Expansion of metallic mesh stent hole using a Soehendra stent retriever in multiple stenting of biliary hilar obstruction

A malignant hilar biliary stricture is usually unresectable at the time of diagnosis and requires multiple biliary stentings. Metallic mesh stents remain patent for a relatively long time in the biliary stricture compared to tube stents [1]. However, employing multiple metallic mesh stents is sometimes very difficult because of their small lumen, which impedes the delivery of a catheter. The Soehendra stent retriever (Soehendra SR; Wilson-Cook Medical Inc., Winston-Salem, North Carolina, USA) is useful for dilating a stenosed biliary or pancreatic duct [2–4]. We used it to expand the mesh holes in metallic mesh stents placed in patients with malignant biliary hilar stricture who were undergoing multiple stenting.

We used the retriever in three patients with unresectable hilar biliary carcinoma. Figure 1a shows the endoscopic cholangiogram of a patient with a Bismuth type III stricture. A guide wire was negotiated into the right biliary tree and a metallic mesh stent inserted (JoStent SelfX stent; Abbott Vascular Devices, Redwood City, California, USA) (Figure 1b). Then, a second guide wire was negotiated into the left biliary tree through a mesh hole in the first stent. Despite several attempts using dilation catheters, it was not possible to insert them into the left biliary tree because of the small mesh holes of the stents. We therefore introduced a Soehendra SR and advanced it along the guide wire, turning it clockwise to allow the threads at the end of the device to engage the mesh and expand the stent hole (Figure 2a). After expansion, a metallic mesh stent delivery catheter was easily introduced into the biliary tree (Figure 2b) and multiple stenting was achieved (Figure 2c). We successfully carried out multiple stenting using metallic mesh stents in two other patients and no relevant complications were encountered. Our results indicate that the Soehendra SR was useful in expanding the mesh holes of a metallic stent in patients requiring multiple stenting with metallic mesh stents.

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T. Hara1, T. Yamaguchi1, K. Sudo1, K. Nakamura1, T. Denda1, T. Ishihara2, O. Yokosuka2, T. Kouzu3
1 Department of Gastroenterology, Chiba Cancer Center, Chiba, Japan
2 Department of Medicine and Clinical Oncology, Graduate School of Medicine, Chiba University, Chiba, Japan
3 Department of Endoscopic Diagnostics and Therapeutics, Graduate School of Medicine, Chiba University, Chiba, Japan

Figure 1
a Cholangiogram showing a Bismuth type III hilar stricture. b A metallic mesh stent was placed in the right biliary tree.

Figure 2
a A Soehendra stent retriever was advanced along the guide wire to expand the mesh holes of the first metallic mesh stent. b A metallic mesh stent delivery catheter was then easily introduced into the left biliary tree. c Multiple stenting was successfully accomplished.
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Bibliography

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Corresponding author

T. Yamaguchi, MD
Department of Gastroenterology
Chiba Cancer Center
666-2 Nitona-cho
Chuo-ku
Chiba City
Chiba
Japan
Fax: +81-43-2648175
tyamaguchi@chiba-cc.jp