Endoscopic management of a rare cause of upper gastrointestinal bleeding: gastric polypoid extramedullary hemopoiesis

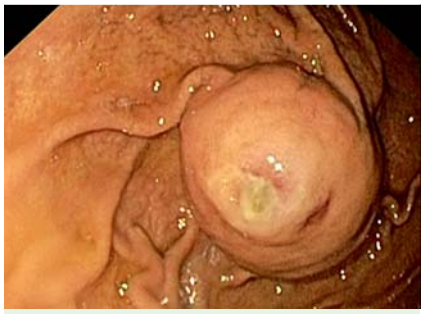

Fig. 1 In a 35-year-old man suffering from Cooley disease, with a history of splenectomy and two recent episodes of hematemesis with severe anemia, emergency esophagogastroduodenoscopy showed a polypoid, centrally ulcerated mass in the gastric fundus. The overlying, nonulcerated mucosa appears normal.

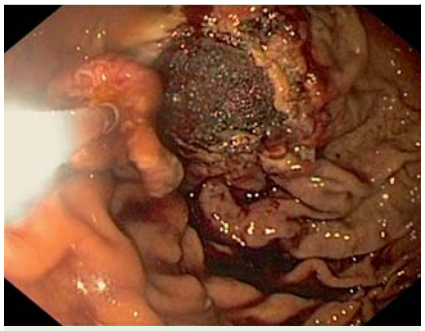

Fig. 2 A point during endoscopic resection of the lesion showing the base of the lesion with minimal bleeding.

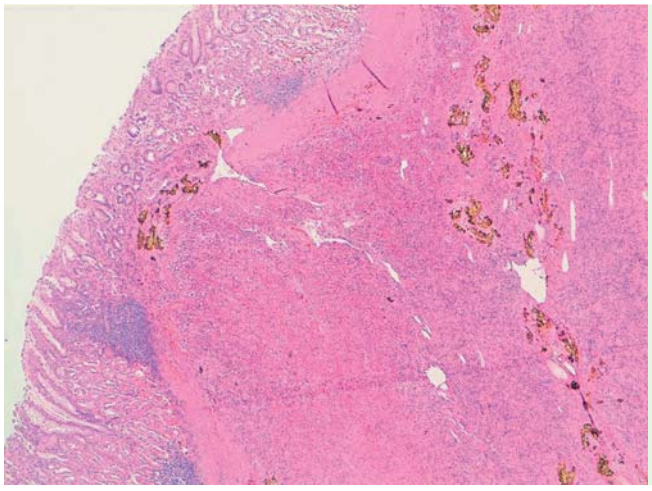

Fig. 3 Histologic, hematoxylin and eosin (H&E) stained, panoramic view of the polypoid mass showing normal overlying mucosa and involvement of the submucosa. The brown pigment indicates regions of iron deposition.

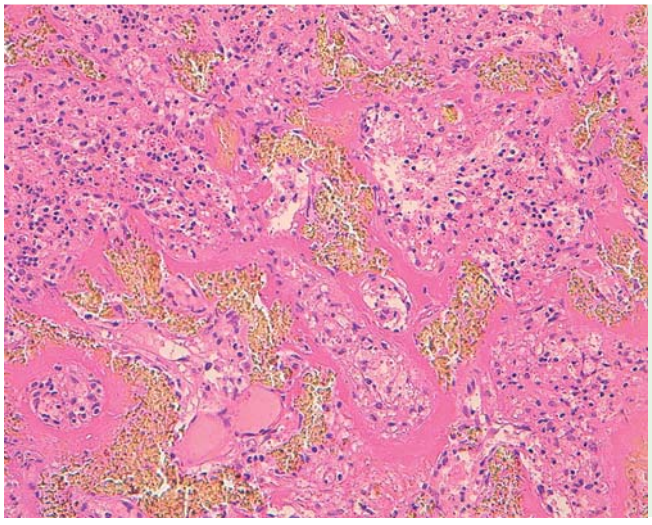

Fig. 4 Higher magnification view of the submucosa showing pools of red blood cells, fibrous tissue, and red and white blood cell precursors. No megakaryocytes/blasts are present.

Acute upper gastrointestinal hemorrhage remains a common emergency with annual incidence between 50 and 150 hospital accesses/100 000 population/year and a mortality rate of 7 – 10 % [1]. Endoscopy is the first option both in diagnosis and treatment.

A 35-year-old man, suffering from Cooley disease and with a history of splenectomy, was hospitalized for two recent episodes of hematemesis with severe anemia. Emergency esophagogastroduodenoscopy revealed a protruding, ulcerated 4-cm mass in the gastric fundus; the overlying, nonulcerated, mucosa appeared normal (**Fig. 1**). Biopsies were not performed because of the risk of bleeding. A computed tomography (CT) scan confirmed the presence of a solid, partially calcified, gastric mass, and endoscopic ultrasound (EUS) showed a rounded, well defined, submucosal hypoechoic lesion. After multidisciplinary discussion, an initial endoscopic approach was decided.

A pre-cut needle was used to create a perilesional perimeter which facilitated the insertion of a diathermic loop. The combined and alternate use of these two instruments enabled precise and complete excision of the entire mass (**Fig. 2**), despite difficulties as a result of the lesion's intense vascularization and solid consistency. Endoscopic clips were positioned to control two hematic leaks. Histology showed a fibrous and partly calcified mass with pools of erythrocytes and interspersed red and white line cell precursors (**Fig. 3**, **Fig. 4**) corresponding to gastric polypoid extramedullary hematopoiesis.

Extramedullary hematopoiesis is a well described compensatory response to hemoglobinopathies, insufficient medullary hematopoiesis, myelofibrosis and neoplastic replacement, or destruction of the bone marrow. Gastrointestinal localizations are extremely rare and only four cases have been reported either as a single mass [2, 3] or multiple localizations [4, 5]. At 1-month and 6-month follow-up in our patient, the treated region appeared as a retracted scar-like area (**Fig. 5**), and after 3 years, there was complete healing.

In conclusion, our study describes the first case of gastric polypoid extramedullary hematopoiesis complicating Cooley disease to be successfully treated with an endoscopic approach.

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Competing interests: None

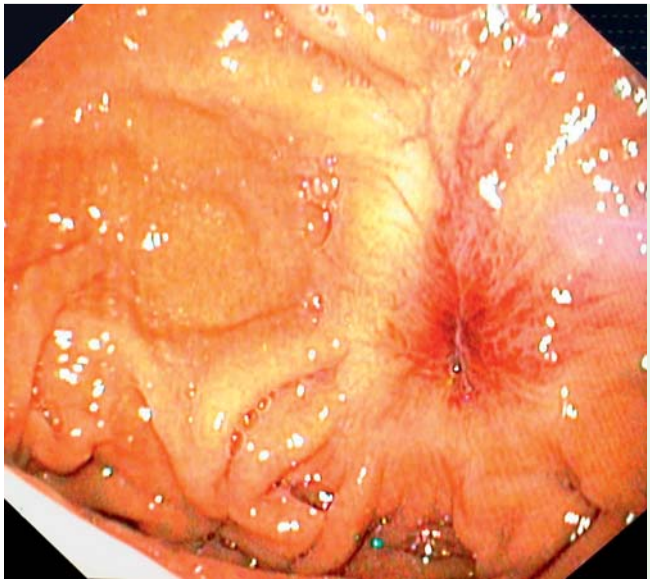

Fig. 5 Follow-up esophagogastroduodenoscopy at 1 month showing a retracted, scar-like area at the site of the earlier endoscopic resection. No lesion or bleeding is seen.

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