Kill two birds with one stone: Flexible cholangioscopy for treatment of common bile duct stone and identification of suspicious gallbladder wall thickening

A 76-year-old man suffered from recurrent abdominal pain and distention. The contract-enhanced computed tomography (CT) and endoscopic ultrasound (EUS) exams revealed the presence of a stone in common bile duct (CBD) (Fig. 1a) and concerning evidence of gallbladder wall thickening, suggestive of either gallbladder adenomyosis or gallbladder carcinoma (Fig. 1b,c). In order to distinguish benign adenomyosis from malignant carcinoma, together with treatment of the CBD stone, we sequentially performed endoscopic basket retrieval and target biopsies of the gallbladder.

In the first procedure, contrast imaging revealed CBD dilation (Fig. 2a). Under the navigation of the guidewire, the cholangioscope was introduced into the CBD and the stone was then successfully extracted (Fig. 2b). Subsequently, another guidewire was advanced into the gallbladder lumen under the guidance of the cholangioscope (Fig. 2c), facilitating the subsequent placement of the stent along the segment extending from the gallbladder to Vater’s ampulla, creat...
ing an approach for subsequent cholangioscopy during the second procedure (▶ Fig. 2d). Meanwhile, a double-pigtail stent was deployed within the CBD to ensure fluent bile drainage. Three days later, we performed the second endoscopic retrograde cholangiopancreatography (ERCP). The cholangioscope entered the gallbladder along the formally established pathway under the guidance of the guidewire. Owing to the excellent dexterity of the cholangioscope, retroflexion can be achieved in the constricted gallbladder lumen, so that we could directly observe the multifocal papillary neoplasm at the gallbladder neck (▶ Fig. 3 a, b). Subsequently, target biopsies were taken and then pathology confirmed high-grade intraepithelial neoplasia. Stents were removed during duodenoscope withdrawal (▶ Fig. 3 c, d; ▶ Video 1). The patient then underwent laparoscopic cholecystectomy. Postoperative histopathology confirmed the presence of highly differentiated gallbladder adenocarcinoma.

As this case shows, while gallbladder neoplasms can be easily detected by US or CT, making a pathological diagnosis in the early stage remains challenging, often necessitating endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) [1]. This case suggests a potential option for early precise diagnosis of a gallbladder neoplasm.

Conflict of Interest
The authors declare that they have no conflict of interest.

The authors
Ruixin Zhang1, Tao Yu1, Rui Ji1
1 Department of Gastroenterology, Qilu Hospital of Shandong University, Jinan, China

Corresponding author
Rui Ji, MD
Qilu Hospital of Shandong University, Department of Gastroenterology, 107 Wenhua Road West, Lixia District, Jinan, Shandong 250012, China
qljirui@email.sdu.edu.cn

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