

Evaluation of Benefits and Risks Factors Associated in Endoscopic Retrograde Cholangiopancreatography (ERCP)

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DESCRIPTION

Endoscopic Retrograde Cholangiopancreatography (ERCP) has been used for the diagnosis and treatment of pancreatic diseases for over 20 years. This procedure is done on an outpatient under sedation (rarely under general anesthesia). The duodenal "papilla" is identified using a "side-viewing" endoscope called a duodenoscope. A working channel in the endoscope allows flexible instruments to be passed into the bile and/or pancreatic ducts to diagnose and treat pancreatic diseases.

ERCP is used to treat gallstone pancreatitis as well as complicated acute and chronic pancreatitis. Randomized trials have shown that ERCP reduces morbidity and may reduce mortality in certain patients with gallstone pancreatitis. Patients with a compressed stone in the common bile duct and those whose gallbladder removal will be delayed benefit from ERCP. ERCP can also be used to detect and treat main pancreatic duct leaks using transpapillary stenting (i.e. placement of a plastic tube across the papilla). If they connect with the pancreatic duct, symptomatic pseudocysts, which are essentially, walled-off pancreatic or peripancreatic fluid collections seen in acute or chronic pancreatitis, may be drained *via* the papilla. If they do not, a cystogastrostomy or cystoduodenostomy (a hole connecting the stomach or small intestine to the cyst) can be created with a needle-knife papillotome. Transpapillary drainage also affects pancreatic fistulas, which are connections between the pancreatic duct and other structures. Pancreatic ascites, a large collection of abdominal fluid caused by pancreatic duct rupture, is treated similarly.

ERCP may detect common bile duct stones or duct narrowing not seen by other imaging modalities in patients with recurrent acute or chronic pancreatitis. Focal narrowing of the pancreatic duct (termed a stricture), other manifestations of chronic pancreatitis suggesting that surgery may be beneficial (e.g. duct dilation), or evidence of a tumour. Stones in the bile duct can be removed. The bile duct and pancreatic duct strictures are treated with a stent. In some cases, removing stones from the pancreatic

duct may relieve abdominal pain associated with chronic pancreatitis. ERCP can also be used to diagnose pancreatic cancer and provide palliation (symptomatic treatment). The use of transpapillary stents for palliative management of biliary obstruction has simplified the treatment of this difficult problem.

The use of ERCP to detect occult anatomical or physiologic abnormalities (e.g., pancreas divisum and sphincter of Oddi dysfunction, respectively) and treatment with biliary and pancreatic sphincterotomy (i.e., cutting of the circular muscle controlling ductal drainage) is still debatable. Pancreas divisum occurs when the ducts from the pancreas of two embryonic portions, known as the ducts of Wirsung and Santorini, fail to fuse completely. This anatomic variant is common in people who do not have pancreatitis. Some preliminary evidence suggests that decompression of one of these ducts may reduce the risk of recurrent pancreatitis. The sphincter of Oddi is a circular muscle that regulates bile and pancreatic duct drainage. Sphincterotomy may be beneficial in some cases where the muscle exhibits high pressures as measured with a pressure-measuring catheter (i.e. manometry). The evidence regarding number of patients with this condition treated is insufficient to draw firm conclusions.

Brush cytology, intraductal biopsy, and fine needle aspiration are all methods for obtaining a tissue diagnosis of pancreatic cancer. Endoscopic ultrasound has largely replaced ERCP in the diagnosis of the malignancy due to the low sensitivity of duct brushings and the potential morbidity associated with ERCP. Pancreatitis is associated with a 5%-10% risk of ERCP. When cannulation of the ducts is difficult, the pancreas is normal, or a sphincterotomy is performed in the presence of sphincter of Oddi dysfunction, the risk is increased. An ERCP-induced pancreatitis history is also a risk factor. Bleeding, infection, and perforation are some of the less common risks. It is a specialised procedure that should only be performed by experienced endoscopists, especially in the setting of pancreatic disease.

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