ACUTE FREE PERFORATION OF THE GALL-BLADDER

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The prevailing conservative attitude on the part of surgeons in the treatment of acute diseases of the gall-bladder, as contrasted with that of early intervention in acute appendicitis, is based on the assumption that the great majority of the former will subside.

The occurrence of a recent case of acute free perforation of the gall-bladder in my practice has led me to investigate this subject with results which I believe are of interest. I append below the history of this case of acute free perforation of the gall-bladder with operation and recovery.

Case Report.—Mr. C., aged fifty-seven years. *Previous Illness.*—Eighteen years ago he began having attacks of colicky pain in the right hypochondrium; another attack occurred three years ago accompanied by jaundice, with which he was in bed about a week.

Practical Illness.—On September 16, 1933, developed severe pain in the right upper quadrant which radiated to the back and was followed by vomiting. This was diagnosed as biliary colic and morphia was given. When first seen by me on September 17, 1933, there was a tinge of icterus present. The temperature was 99.2°, pulse 80, and there was moderate tenderness in the right hypochondrium. On September 18, 1933, the pain became more severe, temperature rose to 101° and tenderness was more marked and diffuse with some muscular rigidity, suggesting a definite acute cholecystitis with some localized peritonitis. He was sent to the hospital and carried along on intravenous glucose in saline with nothing by mouth, in the hope that the condition would subside. His white blood cells on September 19, 1933, were 13,100 (polymorphonuclears 75 per cent.) and his condition seemed to be improving, the pain and tenderness became somewhat less marked, and white blood cells on September 20, 1933, were 12,300. On September 20, 1933, about 5 p.m., he suddenly developed an agonizing pain accompanied by signs of shock with cold, clammy sweat; morphia gr. ½ was necessary to control the pain and an intravenous of glucose in saline was given for shock. Generalized abdominal rigidity was evident by the next morning and, as shock had subsided, laparotomy was proceeded with on the diagnosis of perforation of the gall-bladder.

Operation.—On opening the peritoneum free bile was found in large quantities and the gall-bladder was found collapsed and entirely free of any protective adhesions. There was a stone in Hartmann's pouch with a perforation near the neck of the organ. Cholecystostomy was done with removal of a cholesterol stone from the gall-bladder and two cigarette drains placed in Morrison's pouch.

Post-operative.—There was considerable distention for a few days but this was controlled with pitressin and flatus was being expelled freely on the third day, fluids by mouth then being allowed gradually. His fistula persisted, and stools remained clay-colored and some obstruction of the common duct was considered probable. No exploration of the common duct was made at the time of the first operation as his condition precluded anything of this kind.

Second Operation.—On December 7, 1933, the abdomen was again opened and the gall-bladder found to contain bile which could be expressed. The common duct was markedly dilated and a stone could be palpated just above the doudenum. The duct was opened and a soft, crumbly stone, the size of a hazelnut, removed and a T drain

inserted, and the duct closed about this. The gall-bladder was not removed as it was thought that it might be of future use in establishing a cholecystogastrostomy later, if stricture of the duct should occur. The biliary fistula immediately closed on removal of the drain and the patient has been well and free from jaundice ever since.

Perforations of the gall-bladder may be subdivided into three groups:

(1) Chronic perforations with the presence of a fistulous communication between the gall-bladder and some other viscus.

(2) Subacute perforations where the perforated gall-bladder is surrounded by an abscess walled off by adhesions from the general peritoneal cavity.

(3) Acute perforation of the gall-bladder into the free peritoneal cavity without protective adhesions, as illustrated by the case reported above.

The literature would indicate that acute perforation of the gall-bladder is extremely rare and that the mortality is very high.

Mitchell[1] reports sixteen cases, of which six were acute, in 1,270 gall-bladder operations, giving an incidence of 1.2 per cent. for all varieties with a mortality of 50 per cent.

Alexander[2] cites 1,000 cases of biliary disease with a somewhat higher incidence of twenty cases, or 2 per cent., twelve being of the subacute variety, and eight or, .8 per cent., being acute free perforations. The mortality in the subacute cases was 25 per cent. and in the acute free perforations was 50 per cent.

Judd[3] in a recent article on this subject, reports sixty-one cases of perforation of the gall-bladder, fifty-nine being of the subacute type with walling-off adhesions and two being acute free perforations with a mortality of 50 per cent. Judd states that in seven of these cases of perforation there was a fistulous communication with some other viscus. He also mentions three fatal cases of acute free perforation who were too ill for operation, constituting a total of five cases of this type in all. In a personal communication Judd was kind enough to inform me that these statistics were based on a series of 9,446 gall-bladder operations, giving an incidence of acute free perforations of about .05 per cent. Judd stressed the fact that many of their cases come from a distance and the cases of acute free perforations being too ill to travel are operated on at home. Consequently he felt that his series might not give a true picture of the incidence of this condition.

I undertook to investigate the gall-bladder cases in the Hamilton General Hospital during the last three years and wish to acknowledge my indebtedness to Dr. R. E. Nicholson for the statistical information recorded below.

In a review of 349 operations on the biliary tract at the Hamilton (Ont.) General Hospital we found eight cases of perforation of the gall-bladder classified as follows: Chronic perforation, two cases—one into duodenum, one into colon; subacute perforation, four cases; acute free perforation, two cases.

There were no deaths in this series. This gives a percentage of acute free perforation of .57 per cent. This is ten times the frequency reported by Judd.

CONCLUSIONS.—The conclusions to be drawn regarding acute free perforation of the gall-bladder, I believe, are the following:

(1) This condition occurs comparatively rarely.

(2) It is of sufficient frequency, however, to demand eternal vigilance in the delayed treatment of acute cholecystitis.

(3) The mortality is extremely high as usually reported, but it would appear from our series that prompt recognition and treatment might lower this considerably.

While we realize that our series is comparatively small, it is representative of the work of the average general hospital. I hope that this will stimulate others working under similar conditions to compile statistics so that from these combined figures we may evaluate this condition in its true light.

BIBLIOGRAPHY

[1] Mitchell: ANNALS OF SURGERY, vol. 88, p. 200, August, 1928.
[2] Alexander: ANNALS OF SURGERY, vol. 86, p. 765, November, 1927.
[3] Judd: ANNALS OF SURGERY, vol. 98, p. 369, September, 1933.