Usefulness of the two-devices-in-one-channel technique for difficult bile duct intubation in patients without periampullary diverticulum

The two-devices-in-one-channel technique (2D-1C) has been reported as a useful method in cases of periampullary diverticulum [1,2]. We experienced two cases in which 2D-1C was effective in patients without periampullary diverticulum, who presented with large oral protrusion and poor fixation of the papilla. These clinical features are among the underlying causes of difficulties in bile duct cannulation [3].

A duodenoscope with a 4.2-mm working channel (TJF 260V; Olympus, Tokyo, Japan), a sphincterotome (CleverCut3V; Olympus, Tokyo, Japan) loaded with a 0.025-inch guidewire (VisiGlide2; Olympus), and small biopsy forceps (FB45Q-1; Olympus) were used. These devices were placed in the same channel, and the forceps were used to grasp the anal side of the papilla and pull it towards the scope. Following this procedure, the large oral protrusion was stretched to reduce flexion, and the papilla was fixed closer to the scope.

In this video, we present these two cases without periampullary diverticulum in which the 2D-1C technique was an effective intervention (Video 1). In the first case, the bend in the bile duct in the large oral protrusion was straightened by the 2D-1C, and selective bile duct intubation was performed with a guidewire (Fig. 1). In the second case, it was possible to pull the papilla out with forceps and maintain it in position while the guidewire was inserted into the pancreatic duct. Subsequently, selective bile duct intubation was performed using the double guidewire method.

Between January 2020 and December 2020, the 2D-1C technique was used in seven cases without periampullary diverticulum, with successful bile duct or pancreatic duct intubation in six of the cases. A precut was required in the unsuccessful case. Successful bile duct or pancreatic duct intubation was achieved within 10 minutes in all cases.

In conclusion, the 2D-1C technique is effective not only in cases of periampullary diverticulum, but also in cases without it where bile duct intubation is difficult to perform.

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Video 1 The two-devices-in-one-channel technique is also effective in cases where there is no periampullary diverticulum but where biliary intubation is difficult, such as where there is a large oral protrusion or inadequate fixation of the papilla.

Fig. 1 a The papilla was grasped with small biopsy forceps, pulled to the anal side, and the cannula was inserted into the orifice. b,c Cholangiography showed that the bile duct at the long oral protrusion was very bent (b, arrowhead), but it straightened when the duodenal papilla was pulled to the anal side with small biopsy forceps (c, arrow).

Competing interests

The authors declare that they have no conflict of interest.
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