VIDEO CASE REPORT

Combination of a 19-gauge needle and 0.018-inch guidewire with a Y-connector during endoscopic ultrasound-guided hepaticogastrostomy

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INTRODUCTION

Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) can be performed by either first injecting the contrast medium or inserting the guidewire. Each method has its advantages and disadvantages. When the contrast medium is injected first, the guidewire can be advanced along the correct pathway by using the obtained image. However, the guidewire is inserted into the needle after imaging, which makes its insertion into the bile duct time consuming. Furthermore, the tip of the needle may shift because of body movement or respiratory fluctuations; therefore, even if contrast administration is successful, guidewire placement might not be accurate. Alternatively, if the guidewire is inserted first, there are chances of the guidewire getting caught on the branch of the bile duct, making its advancement to the hepatic hilar side difficult. There is also a risk of accidental insertion into blood vessels. Therefore, it is desirable to inject the contrast medium with a guidewire loaded in a needle like ERCP cannula. To this end, a needle with a Y-connector was used in the present case report. The size of the combination of needle and guidewire must be taken into consideration (Video 1, available online at www.giejournal.org). If a 19-gauge needle loaded with a 0.025-inch guidewire is used, aspirating the bile juice and pushing out the contrast medium would be difficult because the guidewire narrows the needle's inner circumference. However, the combination of a 19-gauge needle and a 0.018-inch guidewire allows easy aspiration and injection.

CASE PRESENTATION

We present the case of a 76-year-old woman with distal bile duct obstruction and gastric outlet obstruction (GOO) caused by gastric cancer. A partially covered gastroduodenal stent (Niti-S COMVI Pyloric/duodenal Stent; Taewoong Medical, Seoul, Korea) was initially used for endoscopic treatment of GOO. Because the improvement in nausea was poor, a gastroduodenal stent with a high radial force (WallFlex Duodenal Soft; Boston Scientific, Natick, Mass, USA) was additionally placed

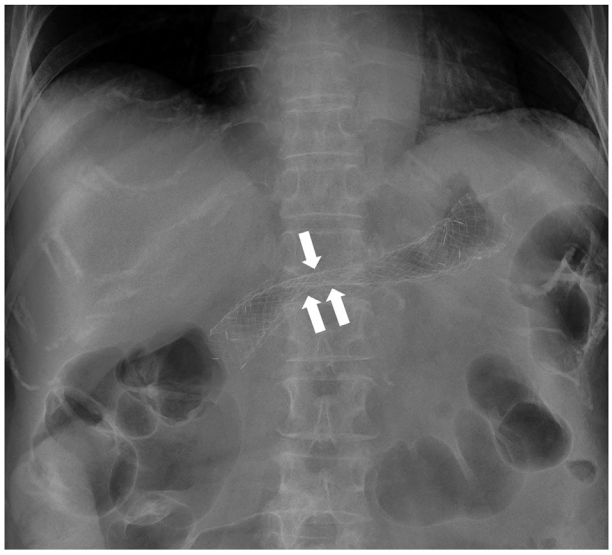

Figure 1. A partially covered gastroduodenal stent (Niti-S COMVI Pyloric/duodenal Stent; Taewoong Medical, Seoul, Korea) was additionally placed by the stent-in-stent technique. However, the duodenoscope could not pass through the stent because of residual stenosis near the center of the stent (*allows*).

1 week later. Next, we attempted to treat the obstructive jaundice; however, the duodenoscope could not pass through the stent because of residual stenosis near the center of the stent (Fig. 1). Therefore, we performed EUS-HGS as follows (Video 1, available online at www.giejournal.org) and identified the intrahepatic bile duct (B2) at the site of gastric cardia using an echoendoscope (GF-UCT260; Olympus, Tokyo, Japan). The targeted bile duct was 3 mm in diameter and was insufficiently dilated (Fig. 2). The bile duct was punctured with a 19-gauge needle (EZ Shot 3 Plus; Olympus) loaded with a 0.018-inch guidewire (Fielder18; Olympus) and filled with contrast medium through a Y-connector (OKAY II; NIPRO, Osaka, Japan) (Fig. 3). After the puncture, bile juice reflux was visually confirmed by applying negative pressure using a syringe. We then inserted the guidewire into the bile duct, advanced it slightly to the hepatic hilar side (Fig. 4), and injected contrast medium to obtain the bile duct image (Fig. 5). Subsequently, we advanced it

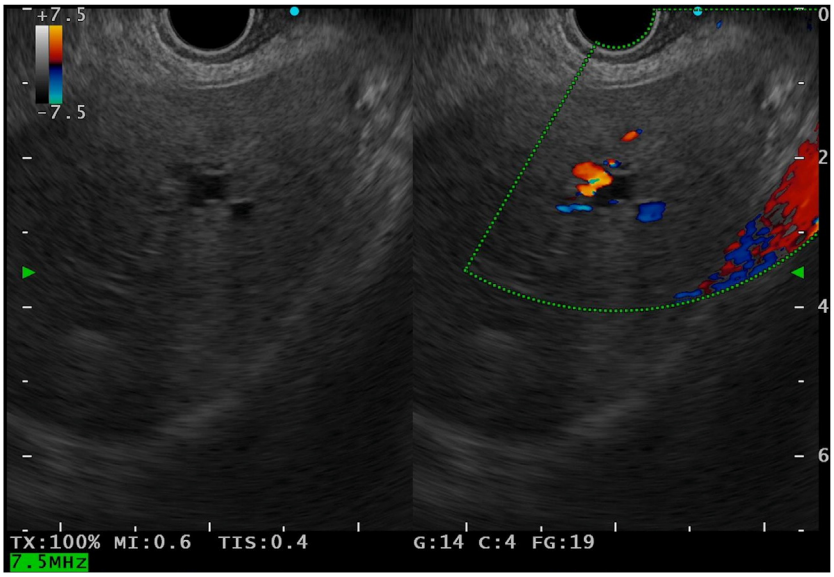

Figure 2. Endoscopic ultrasound describes the targeted bile duct was 3 mm in diameter and not sufficiently dilated.

to the extrahepatic bile duct (Fig. 6) and removed the puncture needle with an indwelling guidewire. Finally, a partially covered self-expandable metallic stent with a slim delivery system and tapered tip (Covered BileRush Advance, End-bare type, 7F delivery system, 8 mm in diameter, 12 cm in length; PIOLAX, Kanagawa, Japan) was placed directly without dilation (Fig. 7). The procedure was completed within 19 minutes. No procedure-related adverse events were observed. The patient's symptoms and blood biochemical abnormalities resolved and chemotherapy was initiated.

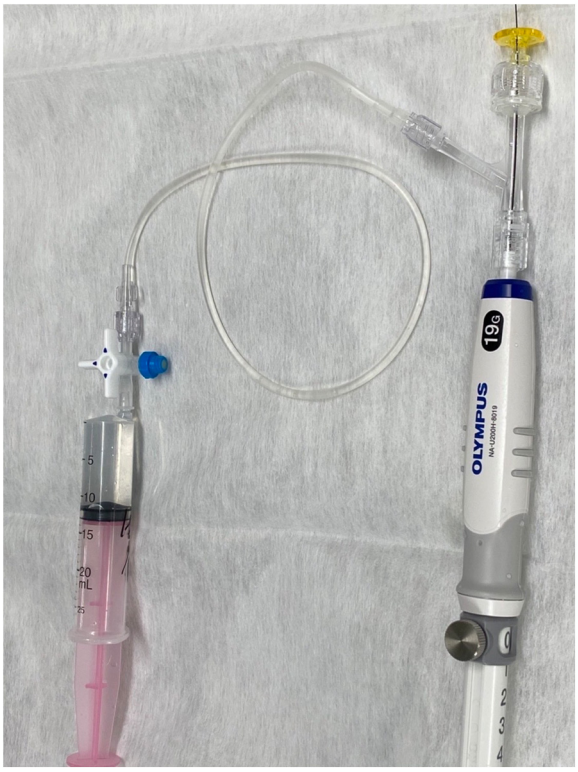

Figure 3. A 19-gauge needle loaded with a 0.018-inch guidewire and filled with contrast medium through a Y-connector.

CONCLUSION

The combination of a 19-gauge needle and a 0.018-inch guidewire with a Y-connector during EUS-HGS may

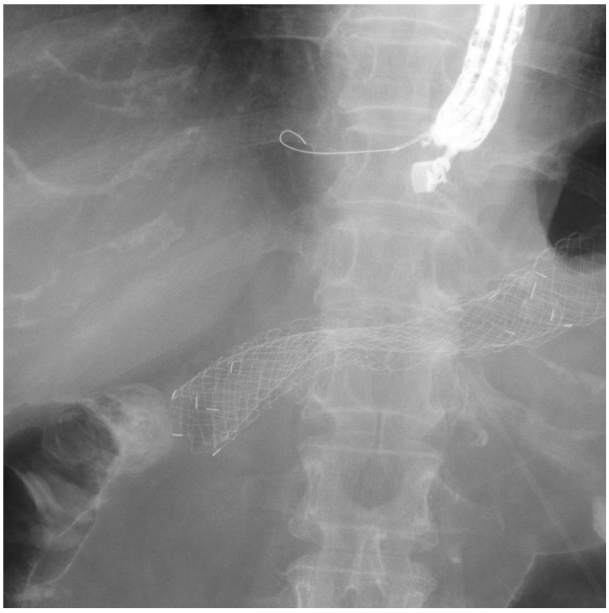

Figure 4. A 0.018-inch guidewire was inserted into the bile duct (B2) and slightly advanced to the hepatic hilar side.

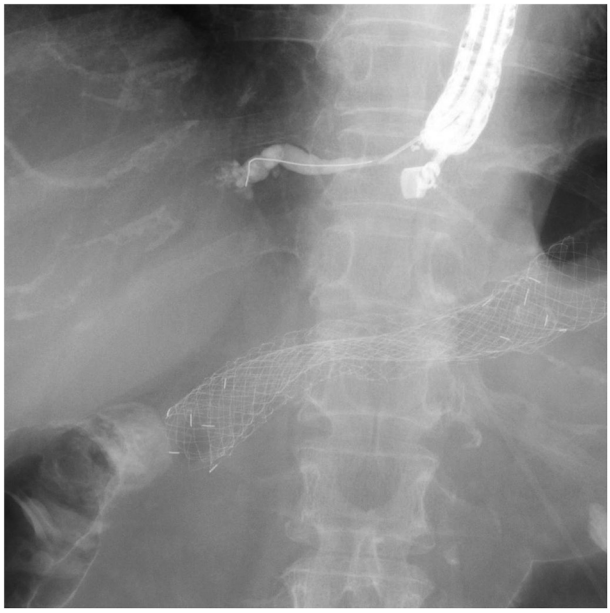

Figure 5. Cholangiogram was performed to obtain the bile duct image.

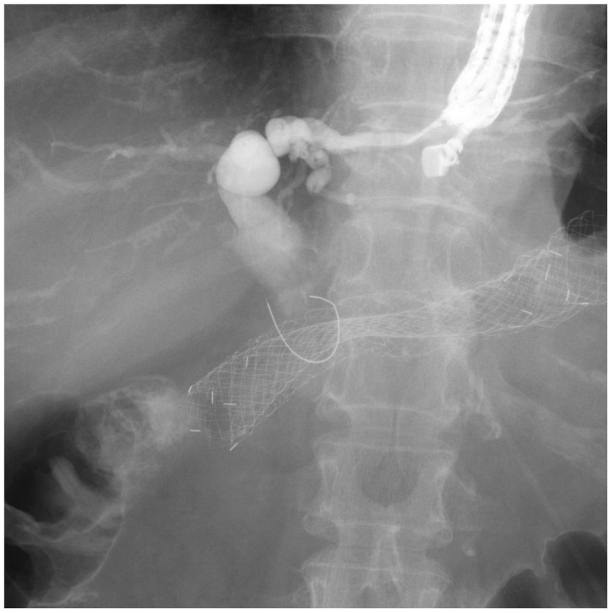

Figure 6. A 0.018-inch guidewire was advanced to the extrahepatic bile duct.

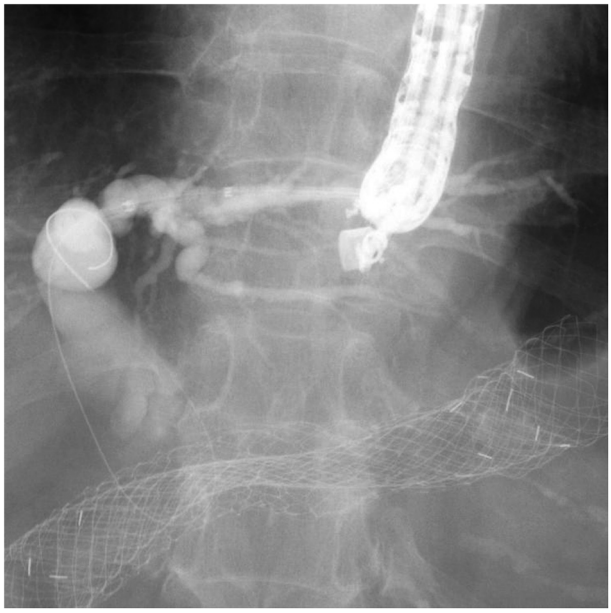

Figure 7. An 8-mm self-expandable metallic stent (12 cm in length) (Covered BileRush Advance; PIOLAX, Kanagawa, Japan) was placed directly without dilation.

potentially reduce the incidence of adverse events by simplifying the procedure and shortening procedure time.

DISCLOSURE

All authors disclosed no financial relationships.

Abbreviations: EUS-HGS, endoscopic ultrasound-guided hepaticogastrostomy; GOO, gastric outlet obstruction.

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