Cholesterolosis of the gallbladder visualized by peroral cholecystoscopy using a SpyGlass probe

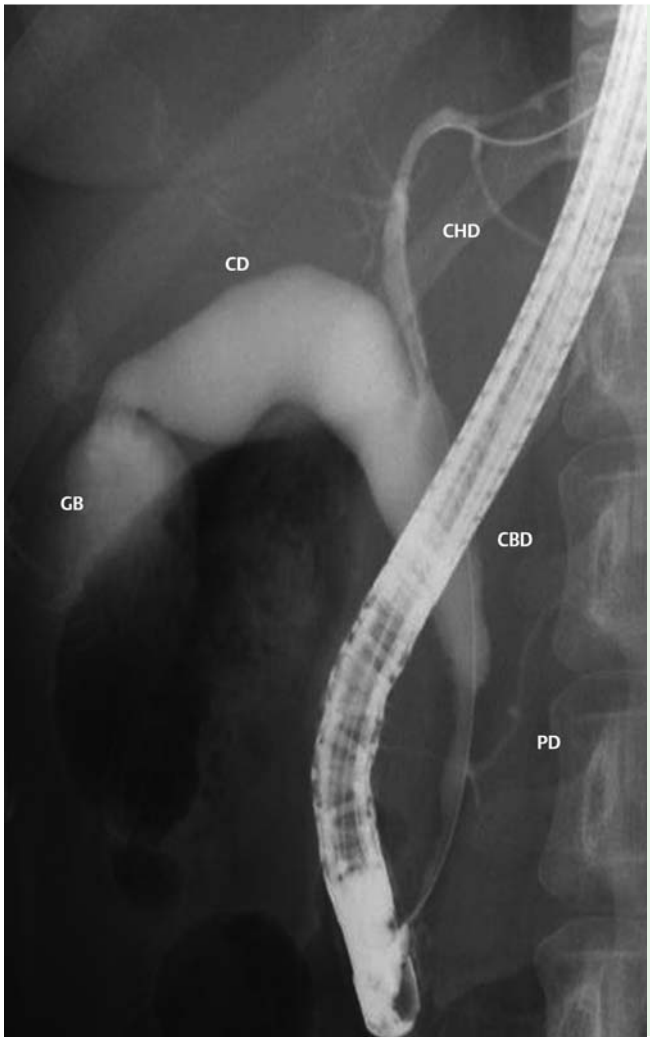

Fig. 1 Endoscopic retrograde cholangiopancreatography (ERCP) showing pancreatobiliary maljunction with congenital choledochal cyst. (CHD, common hepatic duct; CD, cystic duct; GB, gallbladder; CBD, common bile duct; PD, pancreatic duct.)

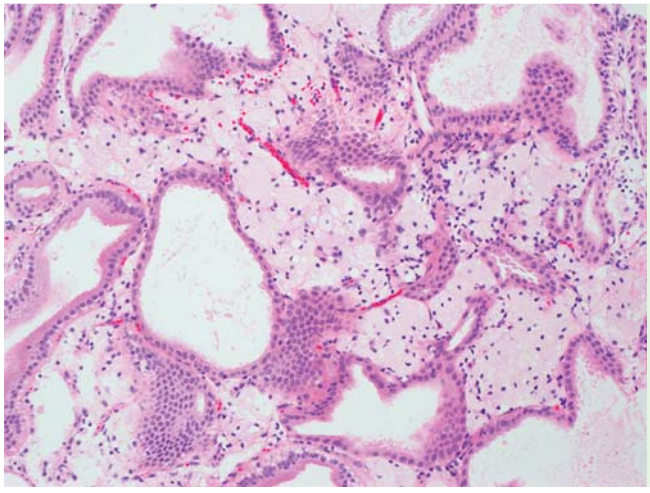

Fig. 3 Biopsy specimens showing cholesterolosis, characterized by no atypical epithelium, with aggregated foamy macrophages in the submucosa (hematoxylin and eosin stain, ×100).

Fig. 2 SpyGlass cholangiography showing numerous polypoid lesions with cross-bridging structures in the gallbladder.

It is difficult to distinguish malignant gallbladder diseases from benign ones preoperatively, even though appropriate imaging techniques have been developed [1]. Therefore complementary techniques which facilitate direct visual assessment and visually guided tissue sampling are desirable. We describe the first case of gallbladder cholesterolosis successfully visualized and diagnosed by peroral cholecystoscopy using a SpyGlass probe (Boston Scientific, Natick, Massachusetts, USA) in a patient with pancreatobiliary maljunction.

A previously healthy 42-year-old woman presented at our institution with intermittent right upper abdominal pain. Abdominal ultrasonography and computed tomography showed a dilated cystic duct and polypoid lesions with circumferential wall thickness in the gallbladder. Endoscopic retrograde cholangiopancreatography (ERCP) revealed pancreatobiliary maljunction with cystic duct dilatation (**Fig. 1**). After a Tandem XL cannula (Boston Scientific) was advanced into the gallbladder, a SpyGlass probe was inserted through the catheter. Peroral cholecystoscopy showed numerous yellowish polypoid lesions resembling a strawberry in the gallbladder (**Fig. 2** and **Video 1**). Transpapillary biopsy specimens of the gallbladder showed cholesterolosis, which was characterized by clusters of foamy macrophages in the lamina propria (**Fig. 3**).

Fig. 4 Surgical specimen showing a macroscopically dilated cystic bile duct and numerous polypoid lesions in the gallbladder.

The patient underwent resection of the extrahepatic bile duct and gallbladder with hepaticojejunostomy. A surgical specimen revealed that cholesterolosis had spread extensively to the gallbladder and bile duct, without there being a malignant lesion (**Fig. 4**).

There have been previous reports of peroral cholecystoscopy; however, the technique has not been widely accepted, because of technical difficulties [2]. The SpyGlass Direct Visualization System (Boston Scientific), which is a newly developed peroral cholangiopancreatoscopy system, provides improvements in the diagnosis and therapy of various pancreatobiliary diseases [3]. The SpyGlass probe can be used through a conventional ERCP catheter, so peroral cholecystoscopy can be performed easily even when the diameter of the bile duct or cystic duct is too small for conventional cholangioscopy. Thus this technique may expand the diagnostic possibilities in diseases of the gallbladder.

Video 1

SpyGlass cholangiography showing numerous polypoid lesions with cross-bridging structures in the gallbladder.

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References

1 *Katabi N*. Neoplasia of gallbladder and biliary epithelium. Arch Pathol Lab Med 2010; 134: 1621 – 1627
2 *Yamao K*, *Nakazawa S*, *Yoshino J* et al. Peroral cholecystoscopy with a shape-memorizing alloy catheter. Endoscopy 1995; 27: 407 – 407
3 *Chen YK*, *Pleskow DK*. SpyGlass single-operator peroral cholangiopancreatoscopy system for the diagnosis and therapy of bile-duct disorders: a clinical feasibility study (with video). Gastrointest Endosc 2007; 65: 832 – 841

Bibliography

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