Non Penetrating Traumatic Perforation of Gall Bladder
With Massive Choleperitoneum

A N SUPE, A S VAIDYA, R G NAIR, A B SAMSI, K P CHAWLA, S SHIKA

Departments of Surgery, Medicine and Nuclear Medicine, Seth G S Medical College, Parel, Bombay 400 012

Abstract

We report a case of non-penetrating trauma to the abdomen resulting in gall bladder perforation, in whom the diagnosis was made by biliary scintiscanning; cholecystography was done, with satisfactory results.

Key words: Bile peritonitis, biliary scintigraphy, cholecystography

The usual presentation of biliary leak into the peritoneal cavity is that of rapidly progressing peritonitis and shock. However, if other visceral organs are not damaged and there are no signs of shock or hepatorrhexis, the delay in the diagnosis can be long (6-7 weeks), especially in patients having chronic liver disease. We present a case with perforation of the gall bladder with choleperitonism in whom the diagnosis was established by scintigraphy four weeks after admission; cholecystography was done to conserve the gall bladder, without any untoward sequelae.

A 25 year old man presented with abdominal distension and jaundice and a history of blunt abdominal trauma following a fall while under the influence of alcohol a month earlier. On physical examination, the abdomen was tense, with epigastric tenderness, and there were signs of free fluid.

Investigations: WBC 11000 cmm, P 77%, serum bilirubin 2.0 mg/dl (direct 0.6 mg/dl); serum alkaline phosphatase 37-6 KA units. Abdominal paracentesis yielded bilious fluid. Ultrasound scan of the liver revealed an enucleated bile collection just below the liver with a slow leak into the peritoneal cavity (on the 24 hr film; Fig 1).

At laparotomy, a well encapsulated loculus communicating with two other cavities in the abdomen and containing approximately 2 liters of bile stained fluid was opened. A small perforation of the gall bladder (Hartmann's pouch) was seen with free flowing bile. Peroperative cholangiogram via the perforation revealed non obstructive biliary passages. Cholecystectomy was carried out as cholecystectomy would have been difficult in this setting. The perforation was closed with 3-o vicryl in an axis perpendicular to that of the cystic duct. The post operative course was uneventful. Post operative ultrasound scan (Fig 2) and oral cholecystography showed a normally functioning gall bladder.

Fig 1: Preoperative biliary scintigraphy showing subhepatic enucleated collection with slow leak (arrow.)

Closed injury to the gall bladder is uncommon; but a predisposing factor in adults is a distended gall bladder such as seen with obstruction to bile flow, in the fasting state, or after alcohol consumption. The presence of bile in the peritoneal cavity elicits a reaction dependent on the speed of contamination and the state of infectivity of the bile. The escape of sterile bile which follows a blunt injury of sufficient intensity to cause perforation but not severe enough to cause widespread damage, pursues a virulent course. A subacute
picture is seen, with localised or generalised peritonitis becoming apparent after 36-48 hours.2

Abdominal paracentesis offers the first clue to the diagnosis of bile ascites. Percutaneous transhepatic and endoscopic cholangiography (ERC) have ardent advocates for their use in the non-emergency situation.3 In spite of its specificity, ERC was not performed in our patient for fear of introducing infection, with disastrous consequences. Bulla's scan confirmed the diagnosis, showing a subhepatic origin for the bile leak.

The treatment of bile ascites is surgery.2 Three options are available, viz cholecystectomy, cholecystostomy and cholecystorrhaphy.2 Cholecystectomy has been the commonly recommended approach,2 as the retained gall bladder may be the seat of future stone formation.2 In our case, the gall bladder remained anatomically viable and was a conduit for the passage of bile into the peritoneal cavity. Dense adhesions in the region of Calot's triangle rendered cholecystectomy a formidable undertaking, and hence cholecystorrhaphy was performed. Postoperative investigations showed a normally functioning gall bladder.

References

Received June 27, 1990. Accepted September 27, 1990