Cholangioscopy-assisted guidewire placement is reported to be a useful method for endoscopic biliary drainage that is made difficult by complex strictures and obstructions [1–5]. However, the guidewire sometimes becomes misdirected because of the lack of contrast-filled images. With the aim of improving safety and certainty, we present two practical cases that employ a novel technique using an over-the-wire microcatheter through digital intraductal cholangioscopy (IDC) (SpyGlass DS; Boston Scientific, Natick, Massachusetts, USA).

Case 1 involved a 72-year-old woman with hilar cholangiocarcinoma who underwent endoscopic biliary drainage for segmental cholangitis. The cholangiogram showed complete obstruction of the left hepatic duct (▶ Fig. 1). Although direct visualization with IDC allowed advancing the 0.025-inch guidewire over the obstructing tumor in the left hepatic duct, the guidewire lost the pathway to the left intrahepatic bile duct. The 3-Fr outer sheath of a basket catheter (Micro-Catch; MTW Endoskopie, Düsseldorf, Germany), which can be inserted into the SpyGlass DS, was introduced as a microcatheter in order to inject contrast medium and assist guidewire manipulation. The contrast-filled image of the left intrahepatic bile duct allowed successful negotiation (▶ Fig. 2), followed by replacement of the endoscopic nasobiliary drainage tube (▶ Video 1). Case 2 involved a 79-year-old man with acute cholecystitis. The orifice of the cystic duct and allows insertion of the guidewire with the over-the-wire microcatheter. Cholangiography on contrast pressure injection via the over-the-wire microcatheter (arrow) shows the extra cavity from the cystic duct, indicating guidewire penetration into the peritoneal cavity. (▶ Fig. 3). Direct cholangioscopy reveals the orifice of the cystic duct and allows insertion of the guidewire with the over-the-wire microcatheter. (▶ Fig. 4).
cystic duct (▶ Fig. 4). At one point when the guidewire was advanced in an unknown direction, contrast injection through the microcatheter showed clearly that the guidewire had penetrated the peritoneal cavity (▶ Fig. 5). The microcatheter also assisted with maneuvering of the guidewire to correct its course, resulting in successful access to the gallbladder, completed by insertion of a plastic stent (▶ Video 1).

Cholangioscopic operation with a microcatheter offers advantages both for obtaining selective contrast-filled images and for delicate manipulation of the guidewire as performed in selective angiographic examinations.

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Competing interests

None

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