



Technique of straightening the guidewire using a balloon catheter for successful endoscopic transpapillary gallbladder stenting

Kazunari Nakahara, MD, PhD, Yosuke Michikawa, MD, PhD, Junya Sato, MD, PhD,
Yosuke Igarashi, MD, PhD, Akihiro Sekine, MD

Endoscopic transpapillary gallbladder stenting (EGBS) is useful for acute cholecystitis when cholecystectomy or percutaneous transhepatic gallbladder drainage is contraindicated because of coagulopathy, administration of antithrombotic drugs, and poor physical condition.^{1,2} Furthermore, EGBS is considered to be superior in terms of patient quality of life because internal drainage can be achieved. However, EGBS is technically challenging. In some patients, a stent cannot be placed into the fundus of the gallbladder because of the looped guidewire in the cystic duct or the neck of the gallbladder. Herein, we present a case of successful EGBS via straightening of the guidewire, looped in the neck of the gallbladder owing to segmental adenomyomatosis (ADM), using a stone retrieval balloon catheter.

A 76-year-old woman with right upper quadrant pain and high fever was admitted to our hospital and diagnosed with segmental ADM and acute cholecystitis on the fundus segment of the gallbladder based on CT findings (Fig. 1). Considering the high surgical risk owing to poor physical condition caused by her advanced collagen disease, we performed EGBS. After bile duct

cannulation, a hydrophilic guidewire (Radifocus; Terumo Co, Ltd, Tokyo, Japan) could be advanced into the fundus of the gallbladder, and it was changed to a 0.025-inch stiff type (VisiGlide2, Olympus, Tokyo, Japan). However, the guidewire was looped in the neck of the gallbladder owing to segmental ADM that could not be straightened by the guidewire and cannula manipulation (Fig. 2). The plastic stent could not be placed into the fundus of the gallbladder because of its short length. Thus, an offset balloon catheter for stone retrieval, with a balloon diameter of 18 mm (Extraction Balloon Catheter; Zeon Medical Inc, Tokyo, Japan), was inserted into the fundus of the gallbladder, and the balloon was inflated (Fig. 3). The catheter was pulled by anchoring the balloon on the narrow part of the ADM, thereby successfully straightening the catheter and the guidewire (Fig. 4).

After straightening the guidewire, a 7F tapered catheter (MultiFunction Catheter; Gadelius Medical Co, Ltd, Tokyo,

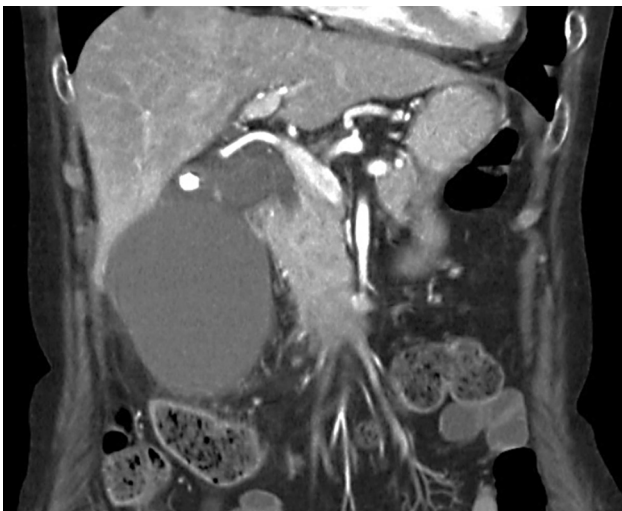


Figure 1. CT showed segmental adenomyomatosis and acute cholecystitis on the fundus segment of the gallbladder.

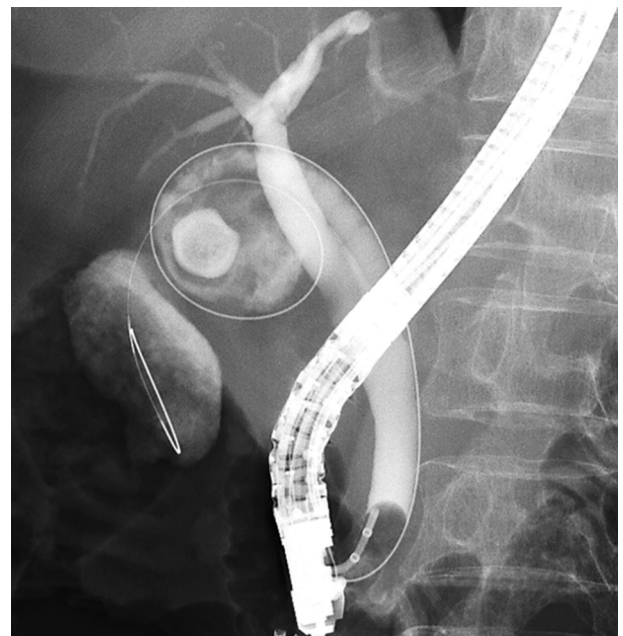


Figure 2. The guidewire was looped in the neck of the gallbladder because of segmental adenomyomatosis.



Figure 3. The balloon catheter was advanced into the fundus of the gallbladder, and the balloon was inflated.

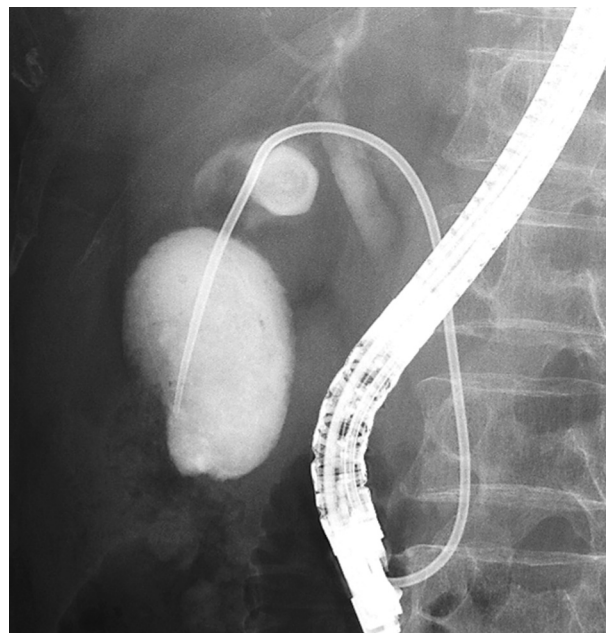


Figure 5. A 7F tapered catheter was inserted into the gallbladder, and bile suctioning and saline solution irrigation were performed.



Figure 4. The balloon catheter was pulled by anchoring the balloon on the narrow part of the adenomyomatosis, thereby successfully straightening the catheter and the guidewire.



Figure 6. A 5F, 10-cm pigtail plastic stent was successfully placed into the fundus of the gallbladder.

Japan) was inserted, and bile suctioning and saline solution irrigation were performed (Fig. 5).^{3,4} Finally, a 5F, 10-cm pigtail plastic stent (IYO-stent; Gadelius Medical Co, Ltd) was successfully placed into the fundus of the gallbladder without difficulty (Fig. 6). After EGBS, there were no adverse events or pain, and the acute cholecystitis started subsiding immediately. To date, 3 months after

EGBS, the patient has been followed up without recurrence of acute cholecystitis. The stent will be permanently placed unless the acute cholecystitis recurs because of stent occlusion.

The technique of straightening the guidewire using a stone retrieval balloon catheter during EGBS is shown in Figure 7 and Video 1 (available online at www.VideoGIE.org). This technique can be a useful option in EGBS.

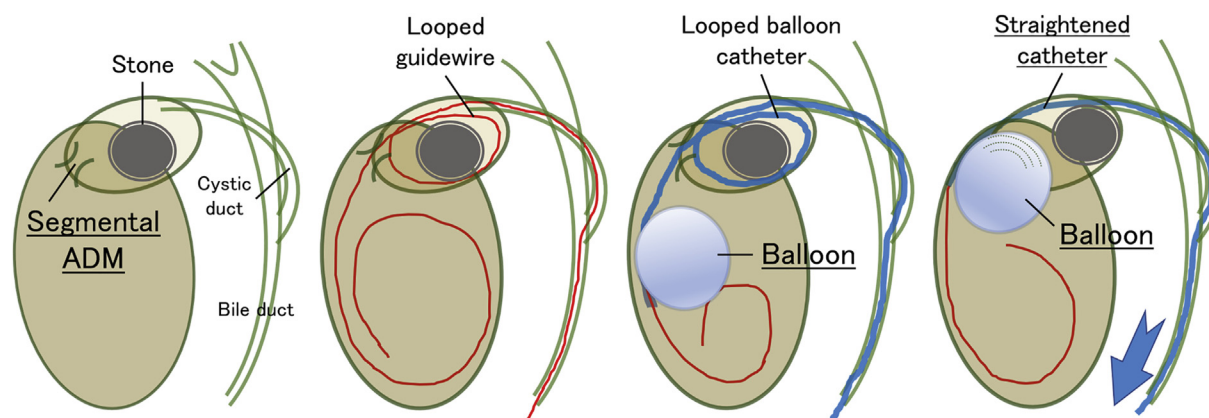


Figure 7. Schema of the technique of straightening the guidewire looped in the neck of the gallbladder using a balloon catheter.

However, forcible traction of the balloon catheter should be avoided in patients with adhesion in the cystic duct because it may cause cystic duct perforation. Therefore, when straightening the balloon catheter, the balloon catheter should be pulled carefully while confirming that there is no strong traction resistance.

DISCLOSURE

All authors disclosed no financial relationships.

Abbreviations: ADM, adenomyomatosis; EGBS, endoscopic transpapillary gallbladder stenting.

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Department of Gastroenterology and Hepatology, St. Marianna University, School of Medicine, Kawasaki, Japan.

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