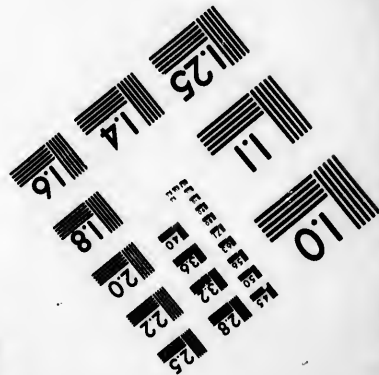
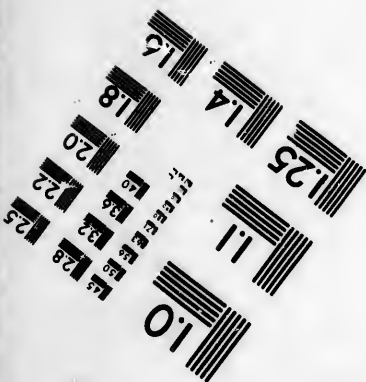
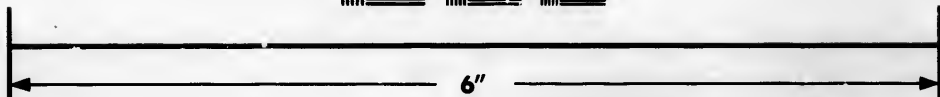
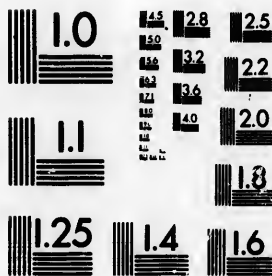


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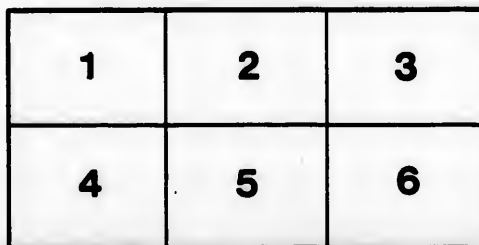
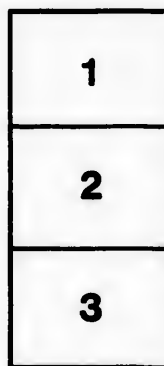
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(Reprinted from the Montreal Medical Journal, December, 1895.)

GALL-STONE SURGERY.¹

WITH A REPORT OF A SUCCESSFUL CASE OF CHOLEDOCHOTOMY.

By GEORGE E. ARMSTRONG, M.D.

Assistant Professor of Clinical Surgery, McGill University; Surgeon to the Montreal General Hospital; Attending Surgeon to the Western Hospital.

Sims made a distinct advance in surgery when he perfected the operation known as cholecystostomy. To Tait, more than to any other man, is due the credit of popularizing the operation. With the aid of antiseptic surgery the operation of cholecystostomy has been so perfected that Mayo Robson was able to report fifty-seven cases with only three deaths. Each one of these three fatal cases was complicated by malignant disease. Kehr had forty-nine cases with forty-five recoveries, the fatal cases being complicated with suppurative cholangitis, or malignant disease. Montreal, so far as I know, can present an equally good record. I am not aware of any fatal case of cholecystostomy occurring in Montreal where malignant disease was not present. In fact the operation as now performed by those of experience may be almost said to be without mortality. Even in those cases where the gall-bladder is so small and shrunken that it cannot be brought to the edges of the abdominal incision a communication can be established between the opening in the gall-bladder and the abdominal incision by the use of omentum, or by what seems to answer equally well, a drainage tube surrounded by iodoform gauze. The immediate closure of the opening in the gall-bladder and allowing it to drop back into the abdomen, while perhaps the ideal operation in suitable cases, is still open to the serious objection that at present we are often unable in any given case to say that it is a suitable one. It is probably impossible to be absolutely certain that the cystic and common ducts are patent, or to be certain at the time of operation that the bile in that case is sterile. We know that, sometimes although not often, it does contain the common colon bacillus and other pathogenic germs.

I think it can now be stated that long persistent jaundice does not indicate that uncontrollable hæmorrhage need be feared in operating. If malignant disease be present, however, there certainly is great danger from hæmorrhage, both at the time of operation and subsequently. It is the presence of the malignant disease rather than the cholæmic condition of the blood that is to be feared.

I would like to emphasize the fact that cholecystostomy in the

¹ Read before the Montreal Medico-Chirurgical Society, October 18, 1895.



absence of malignant disease is a safe operation, because I think the Kehr is correct when he says that many patients are spending more or less time at Carlsbad who could be much better and more satisfactorily treated upon the operating table. Recurrence is rare; I have never seen a case of recurrence reported. I also think that the long-continued presence of gall-stones in the gall-bladder and ducts may under favourable conditions act as a cause of carcinoma in their neighbourhood.

Cholecystostomy has been sufficiently often performed now to show that it is not in all cases sufficient and all that could be desired. In some cases bile continues to be discharged through the abdominal opening even when the gall-bladder opening has been, as it always should be, attached only to the peritoneum and transversalis fascia. In these cases there is generally an obstruction, usually a gall-stone obstruction, in the common duct.

To remedy this condition cholecystenterostomy or the establishment of a communication between the gall-bladder and some part of the small or large intestine has been performed.

The mortality after this operation, which was reported by Billroth to be 50 per cent., was reduced by Lücke, of Strasbourg, to 31 per cent., and by American surgeons to 11 per cent.

It seems now to be the general opinion of surgeons that this operation has been too frequently performed. It is not altogether satisfactory. The objections to it are (1) its danger; when an opening is made into the intestine the danger of septic infection is at once much increased; (2) the possibility, especially if the communication is made with the colon, that pathogenic germs may pass up to the cystic duct and liver; (3) that an accumulation of bile may take place on the liver side of the obstruction of the common duct and convert that portion of the duct into an unnatural gall-bladder, and (4) that the bile is lost, so far as serving any useful purpose in the system, unless the communication is made high up in the small intestine.

For these reasons attempts have been made, with considerable success, to remove stones from the cystic, common, and hepatic ducts at the time of the first operation, if found and located, or at a second operation, if the cholecystostomy has been completed, and the bile continues to escape by the abdominal opening after a reasonable time has been allowed for it to close.

I should like to report here that in two of my cases of cholecystostomy the bile continued to flow in considerable quantity from the abdominal wound, in one case for six, and in the other eight months after operation. Not all of it, however, seemed to escape, for the

stools were fairly well coloured. The opening in each case was made to close by sealing daily for about a week with cotton wool and collodion. So that the persistence of the flow of bile for some months is not always a proof that there is an obstruction in the common duct.

The cases already reported of removal of gall-stones from the cystic, hepatic, and common ducts demonstrate that such a procedure is good surgery and a very safe and satisfactory operation.

Dr. Hans Kehr (Halberstadt) has in five cases removed stones from the cystic duct at the primary operation by incision of the duct and its immediate suture. In two cases he did a second operation, opening the abdomen in the linea alba, and removed in one instance a stone from the cystic, and in the other, one from the common duct, followed always by immediate suture of the openings in the ducts. He advises attaching the gall-bladder to the abdominal wound for drainage during the healing of the incision into the ducts, in order that there may be no tension from an accumulation of bile until the ducts are soundly healed.

Dr. Elliot, of the Massachusetts General Hospital, reports two cases, in one of which he removed a stone from the hepatic, and in the other from the common duct, suturing the ducts immediately after the removal of the stones. Both cases recovered perfectly. Dr. Abbe removed a stone from the common duct, the patient making a good recovery.

In the following case I removed a gall-stone from the gall-bladder and also one from the common duct with a most satisfactory result:

Mrs. M., æt. 51, married and the mother of nine children, was sent to me by Dr. Elder. She had been a strong, active woman until two years ago, when from some unknown cause she suffered from a painful condition of the thigh, which was followed by an abscess in the groin.

In January, 1894, she had her first attack of biliary colic. For four months she continued deeply jaundiced. During the past year she lost between forty and fifty pounds in weight. She also complained of great weakness, shortness of breath on exertion and dimness of vision.

The operation was performed on the 27th of June, 1895. On the 31st of August she had gained twenty pounds in weight and the gall-bladder was discharging a small quantity of bile. During the last week in September Mr. M. told me that the opening had closed ten days before and that his wife was apparently in perfect health.

I made a vertical incision, beginning about the end of the tenth

costal cartilage and came readily down upon the gall-bladder, which was moderately distended. I pulled it up to the abdominal incision without much difficulty, and after protecting the general peritoneal cavity with gauze packing, opened the gall-bladder and removed a single moderate-sized stone. Then with my finger I felt along the cystic and common ducts and at once came upon a hard mass, evidently another gall-stone, situated in the latter about midway between the cystic duct and the duodenum. I found that to remove it through the abdominal incision already made would be difficult. I therefore made another transverse incision opposite to the common duct from the upper end of the vertical incision to the median line. This enabled me to get down to the stone without difficulty, and after packing about the point to be incised with gauze I made a longitudinal incision in the common duct directly over the stone, which was then removed. I then placed a small piece of iodoform gauze in the common duct towards the liver, to stop the flow of bile while the sutures were being introduced. The opening in the duct was closed by two rows of silk sutures, and a glass drainage tube open at the end and surrounded by gauze was carried down to the suture line, but not allowed to touch it. A small strand of iodoform gauze was passed down through the tube so that it just lay upon the suture line. The tube was brought out of the abdominal incision below the gall-bladder. The edges of the gall-bladder incision were attached to the edges of the abdominal incision to allow of free flow of bile during the healing of the incision in the duct. A rubber drainage tube was placed in the gall-bladder. The transverse incision was closed with three rows of sutures. The patient made a most satisfactory recovery and is now free from jaundice and in good health. The opening into the gall-bladder is closed.

Perhaps Dr. Elliot's suggestion to place a sand-bag under the back, and thus bring forward the field of operation, may prove to be an advantage.

Tuffier's plan of approaching the common duct from the back seems to me to have little to commend it. The operation cannot be done retroperitoneally, and the abdominal incision gives better access to all the parts to be dealt with.

From what we know of this work the removal of stones from the cystic, hepatic, and common ducts is feasible, comparatively safe and a distinct advance in gall-stone surgery, giving a lower mortality than cholecystenterostomy, and being in its results in every way more satisfactory.

