Texture and color enhancement imaging facilitates the identification of pancreatic and bile duct orifices after endoscopic papillectomy

Endoscopic papillectomy has been previously reported for the treatment of localized ampullary adenomas; however, pancreatitis and cholangitis can occur as endoscopic papillectomy-related adverse events [1]. For the prevention of these endoscopic papillectomy-related adverse events, endoscopic pancreatic duct and biliary stenting have been reported as being useful [1–3]. Pancreatic or biliary cannulation after endoscopic papillectomy is however sometimes difficult as the identification of these orifices can be unclear. Herein, we report a case of endoscopic papillectomy using texture and color enhancement imaging (TXI) as part of a new-generation endoscopy system (EVIS X1; Olympus Medical Systems, Japan) [4], which facilitated the identification of the pancreatic and biliary duct orifices.

A 77-year-old man with a 20-mm ampullary adenoma was referred to our facility (►Fig. 1). Radical treatment was performed with endoscopic papillectomy (►Video 1). The ampullary adenoma was resected using snare forceps. Subsequently, we attempted to perform pancreatic and biliary cannulation for pancreatic duct and biliary stenting; however, the orifices of the pancreatic duct and bile duct were unclear on white-light imaging (►Fig. 2a). To identify the orifices, we therefore applied TXI, which made them clearer (►Fig. 2b). Pancreatic and biliary cannulation were performed easily using TXI, which allowed complete pancreatic and biliary duct stenting (►Fig. 3).

TXI is an imaging technique that optimizes three mucosal surface elements: structure, color, and brightness. It contributes to the improved observation of lesions [4]. TXI has also been reported to improve the ability of endoscopists to identify the papilla of Vater and for selective biliary cannulation [5]. In this case, TXI was extremely useful in identifying the orifices of the pancreatic and bile ducts after endoscopic papillectomy. Therefore, TXI could contribute to reducing the rate of endoscopic papillectomy-related adverse events, such as pancreatitis and cholangitis.

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Competing interests

The authors declare that they have no conflict of interest.
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Fig. 2 Endoscopic views showing: a the orifices of the pancreatic and bile duct are unclear on white-light imaging; b the orifices of the pancreatic duct (green arrow) and bile duct (red arrow), which are much clearer on texture and color enhancement imaging (TXI).

Fig. 3 Endoscopic view showing a pancreatic duct stent (green arrow) and biliary stent (red arrow), which were easily placed after identification of the orifices.