Modified Fully Covered Self-expandable Metallic Stents with Anti-migration Features for Benign Pancreatic-duct Strictures in Advanced Chronic Pancreatitis; With a Focus on the Safety Profile and Reducing Migration

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Background: Fully covered self-expandable metallic stent (FCSEMS) placement has recently been tried in the management of refractory pancreatic-duct stricture associated with advanced chronic pancreatitis. The major limitation of FCSEMSs was frequent migration.

Objective: To assess the safety, migration rate, and removability of modified FCSEMSs with antiimigration features used for treatment of benign pancreatic-duct strictures.

Design: Prospective study.

Patients: Thirty-two patients with chronic painful pancreatitis and dominant ductal stricture.

Interventions: Transpapillary endoscopic placement of FCSEMSs Bumpy type. Taewoong Seoul, Korea in the pancreatic duct, with removal after 3 months.


Results: FCSEMSs were successfully placed in all patients through a major (n=27) or minor (n=5) duodenal papilla. All patients achieved pain relief during stent placement. There was no occurrence of stent-induced pancreatitis or pancreatic sepsis. No stent migrated and all stents were easily removed. Follow-up ERCP 3 months after stent placement showed resolution of ductal strictures in all patients. Pancreatogram upon FCSEMS removal displayed “de novo” focal pancreatic-duct strictures in five patients, but all were asymptomatic.

Limitations: No long-term follow-up

Conclusions: Temporary 3-month placement of FCSEMSs was efficacious at resolving pancreatic-duct strictures in chronic pancreatitis, with an acceptable morbidity profile. Modified FCSEMSs can prevent stent migration, but may be associated with de novo ductal strictures.

ESWL of Pancreatic Stones in Treating Children with Chronic Pancreatitis

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Objectives: Extracorporeal shock wave lithotripsy (ESWL) of pancreatic stones is a treatment option for patients with chronic pancreatitis (CP), when pancreatic stones cannot be removed by endoscopic procedures during retrograde cholangiopancreatography (ERCP).

The aim of the study was to evaluate if ESWL of pancreatic stones is effective in treating children with chronic pancreatitis. Methods: 11 children (6 girls and 5 boys; mean age 11.2 years, range: 5.5 to 17 years) with severe CP, hospitalized since 1998 to 2009, were treated by ESWL for endoscopically irretrievable obstructive stones. The medical records of these patients were reviewed for data on the presentation, diagnostic findings, ESWL and endoscopic treatment. ESWL was performed with an electromagnetic lithotripter. The etiology of chronic calcifying pancreatitis were gene mutations (PRSS1, CFTR) in all but one patient.

Results: 11 patients had 13 endoscopic-ESWL sessions. ESWL was administered twice in two children. Pancreatic stones fragmentation was achieved in all patients. The procedures were well tolerated by all children. There were no complications or failures related to ESWL. Early pain relief occurred in all cases. At a mean follow-up of 61 months (range: 14–90 months) pain improved in 7 children (63.6%). Acute episodes of CP after endoscopic-ESWL treatment were observed in 3 patients (27.3%). Recurrence of endoscopically irretrievable pancreatic stones was revealed in 3 cases.

Conclusions:
1. Extracorporeal shock wave lithotripsy is a safe and effective therapy in treating children with chronic pancreatitis and irreversible pancreatic stones.
2. Extracorporeal shock wave lithotripsy should be considered complementary and not alternative therapy to endoscopic drainage.