A 49-year-old woman with a common bile duct (CBD) stone underwent preoperative magnetic resonance cholangiopancreatography (MRCP) at our hospital. This showed cholangiectasis, the CBD stone, and filling defects in the proximal and middle pancreatic duct (PD) (Fig. 1). Endoscopic retrograde cholangiopancreatography (ERCP) was performed, therefore, and the CBD stone was removed successfully; subsequently, the PD was intubated and the filling defect in the mid-PD was confirmed by pancreatography.

A novel cholangioscope (eyeMax, 7 Fr; Micro-Tech) was inserted into the PD (Fig. 2). A papillary lesion was found in the proximal PD (Fig. 3a, red circle area in Fig. 1). Another circumferential papillary lesion was found in the mid-PD (Fig. 3b, yellow ellipse area in Fig. 1). A third papillary lesion was discovered unexpectedly in the distal PD (Fig. 3c, blue circle area in Fig. 1), although there had been no sign of this at MRCP and ERCP (Video 1). Finally, biopsy was conducted for the papillary lesion in the proximal PD, and the pathological diagnosis was pancreatic intraepithelial neoplasia-2 (Fig. 4). No postoperative pancreatitis or other adverse events were encountered.

Pancreatic intraepithelial neoplasia is a precursor lesion for pancreatic cancer [1, 2]; hence the early diagnosis was crucial in avoiding the progression of the lesion. The present study provides preliminary confirmation that cholangioscopic inspection of the PD can detect pancreatic intraepithelial neoplasia lesions, including those without any sign at MRCP and ERCP, in an accurate and timely fashion. Cholangioscopic inspection of the PD might be a relevant procedure for those patients with PD dilation or filling defects of unknown cause, although further prospective studies are warranted to confirm the safety and effectiveness of this technique.

Competing interests

The authors declare that they have no conflict of interest.

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Fig. 1 Magnetic resonance cholangiopancreatography (MRCP) showed filling defects in the proximal (red circle) and middle (yellow ellipse) pancreatic duct (PD). Subsequently, cholangioscopy also detected a lesion in the distal pancreatic duct (in the area shown by the blue circle).

Fig. 2 The cholangioscope was inserted into the PD.

Fig. 3 The three pancreatic duct lesions under cholangioscopy. a A papillary lesion was found in the proximal PD (red circle area in Fig. 1). b A circumferential papillary lesion was found in the mid PD (yellow ellipse area in Fig. 1). c A third papillary lesion was seen unexpectedly in the distal PD (blue circle area in Fig. 1).

Fig. 4 The pathological diagnosis for the proximal pancreatic duct lesion was pancreatic intraepithelial neoplasia-2.
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