Bile duct injuries

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About 15% of injuries to the bile ducts are recognised at the time of operation; in the remainder, the injury declares itself postoperatively either by profuse and persistent leakage of bile (if drainage has been provided; bile peritonitis if no drainage provided) or by deepening obstructive jaundice. When the obstruction is incomplete, jaundice is delayed until subsequent fibrosis renders the lumen of the duct inadequate. Any postoperative elevation in the serum bilirubin or sug gestion of duct damage requires investigation to determine the nature of the injury . Abdominal USG may show collections, dilatation of the CBD and any associated vascular lesions. Abdominal CT defines the presence of f ocal fluid collections, ascites, biliary obstruction with an upstream dilatation in the acute phase or long-term sequelae of longstanding bile stric ture, such as hepatic atrophy or signs of secondary biliary cir rhosis. CT may identify an associated vascular injury , such as to the right hepatic artery . (c) (d) - MRCP is the ‘gold standard’ for complete morphological evaluation of the biliary tree as it o ff ers detailed informa tion about the integrity of the biliary tract. It is helpful in deter - mining the level and degree of injury . MRCP with magnetic resonance angiography is more informative as it may identify associated vascular injuries. A HIDA scan can confirm the presence of a bile leak or biliary obstruction. If available, ERCP should be considered because this is diagnostic of a bile leak, demonstrates ductal continuity , detects the site and type of injury , identifies resid - ual/retained CBD stones and is potentially therapeutic. The - most common bile leak following cholecystectomy is from the cystic duct. This can be treated by placing a biliary endopros - thesis (stent) in the CBD across the origin of the cystic duct. Surgical r epair and the subsequent outcome are related to the level and degree of injury , in conjunction with the pres - ence or absence of concomitant vascular injury . A n umber of classification systems have been proposed, with the Strasberg classification being commonly used (Figure 71.33). In a debilitated patient, temporary external biliary drain - age ma y be achieved by passing a catheter percutaneously into an intrahepatic duct. Also, stents may be passed through stric - tures at the time of ERCP and left to drain into the duodenum. When the general condition of the patient improves, definitive - surgery can be undertaken. The principles of surgical repair are the maintenance of the duct length and the restoration of biliary drainage. For a stricture of recent onset through which a guidewire can be passed, balloon dilatation with insertion of a stent is an acceptable option, provided the services of an experienced endoscopist are available. For benign stricture or - duct transection, the preferred treatment is a Roux-en-Y hepa - - ticojejunostomy performed by an experienced hepatobiliary surgeon. Biliary reconstruction in the presence of peritonitis, combined vascular and bile duct injuries and injury at or above

E4 E5 E6 (a) A bile leak from the cystic duct stump or minor (c) A bile leak from the divided right posterior sectoral E1 , transected main bile duct with a stricture more than 2 cm from E3 , stricture of the hilus with the right and left ducts in E5 , stricture involving the right aberrant sectoral Br J Surg 2006; 93 (2): 158–68.)

of poor surgical outcome. The long-term impact of bile duct injury is a significant decrease in the patient’s quality of life and work-related limitations.

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