EUS-guided antegrade stenting using a braided metal stent with a 6-Fr novel slim delivery system for malignant biliary stricture following Roux-en-Y reconstruction (with video)

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An 85-year-old male who had undergone Roux-en-Y reconstruction following distal gastrectomy for gastric cancer was admitted to our hospital with jaundice. Computed tomography showed lymph node recurrence causing bile duct obstruction [Figure 1a]. At first, we attempted transpapillary biliary stenting using a single-balloon enteroscope. However, this failed because cannulation to the bile duct was difficult. Therefore, we conducted EUS-guided antegrade stenting (EUS-AGS) [Figure 1b, c and Video 1]. EUS showed intrahepatic

Figure 1. (a) Computed tomography showing a lymph node recurrence of gastric cancer causing bile duct obstruction (arrow). (b) EUS-guided cholangiography showing a stricture of the distal bile duct. (c) EUS-guided antegrade stenting combined with hepaticogastrostomy was successfully conducted

bile duct dilation. First, the B2 branch was punctured using a 19-gauge needle. A 0.025-inch guidewire (VisiGlide 2; Olympus Medical Systems, Tokyo, Japan) was inserted into the biliary tract, followed by a double-lumen cannula (Uneven double-lumen cannula; Piolax Medical Devices, Kanagawa, Japan). An additional 0.035-inch guidewire (Wrangler Major; Piolax Medical Devices) was also inserted to stabilize the axis. After advancing the guidewire into the intestine across the stricture, the biliary obstruction site was evaluated in detail. Next, a braided uncovered metal stent with a slim delivery system (Niti-S large cell SR slim delivery; Taewoong Medical, Seoul, Korea; delivery system: 6-Fr diameter, 196 cm length) was smoothly inserted without additional dilation of the fistula. The stent was placed from the intestine to the upper common bile duct. Finally, a plastic stent (TYPE-IT stent; Gadelius Medical Co., Ltd., Tokyo, Japan; total length: 20 cm, effective length 15 cm) was also placed from the intrahepatic duct to the residual stomach. No procedure-related complications occurred and the jaundice resolved.

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How to cite this article: Harima H, Kaino S, Fujimoto Y, Amano S, Sakaida I. EUS-guided antegrade stenting using a braided metal stent with a 6-Fr novel slim delivery system for malignant biliary stricture following Roux-en-Y reconstruction (with video). *Endosc Ultrasound* 2020;9:141-2.

Video Available on: www.eusjournal.com

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DOI:

10.4103/eus.eus_6_20

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Received: 2019-12-09; **Accepted:** 2020-03-05; **Published online:** 2020-04-15

The structures of metal stents are broadly divided into laser cut type and braided type. Until recently, only laser cut stents represented by Zilver stent (Cook, Bloomington, IN, USA) had a slim delivery system of 6-Fr or less. However, they have the disadvantage of weaker radial force causing weaker expandability.^[1,2] Currently, a braided metal stent with a 6-Fr novel slim delivery system (Niti-S large cell SR slim delivery; Taewoong Medical) has been developed [Figure 2a and b]. When conducting EUS-guided biliary drainage, the risk of bile leakage should be minimized by using slim devices.^[3,4] We believe that the developed braided metal stent is suitable for EUS-AGS because of the advantages of stronger expandability and the 6-Fr slim delivery system.

Figure 2. (a) A braided uncovered metal stent (Niti-S large cell SR slim delivery; Taewoong Medical, Seoul, Korea). (b) Comparison of delivery systems. Right side: A 6-Fr novel slim delivery system (Niti-S large cell SR slim delivery; Taewoong Medical), left side: An 8-Fr normal delivery system (Niti-S large cell D-type stent; Taewoong Medical)

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initial will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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