TRAUMATIC AMPUTATION OF GALL BLADDER WITHOUT A WOUND OF THE ABDOMINAL WALL*

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NO MENTION OF traumatic amputation of the gallbladder without an accompanying wound has been found in the medical literature from the year 1932 to the present time. The case to be reported is not only a medical curiosity, but also an illustration of the severe and catastrophic damage which may occur in the biliary system from obscure and seemingly insignificant trauma.

CASE REPORT

W. S., a male negro, age 39 years, was admitted acutely ill but still able to walk, to the Bryn Mawr Hospital on March 27, 1951, at 2:00 P.M. Limited by intelligence, by the severity of his condition and circumstances surrounding the initiation of his illness, he gave, in fragmentary fashion, this history which was later corroborated in more detail by his wife. He had been drinking heavily during the day of March 24; on return to his home he went to sleep on a sofa. His enraged wife attacked him, hitting him "several times" sharply in the abdomen with the high heel of a shoe which she held by the toe.

He suffered severe pain throughout the night of March 24. The pain was epigastric in the midline and right side, becoming more marked on March 25 and 26, and extending into the back; there was no shoulder radiation. The pain became more generalized abdominally in the final 24 hours before admission, being felt in both flanks and lower quadrants. Some nausea and vomiting occurred on March 26. Small daily bowel movements occurred, the color not noted. He had been prostrated by pain since March 25.

On admission the man was lying quietly in bed, with rapid, shallow and grunting respirations; he was cold and clammy, perspiration glistening on his face which was grayish in color. The facies was that of acute pain and distress. The abdomen was distended, rigid, and excessively tender to palpation—maximally so in the right upper quadrant and midline. There were no palpable masses. The abdomen was silent on auscultation. Rectal examination showed marked tenderness but no unusual fullness in the rectovesical pouch. The admission temperature was 98.8°, pulse 102, respiration 28, blood pressure 148/100.

Laboratory examinations were carried out immediately: Hemoglobin, 13.5 Gm. (84 per cent); red blood cells, 4,750,000; white blood cells, 16,600; differential count, 85 per cent polymorphonuclear cells, 9 per cent lymphocytes, 6 per cent monocytes; serum chlorides, 83.8; serum bilirubin, 5.1. The urine examination showed one plus sugar, and occasional white and red blood cells. A scout film of the abdomen visualized multiple, parallel, distended loops of small bowel, with the report that "the appearance is very suggestive of an obstructive rather than a paralytic ileus"; the diaphragm was not included in the films.

The provisional diagnoses were (1) rupture of the gallbladder, and (2) acute pancreatitis. Operation was delayed until midnight of 26-27 March, approximately 10 hours after admission, in order to secure a serum amylase, which was returned as 59 units. The elevated serum bilirubin was not explained preoperatively.

A right paramedian incision was made. The peritoneal cavity was filled with quantities of mixed bile and blood; some two liters were aspirated and a large additional amount drained onto the drapes. The biliary area was exposed and the undersurface of the liver contained no gallbladder; its bed was a mass of fresh blood clot with deep fissures extending into the liver substance. The general appearance was as though the gallbladder had been removed by careful dissection, no portions of liver being actually torn away. Copious bile issued from a small opening about 3/16 of an inch wide in the lower third of the common bile duct just proximal to the duodenum.

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The opening was cleanly-cut and beveled, as though made by a scalpel, flush with the common duct. The opening was closed with several interrupted sutures, and a drain placed down into the subhepatic area. The upper abdomen was searched for the gallbladder without success. Just before closing the abdomen, jellied blood and bile were removed by hand from the pelvis. The gallbladder was promptly brought up from there in the hand, appearing much like an oyster. It was half-filled with bile, limp, bluish-white in color, with walls of normal consistency, and contained no stones; it was entirely free from liver tissue fragments. The cystic duct was slender, "cleanly dissected," with its end sharply severed at a 45-degree angle with the common bile duct.

The abdomen was closed with two large Penrose drains in place, one to the sub-hepatic area and one into the pelvis.

The postoperative course was surprisingly uneventful. Biliary drainage which was initially profuse, slackened, and finally ceased on April 11. The highest temperature recorded was on March 28, 101 degrees, rapidly subsiding thereafter to a range of 99 degrees to 100 degrees, and thence to normal. He was discharged as cured on April 20. He has been followed in surgical clinic since that time and is in excellent health.

Examination of the gallbladder in the pathology laboratory by Dr. Max Strumia produced the following statement:

"*Gross Description.* Previously incised gallbladder 10 x 4 x 4 cm. The serosa is intact. The wall measures 0.15 to 0.2 cm. The mucosa is brownish amber in color. A portion of the cystic duct is present.

Microscopic Description. The mucosa is lost and the wall is poorly preserved. The mucosa is absent. The wall is necrotic. The cellular outlines are almost completely lost. Only faint outlines remain. There is no evidence of inflammation. The picture is compatible with that which might be expected if the blood supply had been completely destroyed.

Pathological Diagnosis. Beginning necrosis of gallbladder."

Such an unusual case calls for some degree of surmise as to the nature and application of the force applied. It would seem that in this small and slender man, surfeited with alcoholic beverage, there was an extreme relaxation of the abdominal musculature as he lay with his abdomen bared. The gallbladder may well have been distended and protruding below the costal margin. The sharp high heel of the levered shoe struck between liver and gallbladder with sufficient force to carry it as a wedge between the two, and to expend the final force of the blow in shearing the cystic duct at its junction with the common bile duct.