Jumping technique for guidewire manipulation within an intrahepatic bile duct during EUS-guided biliary drainage (with video)

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EUS-guided hepaticogastrostomy (EUS-HGS) is a useful biliary drainage technique for patients with an inaccessible papilla.[1-4] Although high technical success rates have been reported for EUS-HGS, guidewire manipulation is the critical limitation for inexperienced operators.[5] A common cause of failure is insertion of the guidewire into a peripheral intrahepatic bile duct. In this situation, the guidewire should be pulled back, until the tip of the guidewire is turned toward the hepatic hilum. However, this technique can be challenging in the case of an acute angle between the intrahepatic bile duct and the needle. Here, we describe a technical tip for EUS-HGS termed the "jumping technique" for guidewire manipulation.

A 72-year-old male was admitted to our hospital due to frequent cholangitis caused by multiple intrahepatic bile duct stones. He had previously undergone distal gastrectomy due to gastric cancer with Roux-en-Y anastomosis. EUS-HGS was therefore attempted. Because the intrahepatic bile duct stone removal was planned after EUS-HGS, B2 was first selected as puncture site. However, when B2 was visualized, entry route was esophagus. Therefore, B3 was punctured using a 19G needle. Cholangiography revealed multiple intrahepatic bile duct stones [Figure 1]. A 0.025-inch guidewire (VisiGlide; Olympus Medical Systems, Tokyo, Japan) was then inserted into the intrahepatic bile duct; however, the guidewire was advanced into the periphery of the bile duct [Figure 2]. Guidewire manipulation was challenging because the intrahepatic bile duct was less dilated than in malignant biliary obstruction. We inserted

Figure 1. Cholangiography showing multiple intrahepatic bile duct stones

Video available on: www.eusjournal.com

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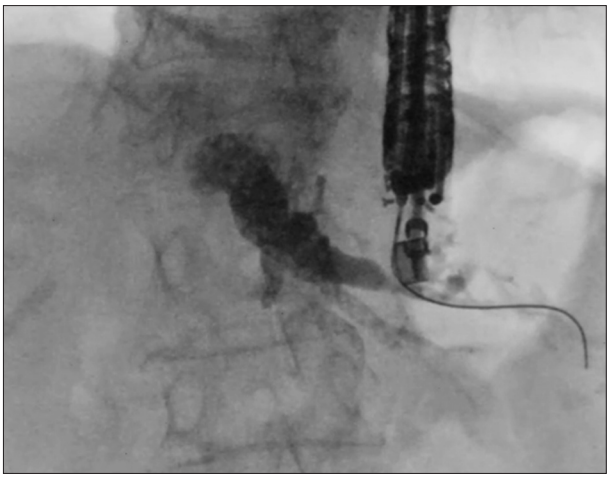

Figure 2. The guidewire has been advanced into the periphery of the intrahepatic bile duct

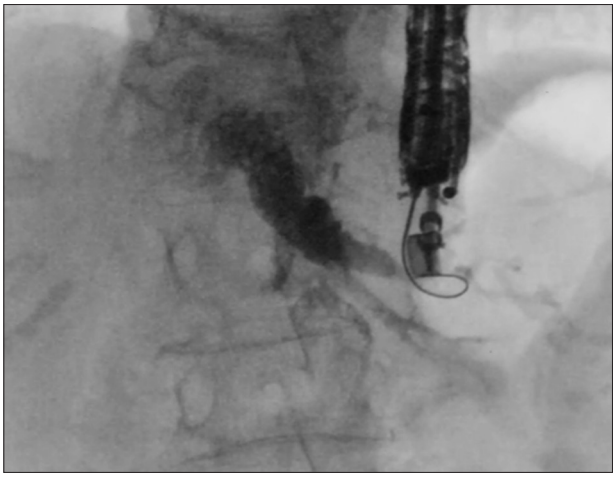

Figure 3. The guidewire is formed into a loop

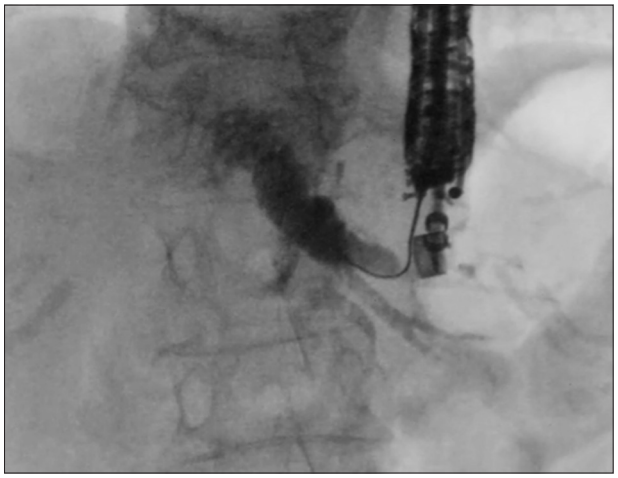

Figure 4. The guidewire is gently pulled, causing it to jump to the hepatic hilum

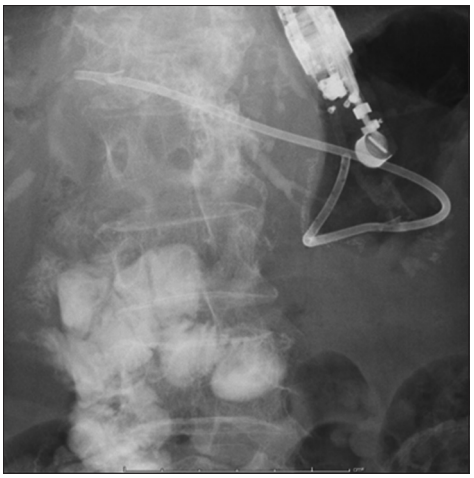

Figure 5. Successful EUS-guided hepaticogastrostomy using a plastic stent

the guidewire once more into the periphery of the bile duct and formed the guidewire into a loop [Figure 3]. By gently pulling on the looped guidewire, the guidewire jumped to the hepatic hilum [Figure 4]. Finally, following dilation of the fistula, a plastic stent was deployed without any adverse events [Figure 5 and video 1].

The presented technique may be useful during selective guidewire insertion not only for patients with hilar stricture during endoscopic retrograde cholangiopancreatography but also in the case of insufficient biliary dilatation such as in benign biliary disease during EUS-HGS.

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

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Conflicts of interest

There are no conflicts of interest.

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