Modified Fully Covered Metal Stent Placement Above the Papilla for Benign Biliary Stricture

Jong Ho Moon, Hyun Jong Choi, Jong Chan Lee, Seul Ki Min, Hyun Cheol Koo, Tae Hoon Lee, Young Koo Cheon, Young Deok Cho, Sang-Heum Park

Digestive Disease Center, Department of Internal Medicine, Soonchunhyang University School of Medicine, Bucheon, Korea

Background: Endoscopic placement of fully covered self expandable metallic stent (FCSEMS) has been tried to manage refractory benign biliary strictures (BBS). However, currently available FCSEMS may be associated with unintended complications such as tissue hyperplasia, or reflux of duodenal contents. To be a novel stent for BBS, we modified FCSEMS to minimize stent-induced complications. The aim of this study was to evaluate the success rates, safety, and removability of modified FCSEMS with placement above the papilla.

Patients/Methods: 16 patients with BBS failed with conventional endoscopic management were enrolled to this study. The modified FCSEMS (BONASTENT M-Inside, Standard Sci Tech Inc, Seoul, Korea) has convex margin and cross lasso at both ends, and anti-migrated segment on mid portion. Stents were placed inside of the bile duct, entirely above the papilla and removed after 3～4 months using a rat tooth forceps.

Results: FCSEMSs were successfully placed inside of the bile duct in all patients. Jaundice was disappeared in all patients after stent placement. There was no episode of stent-induced cholangitis or sepsis. Stent migration was occurred in four patients, but they were asymptomatic. All stents were removed successfully. Cholangiogram after stenting showed the improvement of ductal strictures without de novo focal strictures in all patients.

Conclusions: Temporary placement of newly modified FCSEMS was effective in improving strictures with prevention of potential stent-induced complications in patients with BBS. However, controlled, large scale trials are needed to confirm our preliminary results, long term safety, and efficacy.

Key Words: Fully covered self expandable metallic stent, Benign biliary stricture