

BRIEF REPORT

Impacted intrahepatic bile duct stone removal using transluminal intervention technique

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Key words

endoscopic ultrasound, endoscopic ultrasound-guided biliary drainage, endoscopic ultrasound-guided hepaticogastrostomy, transluminal intervention.

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Intrahepatic bile duct stones are treated under endoscopic retrograde cholangiopancreatography (ERCP) guidance. However, this technique may be challenging for patients with surgical anatomy, such as after pancreaticoduodenostomy (PD). In this situation, transhepatic or enteroscopic biliary access is usually indicated. However, these techniques show disadvantages such as prolonged procedure time and risk of self-tube removal. Recently, endoscopic ultrasound (EUS)-guided biliary access has been developed as an alternative biliary drainage technique.^{1–4} EUS-guided biliary drainage (BD) offers several advantages, such as shorter procedure time and internal drainage. Here, we describe intrahepatic bile duct stone removal using a transluminal intervention technique.

An 80-year-old man was admitted to our hospital due to frequent cholangitis. He had undergone PD due to intraductal papillary mucinous adenoma 2 years earlier. This symptom was caused by hepaticojunostomy stricture (HJS) and an intrahepatic bile duct stone according to computed tomography. Stone removal was therefore attempted. An impacted intrahepatic bile duct stone was seen on cholangiography (Fig. 1a). EUS-guided hepaticogastrostomy was performed using a covered metal stent. After 1 week, we removed the EUS-hepaticogastrostomy (HGS) stent, and a cholangioscope (SPY-DS; Boston Scientific, Tokyo, Japan) was inserted into the biliary tract through the HGS route.

The impacted intrahepatic bile duct stone was identified, and endoscopic hydraulic lithotripsy (EHL) was attempted (Fig. 1b). After stone fragmentation, the HJS site was evaluated (Fig. 1c). Visual findings confirmed benign stricture, and forceps biopsy was also performed. Stone removal was performed transluminally using a basket catheter (Fig. 1d). Finally, plastic stent deployment was performed. During and after these procedures, no adverse events were seen. After 2 weeks, forceps biopsy specimens confirmed benign stricture.

In conclusion, the transluminal intervention technique is clinically useful for selected patients such as in the present case.

References

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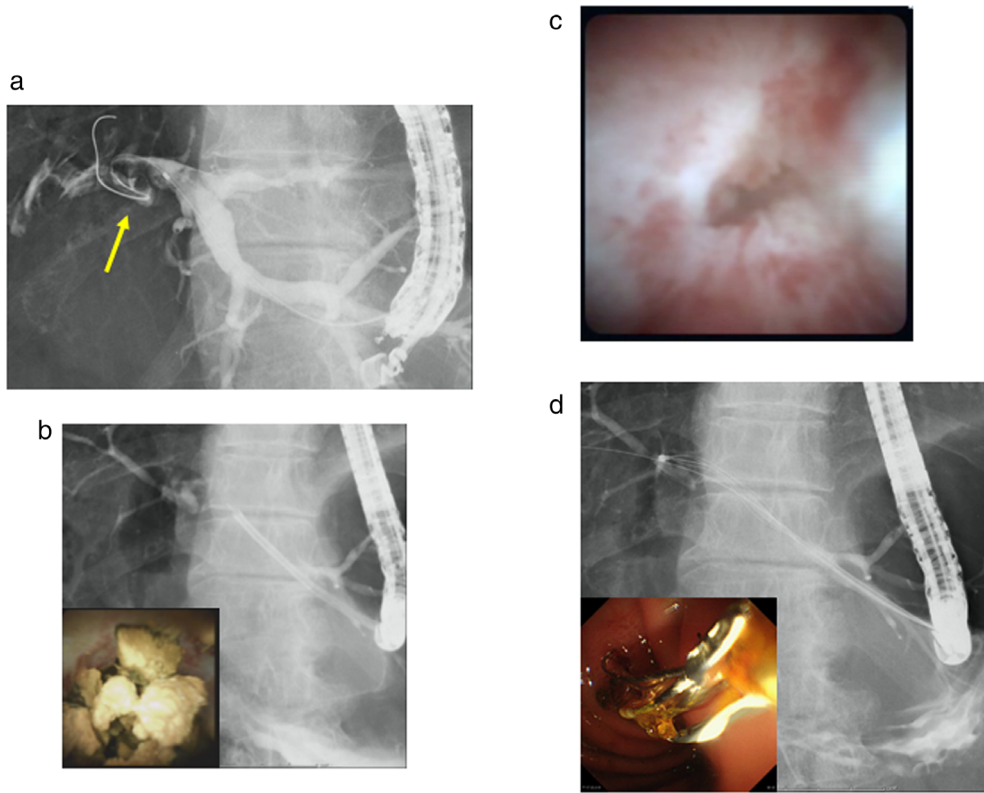


Figure 1 (a) Cholangiography shows the impacted intrahepatic bile duct stone (arrow). (b) Endoscopic hydraulic lithotripsy is successfully performed, obtaining stone fragmentation. (c) Visual findings confirm benign stricture at the hepaticojejunostomy site. (d). Transluminal intrahepatic bile duct stone removal is successfully performed using a basket catheter.