Emergency Endoscopic Nasobiliary Drainage Without the Aid of Fluoroscopy

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Abstract

Endoscopic nasobiliary drainage without the aid of fluoroscopy, as an emergency procedure, was performed successfully in four patients with severe calculous cholangitis. There were no complications. All the patients improved and three were taken for definitive surgery later. (Indian J Gastroenterol 1993; 12: 97-8).

Key words: Endoscopic sphincterotomy, percutaneous transhepatic biliary drainage.

Introduction

Nasobiliary drainage is a well established method for treatment of cholangitis. It leads to immediate symptomatic and biochemical improvement. It is routinely done under vision with the help of fluoroscopy. Sometimes, in emergency situations, one may not have easy access to radiology services. Moreover, since the fluoroscopy machines in most radiology departments in India are overused for different procedures, it may be difficult to get fluoroscopy time from the department for emergency procedures like endoscopic nasobiliary drainage (ENBD) which may occasionally require a long time (1-2 hours). Under such conditions, we have shown that this procedure can be undertaken without fluoroscopy.

We report our experience on 4 patients of calculous cholangitis, who underwent emergency nasobiliary catheter insertion without the aid of fluoroscopy.

Methods

Technique

A standard side-viewing endoscope (Olympus 7F-1T) was used. The common bile duct (CBD) was cannulated with a standard endoscopic retrograde cholangio-pancreatography (ERCP) catheter. Once bile started flowing freely through the catheter in the bile duct, a 400 cm long guidewire was passed for a length of 10 cm after it was seen entering the papilla. Keeping the guidewire in position, the ERCP catheter was removed. A pigtail nasobiliary catheter was then passed over the guidewire. Its correct position was ascertained when it was seen entering the papilla for a distance of at least 10 cm in the bile duct and bile started coming out freely.

Once the nasobiliary catheter was in position, the guidewire was removed and the endoscope taken out gently. The nasobiliary catheter was then routed from mouth to nose. Continuous drainage of bile confirmed the position of the catheter above the level of obstruction. On the following day, when fluoroscopy help was available during routine hours, the position of the catheter was confirmed by cholangiograms.

Case Reports

Case 1: A 35 year old man was admitted with features of cholangitis. On examination, he was toxic and had tender hepatomegaly. Investigations at admission showed leukocytosis (14,000/mm³) and elevated serum bilirubin (26 mg/dL) and alkaline phosphatase (64 KAU units). Ultrasound scan of the abdomen revealed dilated intrahepatic biliary radicals and dilated (15mm) CBD with a stone at the lower end. The gall bladder was shrunken and had multiple stones.

As the patient did not respond to conservative management for 48 hours and had symptomatic and biochemical worsening, he was subjected to emergency ENBD without the help of fluoroscopy. The patient responded dramatically to biliary decompression. Abdominal pain disappeared in 6 hours and fever took 24 hours to subside. After 7 days of nasobiliary drainage, his laboratory investigations showed marked improvement. The patient subsequently underwent cholecystectomy with choledocholitotomy and recovered fully.

Case 2: A 52 year old woman with diabetes mellitus, ischemic heart disease and decompensated post-necrotic cirrhosis, presented with fever, abdominal pain and jaundice for 24 hours. Her laboratory investigations revealed leukocytosis (22,000/mm³), elevated serum bilirubin (16 mg/dL) and alkaline phosphatase (59 KAU units) and serum protein 5.2 g/dL with albumin 2.2 g/dL. Ultrasound scan revealed the presence of stones, nodular liver, gallstones and dilated CBD and intrahepatic biliary radicles with CBD stones at the lower end.

The patient was treated with intravenous fluids and antibiotics. Because of failure to respond to conservative...
management, she was taken for emergency ENBD without the help of fluoroscopy. She had immediate relief in abdominal pain; fever subsided and encephalopathy disappeared within 48 hours. After 7 days of drainage, she improved clinically and biochemically and is awaiting mechanical lithotripsy or possible surgery.

Case 3: A 65 year old woman presented with classical features of calculous cholangitis along with shock and encephalopathy (Reynold's pentad). Emergency drainage of bile was mandatory. An urgent ultrasound examination revealed biliary obstruction due to choledocholithiasis. There was no difficulty in inserting the catheter without fluoroscopy. After 24 hours encephalopathy improved, and within 7 days she showed significant clinical and biochemical improvement. She was later subjected to cholecystectomy and choledocholithotomy and was doing well 4 months postoperatively.

Case 4: A 75 year old man with cholangitis due to choledocholithiasis had a successful ENBD. He had a periampullary diverticulum, which made the procedure slightly longer. He improved significantly within a few days.

Discussion

Acute suppurative cholangitis is associated with a high mortality if the patient is managed conservatively or subjected to emergency surgery. Percutaneous transhepatic biliary drainage is associated with a high risk of bleeding and bile leakage. Endoscopic biliary drainage is a well-established method for treatment of cholangitis and is associated with minimal morbidity.

The nasobiliary catheter is inserted routinely under fluoroscopy guidance. Safety and complications of this procedure when performed without the help of fluoroscopy have not been reported. In all four patients in whom we performed this procedure, no complications were encountered. It offers an advantage in emergency situations where fluoroscopy is not available and also in special conditions like pregnancy with calculous cholangitis, where radiation exposure is hazardous. We prefer using a pig-tail catheter as it anchors well in the bile duct and does not get dislodged.

Endoscopic nasobiliary drainage without fluoroscopy is not recommended in patients with biliary strictures and malignant obstruction, where the luminal anatomy is distorted, making the patient more prone to complications like common bile duct injury and hemorrhage.

We suggest that any patient with severe cholangitis should have an emergency ultrasound and assessment for the cause of obstructive jaundice. If it is due to choledocholithiasis, a nasobiliary catheter may be placed without fluoroscopic guidance as an emergency procedure, and a cholangiogram can be performed during routine hours to confirm the position of the catheter in the biliary tree.

References