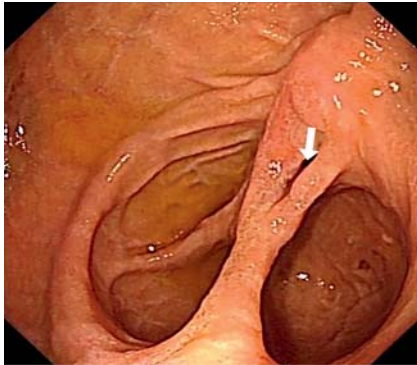


Two intraluminal duodenal diverticula treated with a “clip-assisted incision” technique

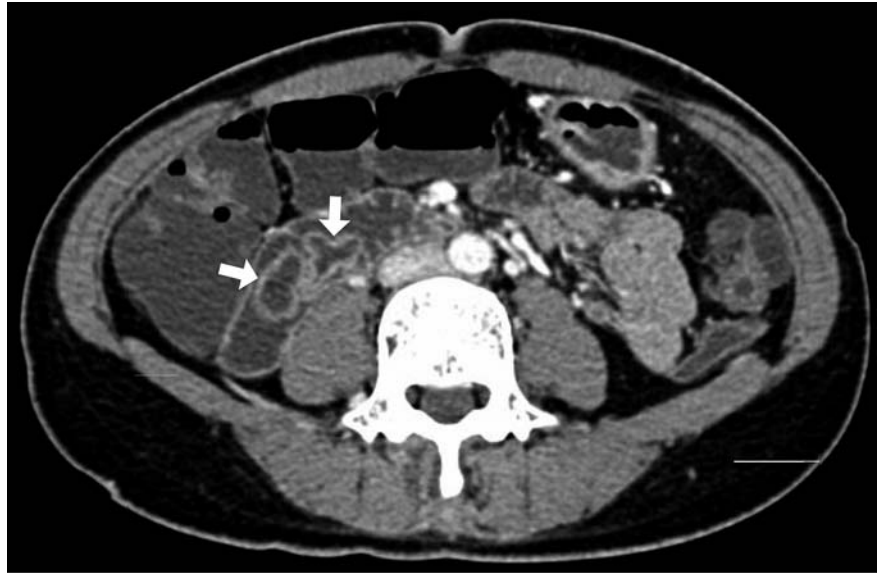


► **Fig. 1** Endoscopic view showing two closely located intraluminal diverticula either side of the true duodenal lumen (white arrow).



► **Fig. 2** Barium examination showing the “windsock sign” (white arrows).

A 37-year-old woman presented to the emergency department with an 8-year history of recurrent melena. Laboratory tests showed a hemoglobin of 76 g/L. Esophagogastroduodenoscopy showed a huge mass in the descending duodenum; however, within a few seconds, the mass collapsed. After a careful inspection of the duodenum, two closely located intraluminal diverticula were identified (► **Fig. 1**). The previously noticed mass



► **Fig. 3** Computed tomography scan showing the two diverticula (white arrows) in the descending duodenum.

had been formed by eversion of the wall of one diverticulum. The true lumen was hidden within the septum between the two diverticula. A barium examination and computed tomography scan confirmed the diagnosis (► **Fig. 2** and ► **Fig. 3**).

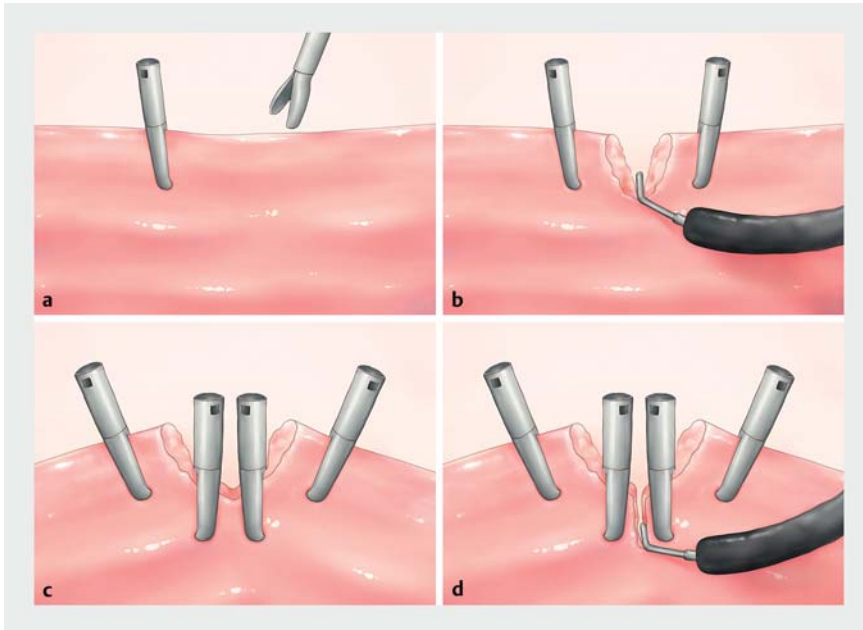
Given that the patient was symptomatic, we decided to attempt a diverticulotomy for better canalization of the duodenum. Two clips were firstly placed on one side of the separated septum between the two diverticula (► **Fig. 4 a**). A hook knife was then used to carefully incise the septum (► **Fig. 4 b**). After the septum had been cut to the same depth as the distal end of the clips, a further two clips were placed on each side of the cut edge (► **Fig. 4 c**). The aim of these clips was to block possible blood vessels and prevent massive bleeding during the procedure. This pattern of clip placement ahead of incision was then repeated to incise the septum completely (► **Fig. 4 d**). Subsequently, the same procedure was implemented for the other side of the septum.

Following the diverticulotomy, the entrance to the true duodenal lumen became much wider, thereby facilitating the passage of food (► **Video 1**). No adverse events occurred and the wound was well healed at 3-month follow-up. Endoscopic management of an intraluminal duodenal diverticulum has typically included diverticulectomy and diverticulotomy. Though less invasive compared with surgery, endoscopic procedures have a high rate of post-procedural bleeding [1]. In this case report, we introduce a novel approach, “clip-assisted incision,” which may help to reduce the risk of post-procedural bleeding.

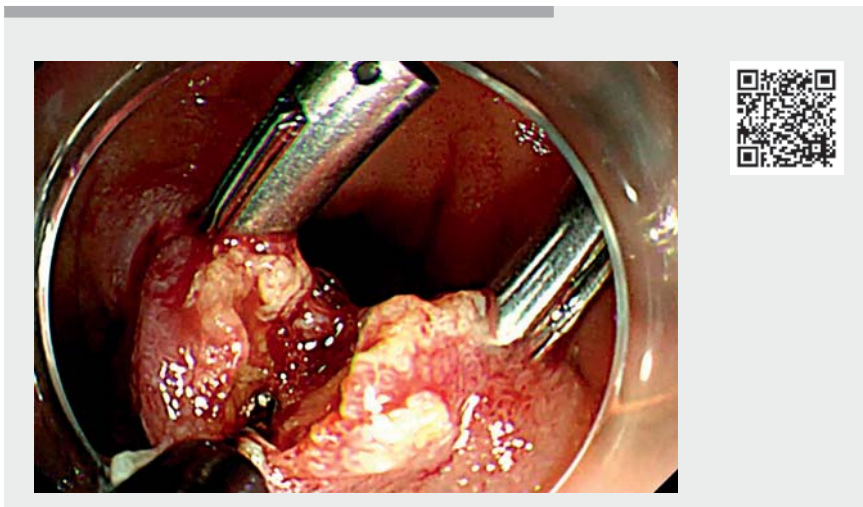
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► **Fig. 4** Illustration of the “clip-assisted incision” technique showing: **a** the two clips that were first placed; **b** an incision in the septum that was carefully made to the same depth as the distal ends of the clips using a hook knife; **c** a further two clips that were placed on each side of the cut edge with the aim of blocking possible blood vessels and preventing massive bleeding during the procedure; **d** the repeated pattern of placing clips ahead of each incision being made. Source: Xinyue Hu.



► **Video 1** Two intraluminal duodenal diverticula are treated with the “clip-assisted incision” technique.

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Competing interests

The authors declare that they have no conflict of interest.

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