer should not be pierced that there may be less tenesmus and discomfort. I usually fortify each quadrant by an independent suture. Aseptic dressing is then applied, and one-quarter grain of morphin is administered. After twenty-four hours the wash should be begun and used two or three times a day, as after the other operation described. It promotes comfort. From one to two weeks subsequent to operation any irritable projections around the anal margin may be smoothed off with the scissors. Two or three times, at intervals of about a month, the sphincters may need to be dilated.

I have found it necessary to do this operation in only about 5 per cent. of the cases operated upon. The result in every case so far as I know has been satisfactory, except in one case, in which there is not as good control of the gas as might be wished. Its cause is probably a break in some of the fibers of the external sphincter at the posterior commissure, which I knew existed at the time, but which I did not think of sufficient importance to repair. In some cases they do not have complete control of the gas for two or three months. I have found this true even in cases where the action of the sphincters appeared normal, and have ascribed it to defective sensation, the gas passing too far down before its presence is recognized.

This is a slight modification of Whitehead's operation, of which the London *Lancet*² says: "In the treatment of internal hemorrhoids the authors advocate ligature and tell us that they never employ any other method. Their objection to every one of the clamp methods is on the ground that with the hemorrhoids some healthy mucous membrane must be removed also, while they consider that Whitehead's operation leads to a serious loss of blood, is tardy in healing and is liable to cause ultimate contraction of the lower part of the rectum. All these objections are imaginary and none of these evils result when operations are carefully performed."

Dr. Walter Whitehead³ of Manchester, in commenting on the above editorial, makes the following, among other statements: "My experience with excision, which now covers a vast number of cases and extends over a period of twenty-five years, has completely convinced me that when the operation is performed as directed and common intelligent principles of general surgery are observed, there is no excessive hemorrhage, and I can absolutely deny that the slightest contraction of the lower bowel ever can or does take place unless some of the skin at the verge of the anus is sacrificed—which would be a distinct violation of the instructions given for the excision. Contraction depends entirely upon the removal of skin, and the contraction bears almost a direct relation to the amount of skin removed."

In my work on the rectum I wish to acknowledge my indebtedness to Drs. Allingham, Mathews, Pratt, Ball, Gross, Quain, Gant and others.

2. Editorial, Jan. 26, 1902, reviewing "Diseases of the Anus and Rectum," by D. V. Goodsall, F.R.C.S. Eng., and W. Ernest Miles, F.R.C.S. Eng.

3. London *Lancet*, February 5.

THE CAUSAL RELATION OF BLOOD POVERTY TO GASTRIC ULCER:

WITH REPORT OF AN ILLUSTRATIVE CASE WITH ATYPICAL SYMPTOMS.*

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As there is perhaps no subject the etiology of which has been so thoroughly thrashed over as that of gastric ulcer, and with so little final satisfaction in the way of a definite conclusion, it may not prove uninteresting to consider the condition with reference to a case that presents strong evidence of an actual causal systemic condition. Although traumatic as well as tubercular and syphilitic ulcers, and similar lesions of the stomach, are infrequent phenomena, when they do occur their etiology is clear because of known existing conditions. The characteristic peptic ulcer, or, as it might be well named, the pyloric ulcer, from its frequent occurrence in this position, gives, however, only a hint as to its causation; and the best writers on the subject satisfy themselves with the statement that in all probability a lesion of the mucous membrane has been present, followed by self-digestion of the gastric wall. In studying the etiology of the pyloric ulcer we have at hand the following undisputed facts gathered from clinical and portmortem observation.

The typical peptic ulcer occurs in about 5 per cent. of all hospital cases (Welch, Bramwell, etc.), and in probably a slightly lower percentage of the general population. Statistics are by no means fair means of arriving at such figures, since few cases are autopsied outside the walls of hospitals, and yet without question many of the general population are carrying unrecognized gastric ulcers into their daily life. On the other hand, hospital subjects show a greater tendency to lesions of all kinds than the general population. Statistics are, however, our only guides to an approximate knowledge of the frequency of the condition. The age at which gastric ulcer most frequently occurs seems at the present time to be between the 16th and 30th years, although Brinton, in his classic monograph (1857), stated that of the cases studied by him the greatest number occurred in the second half of adult life and in old age.

It seems also to be agreed generally that the peptic ulcer occurs in a large percentage of all cases at or near the pylorus, on the posterior wall, and near the lesser curvature. (Mayo Robson's recent statement that latent gastric ulcer is usually found at the lesser curvature near the cardia is not borne out by general experience. He states that such a position easily explains the latency of the lesion, since food is taken in the erect posture and is less likely to irritate the eroded gastric wall at this point. We know, however, from the autopsy table that latent ulcers outnumber the open variety two or three to one; and as Robson himself admits that the greatest number of peptic ulcers are lodged near the pylorus it seems difficult to follow his reasoning in arriving at these contradictory conclusions.) We know, also, that its character is that of a funnel, with the smaller opening toward the serosa and the larger in the mucosa itself, while its base is usually clean and its walls punched out and sharply defined; also, that it usually occurs in single formation, though as many as five are frequently found and thirty-four were noted by Berthold in a case cited by nearly every writer on the sub-

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