



## DEN Video Article

## Transpapillary gallbladder biopsy using newly designed endoscopic sheath

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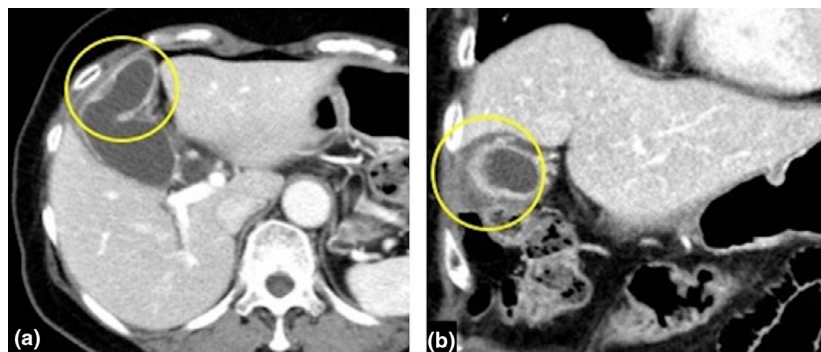
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## BRIEF EXPLANATION

**O**CCASIONALLY, IT IS difficult to differentiate malignant from benign gallbladder disease by imaging modalities. Although histological examination by targeted biopsy is desirable, it is difficult owing to anatomical reasons. Herein, we report a case of transpapillary gallbladder biopsy using a newly designed endoscopic sheath. An 81-year-old woman was referred to our hospital for further examination of gallbladder wall thickening. Computed tomography showed diffuse thickening of the gallbladder wall (Fig. 1). Endoscopic ultrasonography showed irregular wall thickening from the body to the fundus of the gallbladder. To obtain a histological diagnosis, transpapillary gallbladder biopsy was attempted. A 0.025-inch guidewire (VisiGlide2; Olympus, Tokyo, Japan) was placed in the gallbladder, and a newly designed endoscopic sheath (Endosheather; Piolax Medical Device, Kanagawa, Japan)<sup>1</sup> was inserted without endoscopic sphincterotomy. The sheath could be advanced into the gallbladder very smoothly

despite the cystic duct bending (Video S1). Through the sheath, targeted biopsies were performed three times using a 1.8 mm diameter biopsy forceps (Radial Jaw 4 Pediatric; Boston Scientific, Natick, MA, USA; Fig. 2). The histological diagnosis was atypical glands suggesting malignancy. The patient underwent extended cholecystectomy, bile duct resection, and lymph node dissection. The final diagnosis was gallbladder cancer, T2b, N2, M0, Stage IVB (UICC 8th).

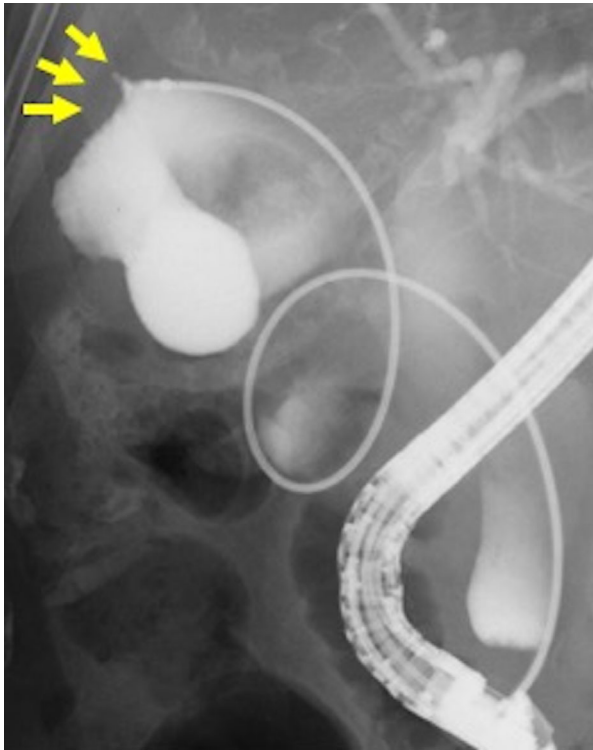
Transpapillary gallbladder biopsy has been performed for the diagnosis of gallbladder disease, and it requires special biopsy forceps or a large-diameter pusher catheter.<sup>2–4</sup> Although cholangioscopy-guided procedure has also been performed, it is limited to patients with dilated and straight gallbladder ducts.<sup>5</sup> This endoscopic sheath is very flexible, with a relatively small outer diameter of 7.2-Fr (2.4 mm) and a wide inner diameter of 2.06 mm, allowing the smooth insertion of biopsy forceps. Transpapillary gallbladder biopsy using a newly designed endoscopic sheath was effective even in patients with a bent and looped cystic duct.



**Figure 1** Computed tomography findings of the gallbladder lesion. Wall thickening was observed (yellow circle). (a) Axial image. (b) Coronal image.

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**Figure 2** Through the sheath, targeted biopsies were performed using a 1.8 mm diameter biopsy forceps (yellow arrows).

Authors declare no conflict of interest for this article.

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## SUPPORTING INFORMATION

**A**DDITIONAL SUPPORTING INFORMATION may be found in the online version of this article at the publisher's web site.

**Video S1** An endoscopic sheath (Endosheather; Piolax Medical Device, Kanagawa, Japan) could be advanced into the gallbladder very smoothly despite the bending of the cystic duct. Through the sheath, targeted biopsies were performed three times using a 1.8 mm diameter biopsy forceps.