Usefulness of Cross Wired Metallic Stents with Malignant Hilar Biliary Strictures

Hoon Il Kim, Jong Ho Moon, Hyun Jong Choi, Seung Hyo Han, Hyung Geun Yoon, Tae Hoon Lee, Young Deok Cho, Sang-Heum Park and Sun-Joo Kim
Digestive Disease Center, Department of Internal Medicine, Soonchunhyang University School of Medicine, Bucheon, Korea

Background and Aims: Endoscopic bilateral drainage with metal stents (MS) for unresectable malignant hilar biliary strictures is considered technically difficult, especially for second stenting. Furthermore, bilateral metal stenting can be difficult to revise endoscopically when stent is occluded by tumor ingrowth. Cross wired MS can facilitate contralateral second stenting and allow to access bilaterally after stent obstruction. The aim of this study was to evaluate the efficacy of endoscopic bilateral stent-in-stent placement with cross wired MS for the patients with high-grade malignant hilar biliary strictures during initial trial and revision.

Patients and Methods: From May 2008 and August 2011, a total of 56 patients with unresectable malignant hilar biliary strictures of Bismuth type II or higher were enrolled. Endoscopic bilateral metal stenting by a stent-in-stent placement with cross wired MS (BONA-M Hilar, Standard Sci.Tech, Korea) was performed. Second stent was placed into the contralateral hepatic duct through the central crossed mesh of the primary stent. When the stent was occluded, endoscopic bilateral revision was intentionally performed.

Results: The technical success rate of initial bilateral stenting with both cross wired MS was 94.6% (53/56). The mean patency duration of initial stents was 238 days. Obstruction of initial stents occurred in 32.1% (17/53). The technical success rates of 2nd bilateral endoscopic stent placement for occluded initial stents was 82.4% (14/17). The clinical success rate of endoscopic revision was 88.2% (15/17). The rates of who received endoscopic revision more than twice was 17.6% (3/17).

Conclusions: Endoscopic bilateral stent in stent placement using cross wired MS was highly successful in patients with high-grade malignant hilar biliary strictures. Bilateral stenting with cross wired MS was effective for the endoscopic revision following occlusion of initial stents deployed in malignant hilar biliary strictures.

Key Words: Malignant biliary obstruction; Metal stent