Endoscopic Ultrasound

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EUS-guided hepaticoduodenostomy for posterior bile duct obstruction using a novel plastic stent for isolated posterior bile duct obstruction (with video)

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EUS-guided hepaticoduodenostomy (EUS-HDS) is rarely indicated for right hepatic obstruction due to failed endoscopic retrograde cholangiopancreatography.[1–3] Compared with EUS-guided hepaticogastrostomy, the risk of obstruction of the anterior or posterior bile duct should be considered. A plastic stent may overcome this concern but has the drawback of short stent patency. EUS-HDS can normally be performed from the posterior bile duct, but the posterior bile duct can sometimes run at an acute angle. In addition, to prevent bile leakage, plastic stent deployment without tract dilation is recommended. Therefore, the stent must have both flexible and stiff properties during EUS-HDS. A novel plastic stent (REGULUS Biliary Tube Stent System; Japan Lifeline Co, Ltd, Tokyo, Japan) has recently become available in Japan [Figure 1]. The tip of this stent is tapered, and the inner lumen is coated by polytetrafluoroethylene to reduce the rate of stent obstruction due to sludge. This stent is stiff, but becomes flexible *in vivo*. We herein report successful EUS-HDS using this stent.

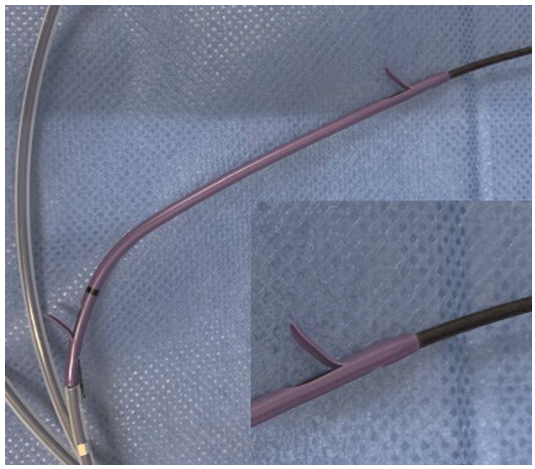

Figure 1. The novel plastic stent (7F, REGULUS Biliary Tube Stent System; Japan Lifeline Co, Ltd, Tokyo, Japan).

Figure 2. The posterior bile duct is punctured using a 19-gauge needle.

A 77-year-old man underwent middle common bile duct resection due to bile duct cancer. After 6 months, recurrence of biliary cancer was observed at the posterior bile duct. Because of the complication of frequent focal cholangitis, EUS-HDS was attempted. First,

Figure 3. Cholangiography shows the dilated posterior bile duct.

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the posterior bile duct was punctured using a 19-gauge needle [Figure 2], cholangiography was obtained [Figure 3], and an 0.025-inch guidewire was deployed [Figure 4]. The novel plastic stent delivery insertion system was then applied without tract dilation, and the stent was successfully inserted. Although the angle of the posterior bile duct was acute, an appropriate shape of the plastic stent was observed after stent deployment [Figure 5, Video 1]. The stent has not occluded during the 8 months after insertion.

In conclusion, the REGULUS plastic stent may be useful during EUS-HDS, as well as for endoscopic retrograde cholangiopancreatography.

Video Legend

EUS-guided hepaticoduodenostomy using a novel plastic stent for isolated posterior bile duct obstruction. Videos are available only at the official website of the journal (http://www.eusjournal.com).

Informed Consent Statement

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 initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

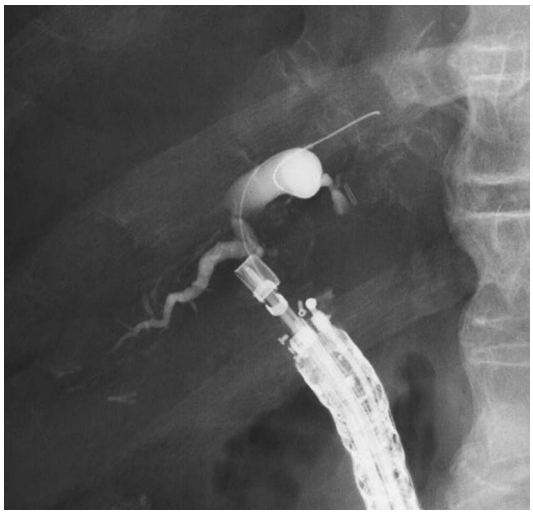

Figure 4. A 0.025-inch guidewire is deployed.

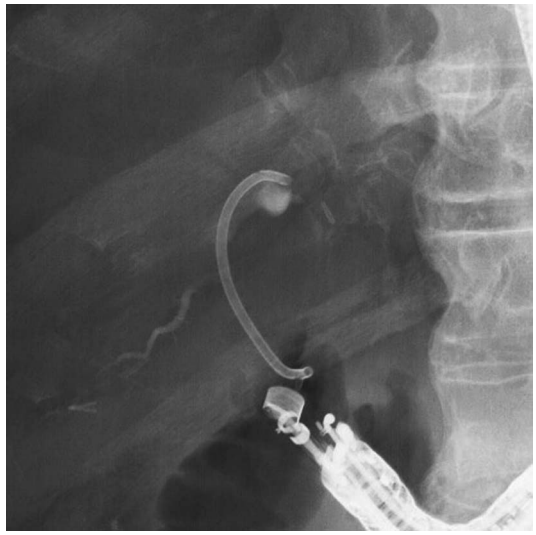

Figure 5. Although the angle of the posterior bile duct is acute, an appropriate shape of the plastic stent is observed after stent deployment. **Video Still.** EUS-guided hepaticoduodenostomy using a novel plastic stent for isolated posterior bile duct obstruction.Videos are available only at the official website of the journal (http://www.eusjournal.com).

Conflict of Interest

Takeshi Ogura is an Editorial Board Member of the journal. This article was subject to the journal's standard procedures, with peer review handled independently of the editor and his research group. The authors declare that they have no financial conflict of interest with regard to the content of this report.

Author Contributions

Saori Ueno, Takeshi Ogura wrote a paper. Saori Ueno, Takeshi Ogura, Jun Sakamoto, Nobuhiro Hattori, and Hiroki Nishikawa revised the work critically for important intellectual content, gave final approval of the version to be published, and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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