MEDICAL MEMORANDA

Roux Loop Drainage for Post-traumatic Biliary Cyst

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A previously unrecorded method of draining a post-traumatic biliary cyst is described. It entailed anastomosing the cyst to a Roux loop to provide internal drainage. The difficulties of diagnosing the conditions are well illustrated.

Case Report

A 43-year-old manual worker was involved in a heavy-impact road-traffic accident. He sustained mild concussion and major upper abdominal injuries. On admission to hospital his general condition was poor and he required immediate blood transfusion. Early laparotomy was performed for suspected intra-abdominal bleeding.

The abdomen was opened through an upper midline incision, and from this a transverse cut was made to expose the liver. This was found to be severely damaged. A deep laceration extended from the gall-bladder bed to the falciform ligament, along the left triangular ligament, and back down to the porta hepatis. Thus a wedge of liver "with the gall bladder attached to it" was virtually separated from the rest of the organ. This was removed en bloc. The liver was repaired with chronic catgut sutures over oxidized cellulose gauze. The porta hepatis was not explored. A corrugated drain was placed in the right subhepatic space.

The immediate postoperative course appeared satisfactory. Eleven days after the accident, however, the patient began complaining of colicky lower abdominal pain. At the time, though his bilirubin level had fallen the alkaline phosphatase level had risen to 33 K.A. units. His condition then remained unchanged until about the eighteenth postoperative day, when the lower lobe of the right lung was found to be collapsed. The liver was relatively more tender. These signs and symptoms gradually resolved and he was discharged home three weeks after the accident.

Presentation of Biliary Cyst.—Five weeks after the original injury he was seen again in the outpatient clinic. He appeared noticeably less fit and complained of anorexia, lethargy, and colicky abdominal pain. An ill-defined mass was palpable in the right hypochondrium. Haemoglobin and white cell count were normal. Chest x-ray

examination showed a small right pleural effusion, and the right diaphragm appeared to move less readily than the left. Abdominal x-ray films showed the gastric air bubble to be pushed over to the left. Technetium-99m colloid and rose bengal liver scans showed enlargement of the liver with some reduction in emission between the right and left lobes. These changes were non-specific. He was admitted for observation. The mass in the right hypochondrium became more clearly defined and was therefore explored.

Second Laparotomy.—The abdomen was opened through the original incision and a definite endocyst of the liver was found. From this, 3 l bile-stained fluid was aspirated. The cyst, which was thick-walled, was situated between the liver and right diaphragm, the stomach being displaced to the left. The sutured laceration in the right lobe of the liver was oozing bile but the rest of the liver was normal. A Roux loop was fashioned and anastomosed end-to-side to the wall of the cyst. A silicone drain was placed through the abdominal wall, into the cyst and through the anastomosis into the Roux loop.

Outcome.—The postoperative course was uneventful. A cystogram showed drainage down the Roux loop, without leakage from the anastomosis. The drainage tube was therefore removed and the patient was discharged home well. His recovery was entirely uneventful and an intravenous cholangiogram one month after the second operation showed a normal biliary tree and no cyst. He was able to return to work three and a half months after the accident. Two years after his recovery there were no further complications.

Comment

The first case of post-traumatic biliary cyst to be successfully treated was recorded by Whipple (1898). The patient, a boy of 16, presented with a fluctuant mass in the right hypochondrium one month after being kicked in that area by a horse. The mass, a pseudocyst containing bile-stained fluid, was drained externally for six weeks. The patient made an uneventful recovery. Several similar cases were recorded at about that time.

Since then there have been several additions to the literature, including useful reviews by Henson *et al.* (1957) and Jones and Harley (1970). Treatment has included simple drainage, marsupialization of the cyst to the abdominal wall, repeated packing, and incision together with intermittent irrigation and drainage. It seems that difficulties were encountered and convalescence was usually protracted.

We think that internal drainage is advantageous because there is less risk of infection of the cyst as the drainage system is "closed," problems with fluid and electrolyte imbalance are unlikely, there is little risk of damage to the common bile duct, and there is no need for repeated dressings. The procedure is technically relatively simple. Convalescence is rapid.

References

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