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Image of the Month

Mesh plug migration into the small intestine: An unusual cause of chronic anemia

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A 73-year-old man on antiplatelet therapy for coronary artery stenosis presented to our hospital with six-months history of chronic anemia. The patient's past medical history included a right inguinal hernia repair by mesh plug seven years prior to the onset of chronic anemia. The patient had not experienced relevant symptoms such as abdominal pain, or previous overt gastrointestinal bleeding. Laboratory tests revealed iron-deficiency anemia (hemoglobin level, 11.2 g/dL; mean corpuscular volume, 71.7 fL; serum iron, 23 μg/dL; serum ferritin, < 3.6 ng/mL), but no other abnormalities were found. Although chronic gastrointestinal blood loss was suspected, upper endoscopy and colonoscopy did not reveal a bleeding source. Capsule endoscopy was performed: it was able to reach the cecum and the small bowel transit time was 235 min. The capsule endoscopy revealed an ulceration of the ileum when the small bowel transit time rate was 0.93 (Fig. 1A). Retrograde double-balloon enteroscopy using CO_2 insufflation was carried out without complication. The enteroscopy showed a mesh plug with ulceration in the ileal wall when the enteroscope advanced to a position approximately 70 cm from the cecum (Fig. 1B). It could not be advanced further, and tattooing was undertaken near the mesh plug to guide surgical intervention. Abdominal computed tomography (CT) revealed a fistula between the ileum and inguinal abdominal wall (Fig. 2A, coronal image, arrows). We diagnosed the cause of the patient's anemia as a mesh plug penetration of the ileum. Surgery was performed to resect the affected part of the ileum and mesh plug; we found that the penetrated mesh plug protruded into the intestinal lumen (Fig. 2B). After the surgery, the patient's anemia improved.

Mesh plug migration is an uncommon complication of hernia repair that can cause severe problems [1]. In particular, the migration of a mesh plug into the small intestine may cause chronic intestinal blood loss without any other relevant symptoms, as observed in this case. Although it is a rare complication, mesh plug migration into the small intestine should be considered as a possible etiology of chronic blood loss when the patient presents with chronic anemia occurring after mesh hernia repair. In addition, when mesh plug migration is suspected (e.g., in the case of positive capsule endoscopy), a CT should take precedence over balloon-assisted enteroscopy to prevent enteroscopy-related complications.

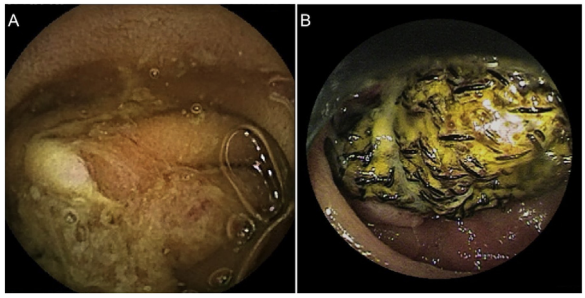

Fig. 1. (A) Capsule endoscopy of the small intestine revealed an ulceration of the ileum. (B) Retrograde double balloon enteroscopy showed a mesh plug with ulceration in the ileal wall when the enteroscope advanced to a position approximately 70 cm from the cecum.

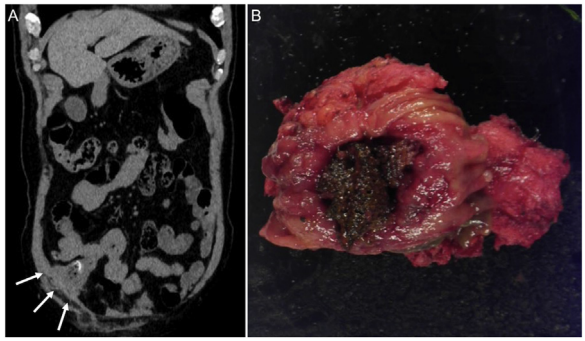

Fig. 2. (A) Coronal image of an abdominal computed tomography scan revealed a fistula between the ileum and inguinal abdominal wall (arrows). (B) A resected specimen showed the penetrated mesh plug had protruded into the intestinal lumen.

Patient consent

Informed consent was obtained from the patient for the publication of their information and imaging.

Conflict of interest

None declared.

Reference

[1] Yilmaz I, Karakaş DO, Sucullu I, Ozdemir Y, Yucel E. A rare cause of mechanical bowel obstruction: mesh migration. Hernia 2013;17:267–9.

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