

Case Report

Endoscopic Retrograde Cholangio-Pancreatography in Patients with Liver Cirrhosis

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Background

Endoscopic retrograde cholangio-pancreatography (ERCP) is an endoscopic technique to diagnose & treat variable pancreatic & biliary disorders.

Liver cirrhosis increases the incidence of cholelithiasis, intrahepatic cholangiocarcinoma & pancreatic carcinoma.

Post- ERCP bleeding and pancreatitis are the most common complications in those population. (Udayakumar et al., 2017)

Key words: ERCP, Cirrhosis, Pancreatitis, Post-ERCP Bleeding, Biliary Stones

Introduction

ERCP was first described in adult then pediatric clinical practice in the late 1960s & early 1970s for diagnosis & treatment of hepatobiliary & pancreatic obstructive disorders. This revolutionary endoscopic procedure involved improved side-viewing duodenoscopes & successful cannulation of papilla of Vater to inject a contrast dye inside the pancreatobiliary trees & watching the dye distribution on a fluoroscopic screen [1].

With the overwhelming technical advancements in non-invasive diagnostic imaging in addition to advances in sphincterotomy & stenting techniques, ERCP is largely shifted in the past decade from a predominantly diagnostic procedure into being a therapeutic modality [2].

Liver cirrhosis increases the incidence of cholelithiasis by 3 folds. Pigmented & cholesterol gallstones are the commonest types. The risk factors for cholelithiasis & choledocholithiasis in cirrhotic patients include high indirect bilirubin, decreased bile acids, and gallbladder hypomotility. Also, chronic alcoholism, viral C cirrhosis, and non-alcoholic fatty liver disease are major risk factors [3].

Cirrhotic patients have a 2-fold higher incidence of intrahepatic cholangiocarcinoma especially patients with primary biliary cholangitis (PBC) or primary sclerosing cholangitis [4].

Pancreatic carcinoma as well as acute & chronic pancreatitis are more common in cirrhotic than the non-cirrhotic population with chronic alcoholism starting at young age is a major risk factor for both conditions [5, 6].

From the previous data, we realize that ERCP is a valuable diagnostic & therapeutic modality for pancreatobiliary disorders in cirrhotic & non-cirrhotic patients. However, the well-known hepatic sequelae especially in advanced hepatic decompensation (late Child-B & Child-C scores) as coagulopathy, thrombocytopenia, excessive ascites, hydrothorax, renal impairment & even cardiomyopathy result in a significant challenge & risk when deciding to perform ERCP for those patients population regarding both the preceding anesthesia &

during the procedure [7].

Zhang et al (2015), identified MELD score more than 11.5 as the best cutoff value for predicting complications of ERCP in cirrhotic patient with choledocholithiasis. They stated that the rates of complications & mortality were not significantly different among patients with different Child-Pugh classifications and concluded that ERCP is an effective and safe procedure in cirrhotic patients with choledocholithiasis [8].

Here in this article, we will discuss in brief the common indications, contraindications & complications of ERCP in hepatic patients.

Indications: [9, 10]

1. Treatment of biliary stones.
2. Diagnosis & treatment of intra- & extra-hepatic portal biliopathy in cirrhotic patients with portal hypertension
3. Diagnosis of primary biliary cirrhosis & primary sclerosing cholangitis.
4. Diagnosis of cancer ampulla of Vater.
5. ERCP with sphincterotomy is therapeutic for type I sphincter of Oddi dysfunction
6. ERCP with stent insertion is a palliative therapy for malignant biliary obstruction.
7. Early ERCP reduces morbidity & mortality in severe biliary pancreatitis

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Contraindications: [9, 10]

1. Severe cardiopulmonary disease
2. Recent myocardial infarction
3. Uncorrectable coagulation disorders especially when sphincterotomy is to be performed.
4. Contrast dye hypersensitivity
5. Suspected pancreatic or biliary disorders without confirmation by other imaging studies.
6. Acute pancreatitis without evidence of biliary obstruction

Complications: [11-13]

ERCP-related complications can be divided into two main groups:

1- Specific complications:

Bleeding: typically occurs after sphincterotomy. This is the most common & most serious complication in cirrhotic patients.

Pancreatitis: The most frequent complication of ERCP

Cholangitis: due to manipulation of an obstructed biliary system.

Perforation: of the esophagus, stomach, duodenum, or jejunum (rare).

Stent-related complications: stenosis or migration

2- General complications

Medication-related: contrast allergy or oversedation (hepatic encephalopathy) by benzodiazepines

Cardio-pulmonary complications: aspiration, hypoxemia, gas embolism and cardiac dysrhythmia

Electro-surgical hazards: Excessive cautery can lead to pancreatic or biliary perforation, while inadequate cautery increases the risk of bleeding (hemobilia)

Miscellaneous rare complications: gallstone ileus, colonic perforation, liver abscess, pneumothorax, impaction of retrieval baskets, biloma.

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