Practical Procedure

Technique to Overcome Failure of Visualization of the Lower End of the Common Bile Duct during Peroperative Cholangiogram

K. M. Ayyash, F. M. Abu-Zidan

An additional technique is described to overcome non-visualization of the lower end of the common bile duct on initial peroperative cholangiography. A roentgenogram made after passing a No. 6 infant feeding tube into the duodenum and then withdrawing it back into the common bile duct may demonstrate no obstruction to be present thus obviating the need to explore the common bile duct.

The reason for performing an intraoperative cholangiogram during cholecystectomy, whether by cannulation of the cystic duct or by a direct puncture of the common bile duct, is to demonstrate the anatomy of the bile ducts, to check for stones and to ensure that there is a normal passage of contrast material into the duodenum.1,2 Not infrequently, the lower end of the common bile duct is not visualized and the contrast material does not pass into the duodenum, while the rest of the bile ducts appear normal on the peroperative cholangiogram. The reason for this appearance could be a small stone, biliary sludge, spasm of the sphincter of Oddi, stricture, or even a tumour. It is often impossible to differentiate between these disorders by a simple cholangiogram. We describe a new technique to overcome this problem.

Technique
A No. 6 infant feeding catheter is used in this technique. We pass the catheter through the cystic duct and obtain a cholangiogram. If the lower end of the common bile duct is not visualized, 1 mg of glucagon is given intravenously and another cholangiogram is obtained after 3 min. If the lower end of the duct is still not visualized we advance the catheter through the common bile duct into the duodenum and we check its position by injecting saline until no resistance is encountered. The catheter is then withdrawn until it resides again in the common bile duct and another cholangiogram is obtained.

Results
Figure 1 shows an intraoperative cholangiogram in a patient with multiple gallstones and no history of jaundice. The caliber of the common bile duct is normal, no filling defects or dilatation of intrahepatic ducts are seen. The lower end of the common bile duct is not visualized and the contrast material did not pass into the duodenum after intravenous glucagon was given.

Figure 2 shows a normal cholangiogram after the catheter was passed into the duodenum and withdrawn into the common bile duct.

Discussion
Routine use of a peroperative cholangiogram is advised as it reduces the incidence of recurrent stones and delineates the anatomy of the biliary tree.3 Occasionally the contrast material does not pass into the duodenum although no pathology can be seen. In this situation we advocate the use of glucagon intravenously (1 mg iv) and repeat the peroperative cholangiogram.1,4 If the dye still does
not pass, we believe that mechanical manipulation is more useful than drugs to overcome spasm or oedema. By introducing an infant feeding catheter (No. 6) through the cystic duct it is possible to pass it through the sphincter of Oddi into the duodenum. After its withdrawal into the common bile duct the contrast material is injected and it may pass into the duodenum thus obviating the need to explore the common bile duct.

References


