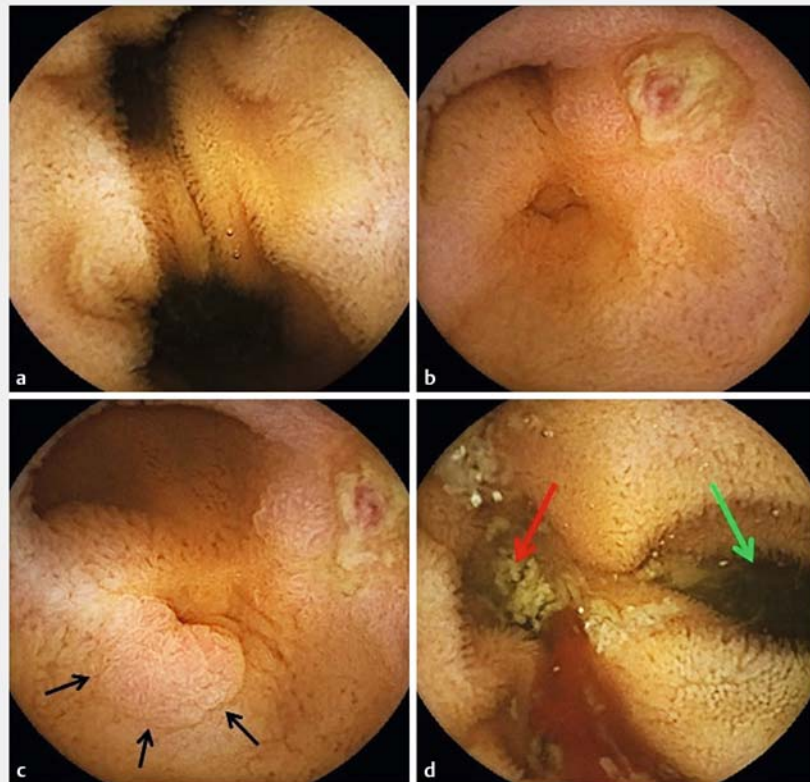


Meckel's diverticulum on third-generation video capsule endoscopy: intradiverticular ulcer, ectopic gastric mucosa, and active bleeding



► Fig. 1 Images obtained during small-bowel video capsule endoscopy showing: **a** an ileal diverticular orifice with the double-lumen sign. **b** ulceration with a visible vessel (Forrest IIa); **c** ectopic gastric mucosa (black arrows); **d** the presence of intradiverticular bleeding (red arrow, diverticular orifice; green arrow, ileum).

MECKEL'S DIVERTICULUM IN THIRD-GENERATION CAPSULE ENDOSCOPY:

INTRA-DIVERTICULAR ULCER,
ECTOPIC GASTRIC MUCOSA AND ACTIVE BLEEDING.

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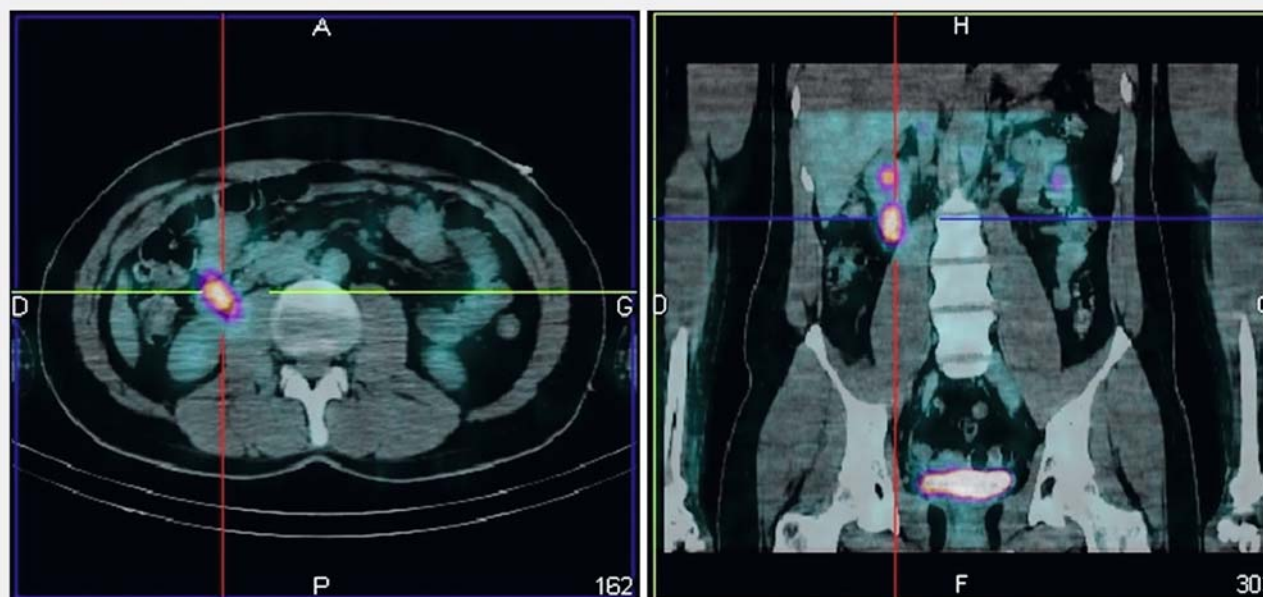


► Video 1 Appearances of a Meckel's diverticulum on third-generation video capsule endoscopy.

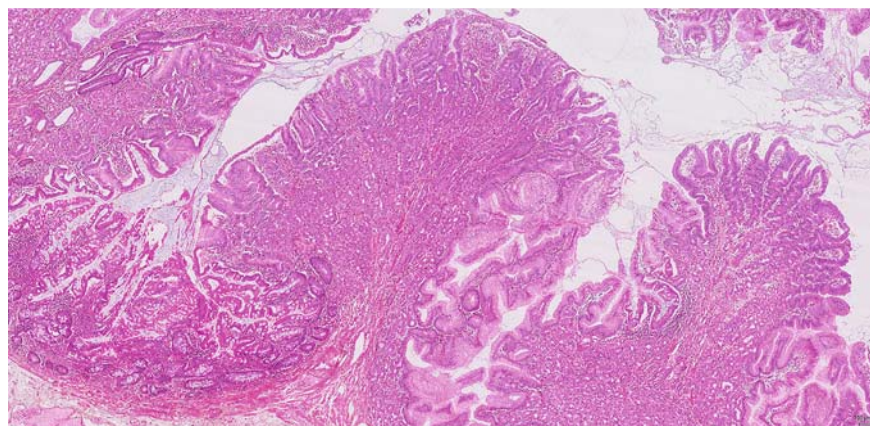
A 29-year-old man presented with acute rectal bleeding causing hemorrhagic shock. The patient had presented with a similar episode of digestive bleeding 4 years previously, with no diagnosis being found. His physical examination did not reveal any clinical abnormalities. Gastroscopy, colonoscopy, and abdominal computed tomography angiography (CTA) were normal. Small-bowel video capsule endoscopy revealed an ileal diverticular orifice, with the double-lumen sign. After passage of the capsule into the diverticulum, an ulcer with a visible vessel (Forrest IIa) was observed at the bottom of the diverticulum, located next to a patch of heterotopic gastric mucosa. During this examination, active bleeding was seen from this area of ulceration (**► Fig. 1; ► Video 1**).

A Meckel's diverticulum was suspected. A ^{99m}Tc pertechnetate scintigraphy scan was performed, which confirmed the presence of ectopic gastric mucosa, corresponding to a probable Meckel's diverticulum (**► Fig. 2**). Surgery allowed the excision of a diverticulum of $6 \times 2 \times 1$ cm that was found 70 cm above the ileocecal valve. Histological examination confirmed the presence of ectopic fundal mucosa within the diverticulum (**► Fig. 3**). The patient left hospital 3 days after the surgery and has not represented with any further recurrence of bleeding.

Meckel's diverticulum is a vestigial remnant of the omphalomesenteric duct, located on the antimesenteric border of the ileum, within 100 cm above the Bauhin's valve. About 50% of symptomatic Meckel's diverticula have been found to contain ectopic tissue, especially gastric mucosa (35%–45%), which can cause ulceration and hemorrhage; 75% of hemorrhagic Meckel's diverticula contain gastric ectopic mucosa [1]. Abdominal CT is an insensitive test for detection, especially in adults. In patients with obscure gastrointestinal bleeding, small-bowel video capsule endoscopy is a po-



► **Fig. 2** ^{99m}Tc pertechnetate scintigraphy (Meckel's scan) showing ectopically located gastric mucosa.



► **Fig. 3** Histological appearance on hematoxylin, eosin, and saffron (HES) staining showing ectopic fundal mucosa.

tentially interesting test for the diagnosis of Meckel's diverticulum, with a positive predictive value up to 85% [2]. ^{99m}Tc pertechnetate scintigraphy (Meckel's scan), which specifically detects gastric mucosa, is more sensitive in a pediatric population (85%–90%) than in adult

patients (60%). This test is particularly effective when there are symptoms related to the ectopic gastric mucosa, such as bleeding [3].

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Competing interests

None

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