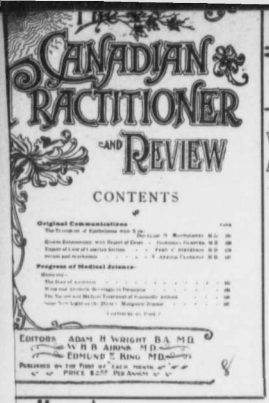

Cholecystitis with Gangrene of the Gall Bladder

.. BY ..

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CHOLECYSTITIS WITH GANGRENE OF THE GALL BLADDER.*

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A disease about which very little is known by the profession at large, and a condition of considerable rarity, is the one I purpose discussing this evening, namely, Cholecystitis with Gangrene of the Gall Bladder. It has been my good fortune to meet with five well-authenticated cases, all of which recovered.

Case 1.—(Dr. R., No. 685, Abdominal Operations.)

History.—A few days before I saw the patient he had complained of sudden, severe pain in the pelvis, not localized, but extending over the whole of the abdominal cavity. A purgative had been given and the bowels moved freely; the temperature had been elevated and pulse increased in frequency; there had been nausea, but no vomiting. He had never had any previous illness except a severe attack several years before of what was supposed to have been typhoid fever, and several attacks of what was called acute indigestion.

On examination a fullness was observed below the liver; the right rectus muscle was not rigid, the abdomen was flaccid, and the diagnosis lay between acute appendicitis and some unexplained condition of the gall bladder. I supposed he was suffering from acute gangrenous appendicitis and advised immediate operation.

Operation.—July 15th, '98; assistant, Dr. Wickson; visitor, Dr. Stuart. The abdomen was opened to the right of the right rectus muscle, below the navel. The appendix was drawn up and found to be healthy, but it was removed owing to the fact that during its manipulation the mesentery had been torn. A further examination of the abdominal contents revealed a lump under the edge of the liver, and the incision was increased upwards so that the mass could be readily reached. On breaking down recent adhesions and pushing back the intestine a gangrenous gall bladder was found. The parts looked angry from the inflammation present. Lymph covered the tip and some portion of the side of the gall bladder. On aspirating the gall bladder a quantity of muco-pus was evacuated. Five gall stones were removed, one of which was obstructing the cystic duct. The gangrenous area was confined to the tip.

* Read before the Toronto Clinical Society, 1905.

The gall bladder was drawn into the wound, stitched in place and a drainage tube placed in its interior. Another drainage tube was passed into Morrison's pouch, which was surrounded with gauze packing. During the manipulation the abdominal contents were carefully protected by aseptic gauze packing.

The patient made an uninterrupted recovery. The fistulous opening closed at the end of two weeks. In October, 1898, he was in good health and had regained his original weight.

Case 2.—(Mrs. W., No. 1124, Abdominal Operations.)

History.—The patient had been confined seven weeks previously. She was up and going about. There had been no difficulty in connection with the confinement except that the perineum had been slightly torn. This had healed. There were some varicose veins in the right labium majus. The first symptom noticed was a very severe pain under the edge of the ribs on the right side; she had eructations of gas and could not take a long breath without discomfort; there was some vomiting; the pain did not increase during the day, but on the following day it became excruciating. Her physician, Dr. T. B. Richardson, was called and he found the suffering so intense that he at once gave a one-half grain of morphia. The pulse was running from 120 to 130, and the patient seemed extremely prostrated. During the night the pulse increased to 140, and the condition appeared very alarming.

I saw her the next morning and made a careful examination. There was no abdominal tenderness except at one spot over the gall bladder; the abdomen was slightly puffed but not rigid; on the contrary, quite flaccid. There was no vomiting at this time but some rather troublesome belching of gas. Previously the patient had suffered from symptoms of indigestion, but without any severe colic. She had never been jaundiced; the tongue was normal, the face flushed, the temperature 102-3, pulse 130. It occurred to me that the case resembled that of Dr. R. and that it must be an instance of that very rare condition—gangrene of the gall bladder. The diagnosis lay between perforation of a gastric ulcer on the posterior wall of the stomach, gangrene of the gall bladder, and appendicitis. A definite tender spot over the gall bladder rather pointed to that organ as the seat of trouble. Pain shot through to the right shoulder blade; there was decided embarrassment to respiration. The rapid variation of the pulse was remarkable, and seemed to be characteristic of this condition. It varied from 112 to 140 beats per minute within a very short period of time. I felt that

operation should be performed at once, but it was delayed until the next day. Dr. Temple saw the patient with Dr. Richardson and myself just before operation was performed.

Operation.—June 27th, 1902. When the abdomen was opened a gangrenous gall bladder was found; it was very tense and of a greenish black color; the contents were grumous; the gangrenous area was extensive, but did not include the whole gall bladder and could be readily mapped out. The remainder of the organ was reddened, thickened, and friable, and would not hold a pair of forceps. There were no gall stones present. Some recent adhesions were readily broken down, gauze was packed around, and through-and-through drainage instituted by counter-puncture at the bottom of Morrison's post-hepatic pouch. The peritoneal cavity had been protected by sponges. The patient's pulse when she returned to bed was 140. The gauze packing was removed at a subsequent date and a little chloroform was given before carrying out this procedure. A biliary fistula remained for some time, but this gradually closed. The patient made an uneventful recovery. I met her this summer on one of the Niagara boats and she was in excellent health.

Case 3.—(Mrs. W., No. 1336, Abdominal Operations.)

History.—The patient, who was fifty years of age, had been ill for a few days. She complained of a severe attack of colic, afterwards of severe chills accompanied by high fever. Her family physician (Dr. R. J. Wilson) was called and found a mass below the ribs on the left side, and came to the conclusion that the gall bladder was distended. I saw her with him and confirmed this opinion. The gall bladder was tense and tender on pressure, the pulse was increased in frequency, and the patient appeared greatly prostrated.

Operation.—Sept. 28th, 1904. Operation was performed in the General Hospital. On opening the abdomen the gall bladder was found enlarged and so tense that it appeared to be on the point of bursting. From its appearance it was evidently partially gangrenous. When punctured a large quantity of fluid containing flakes of pus was withdrawn. The gall bladder was covered with lymph. From the recent inflammation the walls were thickened and when collapsed after the removal of the fluid it felt like a piece of wet sole leather. A drainage tube was placed in the gall bladder and the wound was closed. A subsequent operation was required to close the biliary fistula, otherwise the convalescence was uneventful.

Case 4.—(Mrs. L., No. 1264, Abdominal Operations.)

History.—This case was admitted to St. Michael's Hospital and treated on the medical side for two or three weeks for typhoid fever. Widal's test showed it to be a case of typhoid, but there seems to have been considerable doubt about it among the physicians who saw her. On examination I found a mass below the liver; she had severe pain; was tender on percussion; the pulse was rapid and irregular, and she looked profoundly septic. Operation was advised.

Operation.—Sept. 3rd, 1906. Assistants, Drs. Guinane and Wainwright. On opening the abdomen an inflamed mass was encountered beneath the edge of the liver, which, on dissection, proved to be a gangrenous gall bladder. It was not considered advisable to remove it, as, owing to the extensively gangrenous and friable condition it would not hold stitches. After removal of the grumous contents a small piece of rubber tubing was passed into the gall bladder and iodoform gauze packed around it. The patient made an excellent recovery, and the biliary fistula healed without a further operation.

Case 5.—(R., No. 1516, Abdominal Operations.)

History.—The patient, a female, aged forty-five, complained of sudden pain in the abdomen. She was seen by Dr. McMahon, who found a thickening of the edge of the liver on the right side; the temperature was elevated—101 to 102—and he thought the case was one of cholecystitis. I saw the patient in St. Michael's Hospital. She looked very ill; the tongue was brown and dry; the face purple from congestion produced by some peculiar effect on the vascular system; the respiration was rapid; the livid expression of the face and ears very marked; the intellect was clear; the pulse rapid and feeble—130 to 140 a minute, and felt like that of a person in danger of dying; she looked comatose. On examination a mass could be felt below the liver on the right side. Owing to the peculiar interference with the respiration, the flushed appearance of the face, and the fluctuations of the pulse rate, gangrene of the gall bladder was diagnosed. Operation was advised.

Operation.—Oct. 26th, 1906. On opening the abdomen a mass was found under the liver, from the lower edge of which a somewhat thickened omentum was pushed away, together with the mesentery of the transverse colon, and the gall bladder was disclosed, distended, and with a gangrenous area affecting all its coats about the size of a ten-cent piece or somewhat larger. After protecting the peritoneal cavity with sponges, the gall bladder was punctured and some grumous, brown fluid escaped.

The opening was then enlarged and the gall bladder washed out; a few small stones were removed. The mucous coat of the gall bladder was entirely gangrenous so far as could be seen, and apparently ready to exfoliate. A puncture was made in Morrison's pouch behind the liver and a drainage tube drawn in so as to effect through-and-through drainage. Another tube was placed in the gall bladder, which was stitched with a running suture to the skin. Iodoform gauze was packed around the organ to protect the peritoneal cavity in case of leak. Convalescence was uneventful, and the patient left the hospital thirty-four days after the operation.

In a review of the literature on this subject I have found the following cases of gangrenous cholecystitis reported:

Czerny—2 cases; 1 died.—*Munch. Med. Wochft,* Vol. 50, p. 929.

Hotchkiss—1 case; died.—*Annals of Surgery,* Vol. 17, p. 197.

Moynihan—2 cases; (1) died, following the involvement of the hepatic artery in carcinoma of the pancreas. Gallstone disease, page 197; (2) recovered.—*British Med. Journal,* '03, 1, p. 186.

Mayo Robson—1 case.—*British Med. Journal,* '03, 1, p. 184. (Robson reports having seen one specimen of a gangrenous gall bladder at Guy's Museum in '97 (No. 1, 397); "Diseases of the Gall Bladder and Bile Ducts.")

Ferguson—1 case; recovered; operated upon on the 13th day.—*Journal of the American Med. Ass'n,* Jan. 24th, '05.

Samuel—2 cases; both recovered.—*American Pract. and News,* Nov., '04.

Fowler (Russell S.)—3 cases; 1 died; impending perforation in 2nd and perforation in the 3rd.—*Brooklyn Med. Journal,* Dec., '05.

Ransohoff—1 case; recovered; careful search revealed no stones and there had been no infection at any time.—*Journal of the American Med. Ass'n,* Feb. 10th, '06.

Gibbon—1 case; recovered.—*Am. Jr. Med. Sciences,* Vol. 125, p. 592.

Donoghue—1 case; recovered.—*Am. Jr. Med. Sciences,* Vol. 123, p. 193.

Courvoisier—3 cases; Beitrage, Leipz., '90.

Dr. Samuel regards the two cases he reports as representing the extreme limit of inflammation of the gall bladder and thinks they may be explained by the impaction of the cystic duct with one or more stones and subsequent infection of the gall bladder

with colon bacillus and streptococcus. There is rapid infiltration of the wall of the gall bladder with exudate and infective thromboses of the veins. This leads to a necrosis. At the same time there is an extensive involvement of the peritoneum, as shown by the mass of organized lymph surrounding the gall bladder.

Dr. Ransohoff mentions a case of rupture of the common bile duct as a consequence of gangrene of the wall, followed by a peculiar sign to which attention had never been called before; there was a localized jaundice affecting the area of the navel only. At the operation bile was found staining the peritoneal fat. He considered that this jaundice was the result of inhibition. It makes itself manifest first in the integument of the navel, as this part is thinner than the rest of the abdominal wall. He remarks that total gangrene of the gall bladder has not as yet been observed, except in the case he presents, as an affection independent of gallstones, and he considers total gangrene of the gall bladder a very rare condition. Czerny ascribes gangrene of the gall bladder to pressure on the cystic artery, which, except for a very insignificant anastomosis along the attached surface of the gall bladder, is practically an end artery. In Czerny's case the gangrene was limited to the mucosa of the gall bladder; in Ferguson's case most of the gall bladder came away as a slough five weeks after the operation.

When this subject was discussed in New York after the presentation of Dr. Hotchkiss' paper in 1894, Dr. Gerster said that he had never had an opportunity of observing a case of gangrenous empyema of the gall bladder. Dr. McBurney said he had operated a number of times on the gall bladder and had never yet seen a case of gangrene. He had met with many cases of gangrenous inflammation of the vermiform appendix. He contrasts the two organs and says that while one is frequently gangrenous the other is very infrequently so. He suggests as an explanation the toughness and non-vascularity of the gall bladder walls in contradistinction to the soft and vascular walls of the appendix, the vessels of which become rapidly plugged with bacteria. As an active feature in each case we have the interference with drainage.

In the same discussion Dr. Abbe stated he had seen a case of acute phlegmonous inflammation of the gall bladder, and when he operated he found that the mucous membrane, the cellular tissue and the peritoneal layer of the gall bladder slipped up and down upon each other so as to be readily dif-

ferentiated. He thought there was less tendency to gangrene from interference with the arterial supply in the gall bladder than in the appendix. In the case mentioned by Dr. Hotchkiss a circular constriction had taken place that was evidently sufficient to choke off the blood supply from the extremity of the viscus. He thought it unwise to burden the nomenclature of liver surgery with the name "gangrenous inflammation." With an experience of five cases, I am of the opinion that the disease is a distinct and definite one, accompanied by very distinct and definite symptoms. The condition has been diagnosed by more than one observer.

Mayo Robson considers gangrene of the gall bladder as only an extreme degree of phlegmonous cholecystitis. In the Museum of Guy's Hospital he found a well-marked specimen of the condition, and, later, reported a case of his own.

Symptoms.—I find that the symptoms of the disease are of a very marked type. The patient, perhaps in the midst of health, is seized with sudden acute pain in the right hypochondrium, which may be so severe as to cause collapse, faintness and prostration. The constitutional disturbance is very alarming. The most peculiar symptom I have observed is the condition of the pulse, the rate of which varies very quickly from 70 beats to the minute to 130 to 140 to the minute, when it becomes feeble and running, and is accompanied by lividity of the face, blueness of the hands and feet, and the body surfaces become cold, clammy and covered with sweat. There is always an elevation of temperature and sometimes a rigor. When such a condition is present and a mass is found in the right hypochondrium, beneath the edge of the liver, extremely sensitive to the touch, we are justified in diagnosing gangrenous cholecystitis, and immediate operation is indicated. By early operation and open drainage I have been able to save 100 per cent. of my cases.