Management of chronic pancreatitis with pancreas cyst by endoscopic pancreatic prosthesis

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Summary. Cases of chronic pancreatitis accompanied by stenosis or dilation of the pancreatic duct were treated by endoscopic placement of an endoprosthesis and drainage. The purpose of the treatment was the alleviation of pain, restoration of extrapancreatic secretion and retardation of the progression of inflammation. The procedure was performed successfully in 9 of 13 patients, using an endoscopically placed pigtail prosthesis in the pancreatic duct. The successfully treated patients consisted of 9 cases of chronic pancreatitis, 2 cases being pancreas divisum. After disappearance of the symptoms and abnormal endoscopic findings, the drainage tubes were removed after a period of 5–12 months. No serious complications were encountered. Following the procedure, an improvement in appetite and increase of 2–13 kg in body weight was recognized. This method yielded satisfactory results in the treatment of chronic pancreatitis.

Key words: Endoscopic pancreatic prosthesis – Chronic pancreatitis with pancreas cyst – Stenosis and dilation of the pancreatic duct

The indication for surgical treatment of chronic pancreatitis with cyst formation is continuous pain, which cannot be alleviated by conservative therapy. The incidence of postoperative complications from such surgery is high and the postoperative mortality may be as high as 6% [2, 5, 6, 8]. Based on the pathological condition of chronic pancreatitis, we treat such cases by drainage via an endoprosthesis inserted endoscopically. The insertion of an endoscopic retrograde pancreas endoprosthesis (ERPEP) was first reported in February 1983 by Fuji et al. for the treatment of pancreatic stenosis in a patient with cancer of the head of the pancreas [3]. The same year Segal applied ERPEP in the management of stenosis of the pancreatic duct in pancreas divisum and stenosis of Wirsung’s duct due to pancreatitis [13]. In 1985, Fuji et al. reported ERPEP for the treatment of chronic pancreatitis [4], and in 1986 Soehendra et al. described their results using this method in stenosis of the pancreas duct in pancreas divisum [15] and stenosis of Wirsung’s duct in chronic pancreatitis [16]. The ERPEP method for chronic pancreatitis requires an extremely high level of expertise and is not as simple as endoscopic retrograde biliary drainage (ERBD). Consequently, there are still very few reports on this subject.

Materials and methods

Endoprostheses were placed transendoscopically in a total of 13 patients with chronic pancreatitis from March 1987. The procedure was successful in 9 but unsuccessful in 4 due to calcification in the region of the pancreas or tortuously convoluted stenotic pancreatic ducts. The ages of the 9 successful patients ranged from 19–67 years with a mean of 41.3 years. There were 5 males and 4 females.

Indications

The purpose of the ERPEP is to allow flow of stagnant pancreatic juice through the tube into the duodenum, using the same principle as the surgical construction of an internal fistula in reconstruction of the pancreatic duct. The aims of the procedure are (1) restoration of pancreatic exocrine function and (2) elimination or alleviation of the sensation of pain [15]. The indications for ERPEP are based on the results of clinical examination, CT, ultrasound and endoscopic retrograde cholangiopancreatography (ERCP). They are: (1) chronic pancreatitis with impaired secretion of pancreatic juice accompanied by severe pain (stenosis plus dilatation of the pancreatic duct); (2) pancreatic cyst communicating with the pancreatic duct; (3) intra-abdominal pancreatic fistula following pancreatic resection.

Fig. 1. ERPEP equipment
Figs. 2-5, 7-10