

Successful endoscopic treatment of a “windsock” diverticulum: a rare case of duodenal subocclusion

Intraluminal “windsock” diverticulum is a rare congenital anomaly, caused by an incomplete recanalization of the duodenum during embryological development [1]. Although most cases are asymptomatic, patients may present with abdominal pain, postprandial fullness, and vomiting. The mean time of presentation is during the fourth decade of life. The most common complications are bleeding, partial bowel obstruction, and, rarely, pancreatitis [2]. Different treatment options have been described [3,4] and, to our knowledge, fewer than 40 cases of endoscopic treatment have been reported to date.

A 29-year-old woman presented with a long history of postprandial nausea and

vomiting that worsened during the last month. There was no significant weight loss, but her body mass index was 17.85 kg/m². Barium contrast study of the small bowel suggested a “windsock sign” (►Fig. 1). Upper gastrointestinal endoscopy revealed a markedly dilated duodenal bulb, a 4-cm intraluminal diverticulum near the major papilla, and a small opening near the base of the diverticulum through which the gastroscope could not pass (►Fig. 2a,b). Using an endoscopic retrograde cholangiopancreatography catheter under fluoroscopic guidance, we confirmed the suspicion of an intraluminal duodenal diverticulum (►Fig. 2c).

Wire-guided hydrostatic balloon dilation of the aperture up to 15 mm was performed, allowing the scope to pass. The diverticulum was incised from base to bottom using a needle-knife (►Fig. 3, ►Video 1) leading to significant bleeding. Hemostasis was achieved after epinephrine solution injection and hemoclip deployment. The patient had an uneventful postprocedural course.

Follow-up re-examination at 30 days revealed absence of gastric stasis, although passage of the gastroscope through the previously incised area (►Fig. 4) required specific maneuvers. Extension of the incision was performed using an insulated-

tip knife, resulting in a wide opening of the duodenal lumen. The patient had a satisfactory postprocedural course, with total acceptance of oral feeding.

This case illustrates a safe approach to symptomatic patients diagnosed with internal duodenal diverticulum.

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Competing interests

None

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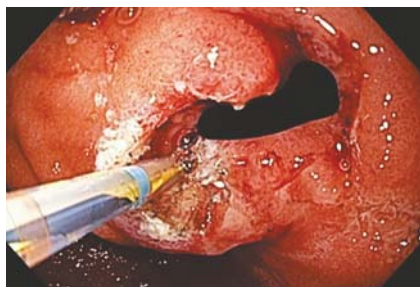
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►Fig. 1 Barium contrast study of the small bowel suggesting a “windsock sign” (arrow).



►Fig. 2 Intraluminal duodenal diverticulum. a Endoscopic view of the intraluminal duodenal diverticulum, with a small opening near the base. b Inverted diverticulum. c Fluoroscopic view showing the “windsock sign.”



► **Fig. 3** Endoscopic treatment using a needle-knife.



► **Fig. 4** The 30-day re-examination, showing the diverticulum opened.



► **Video 1** Endoscopic treatment of a "windsock" diverticulum.

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