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INDICATIONS FOR CHOLECYSTECTOMY.*

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OMAHA.

The primary object of every surgical operation is to secure the completest and quickest relief compatible with safety. If it can be shown that in certain specified conditions of the gall bladder cholecystectomy is followed by more perfect restoration to ideal health, by a prompt convalescence, and that the mortality is no greater than in cholecystostomy, my point is made.

Cholecystostomy is frequently disappointing, the hoped-for benefits are only partially realized and the patient still has pain. Of my last twenty-eight cholecystostomies, six are known to have pain, not so severe as before the operation, but enough to be a source of worry and inconvenience. This means more than 20 per cent. of failures to accomplish fully what was attempted. Hans Kehr reports that in more than 17 per cent. of his cholecystostomies the relief was only partial. Others report the same disappointing results.

When we face squarely the fact that in any operative procedure there is to be considered not only the primary mortality but also the knowledge that about one patient out of five will be only partially relieved, some of them indeed almost as great sufferers as before, it is a humiliation to surgical pride. If improvement in technic will not give better results, no true surgeon will be satisfied until some other measure is found more satisfactory, really curative.

A prolonged convalescence, though not an insuperable objection to an operative procedure, if finally followed by entire relief, is to be deplored. After draining the gall bladder till the infection is removed the fistula quickly closes in many cases, but in a startling number a chronic fistula follows, most of them finally healing, but after so long and disagreeable delay that many times the patient regrets ever having the operation. In the twenty-eight cases of drainage mentioned three fistulae discharged for many months, but finally healed; one is still discharging after six months, and three continued to discharge until cholecystectomy was done. Twenty-five per cent. of chronic fistulae seems a good many, but it occurred in this series and, judging from the number of fistulae I have seen after operations by other surgeons, the conclusion can not be dodged that this is a standing opprobrium to this form of operation.

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In simple uncomplicated cases the operative mortality for cholecystostomy ought to be very low. Kehr gives his as 2 per cent. In the cases complicated by dense adhesions, atrophy of the gall bladder, acute infections and the like, the mortality is considerable. Kehr admits a mortality of 47 per cent. in this class of cases. Some of his cases were operated on a number of years ago. With the present perfected technic it is probable that it would be considerably less, though bound always to be high. The fact can not be evaded that with the serious complications met in all old cases and in the acute infections (emphyemas, gangrene, etc.), the dangers from any operation are great, and in many we must be satisfied to do what will tide the patient over until in such condition as to be able to withstand such an operation as will bring relief.

Kehr has found that less than 1 per cent. of his cholecystectomies continued to have symptoms. All the rest were completely cured. Absence of all disagreeable sensations has been noted in all of my cases in which cholecystectomy has been done, though in two of them still under treatment it is too early to know the result.

After cholecystectomy the convalescence is very rapid. As a rule there is no discharge, though in occasional cases where infection of the ducts is present, closure of the cystic duct has not been deemed advisable. Even in cases drained in this manner healing has been prompt. No mucous fistula due to a diseased gall bladder poorly drained has been present. In ten out of twelve cases the wound has been closed in a week to ten days.

Kehr's operative mortality for cholecystectomy is 3.3 per cent., as against 2 per cent. for uncomplicated cholecystostomies. There is abundant reason to believe that many of his cholecystectomies would be considered complicated, so this seems an excellent showing for cholecystectomy. In my own cases since Jan. 1, 1902, there have been twelve uncomplicated cholecystostomies, with no deaths; sixteen complicated cholecystostomies, with three deaths (one of these I feel certain would have recovered had cholecystectomy been done); twelve cholecystectomies, with one death, a very badly complicated case.

Why are so many cases uncured after cholecystostomy? The answer to this question I believe to be found in the amount of pathology left behind. Adhesions to the pylorus cause dragging on the stomach, with resulting gastric symptoms. Adhesions to the intestines produce painful sensations during active peristalsis. There are often a number of conditions of the gall bladder following cholecystostomy, which seriously interfere with perfect emptying of the viscus: 1, Adhesions to neighboring viscera; 2, crippling of the gall bladder from inelasticity of its walls; 3, partial occlusion of the cystic duct; 4, interference with the perfect contraction of the walls

during the effort to empty itself, due to the fundus being fixed to the anterior abdominal wall; 5, the weight of the liver pressing down on the anchored gall bladder.

The number of cases demanding surgery of the gall bladder in which the cystic duct is normal and in which the mucous membrane is intact and the walls normally elastic, is only a small minority. Such cases will usually close promptly after simple drainage. But when any of the above conditions are present, prolonged and imperfect convalescence is to be expected.

The advantages of cholecystectomy are to be found in all the conditions which render cholecystostomy unsatisfactory and disappointing: 1, When the cystic duct is wholly or partially occluded healing is prompt and complete; 2, when the wall of the gall bladder is thickened, friable and atrophied, the functionless viscus is taken out and can no longer torment the patient; 3, when there are adhesions they will remain as long as a pathologic gall bladder is present to keep up the irritation; 4, it is a well-known fact that intra-abdominal adhesions gradually weaken, stretch and disappear when there is no disturbing element; 5, the value of the gall bladder as a reservoir for the bile is *nil*, and functionally it serves no more useful purpose than does the vermiform appendix; 6, after a gall bladder has been as profoundly diseased as it usually is when made the object of surgical attack it never regains its normal state and is henceforth not only valueless but, on account of its defective drainage, is constantly subjected to the risks of fresh infection; 7, the cholesterin, which is the principal element of almost all stones, is only elaborated in such a quantity as to do harm by the epithelium of the gall bladder when infected, being due to degeneration, therefore, when removed, all danger of future stone formation is at an end; 8, it is estimated that at least 5 per cent. (Mayo) of the cases of serious disease of the gall bladder are followed eventually by carcinoma; removal will take away this menace.

A number of gentlemen who have written on this subject seem to regard cholecystectomy as especially dangerous where adhesions are numerous. Some of the most satisfactory results I have obtained have been in this class of cases and, as all know, adhesions are inimical to complete relief when cholecystostomy is performed. A gangrenous gall bladder is safer outside the abdomen, and, even though the operation requires a little longer time than simple drainage, I believe the risks of a slightly longer operation are more than offset by the more favorable condition following complete removal. When the operation is for empyema, more or less destruction of the mucous membrane of the gall bladder and cystic duct is to be expected and retention of such a viscus will probably result in only partial relief.

It must be admitted that there are some conditions where the simplest and quickest surgical procedure possible to give temporary relief is as much as the patient can bear. Here simple drainage may be done, to be followed later by cholecystectomy if complete relief is not obtained. In cases where there is temporary or permanent closure of the common duct this operation is, of course, not to be thought of.

To some the existence of infection has been deemed a contraindication to cholecystectomy, since it is in violation of the cardinal principle in these cases, drainage. It is as easy to secure drainage when the gall bladder is removed as when it is retained. In four of my cholecystectomies, instead of ligating the cystic duct, W. J.

Mayo's method of removing the mucous membrane has been used. The greater part of the gall bladder is removed. Beginning a short distance above the cystic duct the mucous membrane is stripped off and removed down into the duct. Then a purse-string suture is introduced around the cuff of muscle and peritoneum and tied over the end of the drainage tube. It drains as perfectly as when the entire organ is retained, and closes quickly when the drainage tube is removed.

When the common duct is patulous and is not constantly being infected afresh from a septic gall bladder it seldom needs external drainage. The voluminous flow of bile through the hepatic and common ducts tends to sweep infective material into the bowel. The need of drainage in these cases is usually not to be found in the ducts but in the infected and crippled gall bladder. Surgeons who have once tried cholecystectomy are constantly resorting to it for an increasing number of indications. The operative mortality, immediate and remote, seems no greater than that from cholecystostomy when both complicated and uncomplicated cases are taken into consideration. The rapidity of convalescence is certainly a powerful argument in favor of the more radical procedure. The strongest inducement in favor of cholecystectomy is the complete relief it gives, in striking contrast to the painful and dragging symptoms which so frequently remain after cholecystostomy.

THE CALL FOR EXPLORATORY OPERATION IN THE GALL-BLADDER REGION.*

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The surgical age is on, and it is to the credit of the profession that this is true. It were trite to cite cures where drugs have been used to worse than waste precious time, followed by an operation which has brought relief, comfort and usefulness to patients who were a burden to themselves and friends. It is not our intention to criticise former practice of the internalists or surgeons. It is not ages ago that each was barbarous in both senses of the word. It is an old tale to this body to be told of the safety of abdominal incisions when absolute cleanliness and skill attend the operation. Hence this word as advocating such procedure as a simple means of diagnosis and a long step toward the best method of cure.

The diagnostician has continually in his mind's eye a map of the surface of the body, and knows what normally should be hidden beneath each square inch thereof, irrespective of the attitude, posture or part presenting. He reviews the physiologic functions and possible or probable pathologic lesions, and still may have another guess coming. Nevertheless, a writer for one of our medical journals has said that no man should make an abdominal section until competent to certainly foretell the exact pathologic condition for which the operation was to be made. Mindful of this demand by critics, the writer hesitated to advance the suggestions of this essay.

Dividing the abdominal cavity equally into two zones, the upper will always be the field of most difficult surgical maneuvers, whose tumors are more frequently malignant and their cure impossible; while the lower provides the opportunities for brilliant recoveries to the beginner. This truism is magnified in the right hypo-

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