A guidewire-assisted biopsy technique to assist advancement through a biliary stricture to perform selective mapping biopsy

An endoscopic transpapillary mapping biopsy is useful for evaluating intraepithelial tumor spread in bile duct cancers [1, 2]; however, it is occasionally technically difficult to advance the biopsy forceps through a biliary stricture. Here, we describe the case of a patient with a hilar biliary stricture who underwent a selective mapping biopsy. The biopsy technique described is suitable where the bile duct is inaccessible when introducing conventional biopsy forceps.

A 69-year-old woman presented with obstructive jaundice. Magnetic resonance cholangiography indicated a hilar biliary stricture (Fig. 1). We attempted a transpapillary intraductal biopsy of the biliary stricture and a mapping biopsy using conventional biopsy forceps to confirm the definitive diagnosis and look for proximal intraepithelial tumor spread; however, the forceps could not be passed through the stricture. Therefore, we attempted a guidewire-assisted intraductal biopsy.

First, a 0.025-inch guidewire (VisiGlide 2™; Olympus Medical Systems, Tokyo, Japan) was placed at the left intrahepatic bile duct. The guidewire was gripped by the biopsy forceps (Radial Jaw™ 4P; Boston Scientific Japan, Tokyo, Japan) outside the papilla (Fig. 2). Thereafter, the biopsy forceps, which were still securely gripping the guidewire, were slid into the bile duct and advanced through the hilar biliary stricture under fluoroscopic guidance (Fig. 3, Video 1). Finally, a successful biopsy was performed from the B4 confluence without any complications occurring. Intraductal biopsy specimens of biliary strictures can be obtained under fluoroscopic guidance using conventional biopsy forceps, biliary introducers [3], or rope.
way-type biopsy forceps [4]. Biopsy forceps are, however, occasionally difficult to advance through a biliary stricture. The use of miniforceps with a cut biliary dilator was recently reported [2]. Li et al. [5] introduced a guidewire-assisted technique to access the bile duct. To our knowledge, this is the first report of a guidewire-assisted biopsy beyond a biliary stricture. This biopsy technique not only helps with accessing the bile duct but also aids advancement of the forceps through the biliary stricture.

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