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IMAGE | STOMACH

Gastric Amyloidosis Causing Nonvariceal Upper Gastrointestinal Bleeding

Sridhar Sundaram, MD, DM[1], and Raosaheb Rathod, MD[2]

[1]*Department of Gastroenterology, Seth GS Medical College and KEM Hospital, Mumbai, India*
[2]*Department of Digestive Diseases and Clinical Nutrition, Tata Memorial Hospital, Mumbai, India*

CASE REPORT

A 59-year-old man, diagnosed with relapsed multiple myeloma, admitted currently in the intensive care unit with respiratory distress, acute kidney injury, and hypercalcemia, was referred for evaluation of upper gastrointestinal (GI) bleed. The patient was on mechanical ventilation with fresh blood aspirated using the Ryles tube. On investigation, hemoglobin was 7.6 g/dL and platelets were 63,000/mm^3 with international normalized ratio 1.3. Bedside upper GI endoscopy showed diffuse erythema with thickening and nodularity involving the entire stomach, without any ulceration or active bleeding (Figure 1). Biopsies were taken from the stomach for evaluation. There was suspicion of fungal pneumonia on thorax computed tomography. Differential diagnoses included infective gastropathy and gastric involvement by amyloidosis. The patient was continued on pantoprazole, and antifungal antibiotics were added. Histopathological examination showed submucosal deposits of extracellular hyaline-like material around blood vessels, which is indicative of amyloid deposits (Figure 2). Congo red staining revealed an apple green refringence under polarized microscopy. Despite the supportive measures, the patient's condition deteriorated, and he eventually died.

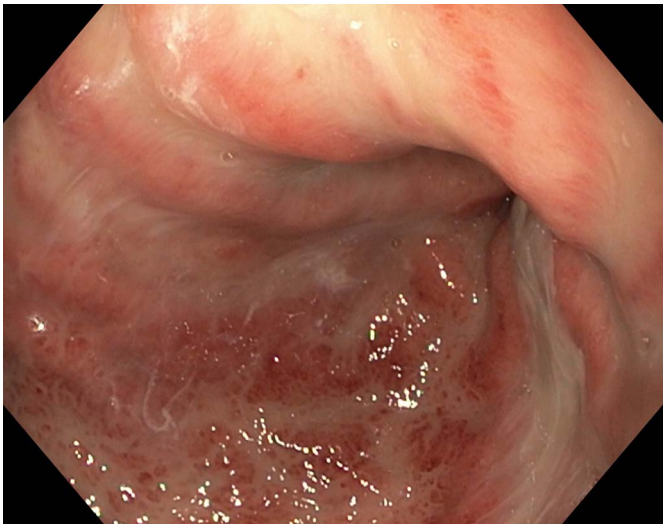

Figure 1. Thickened erythematous mucosa with nodularity in the body of the stomach.

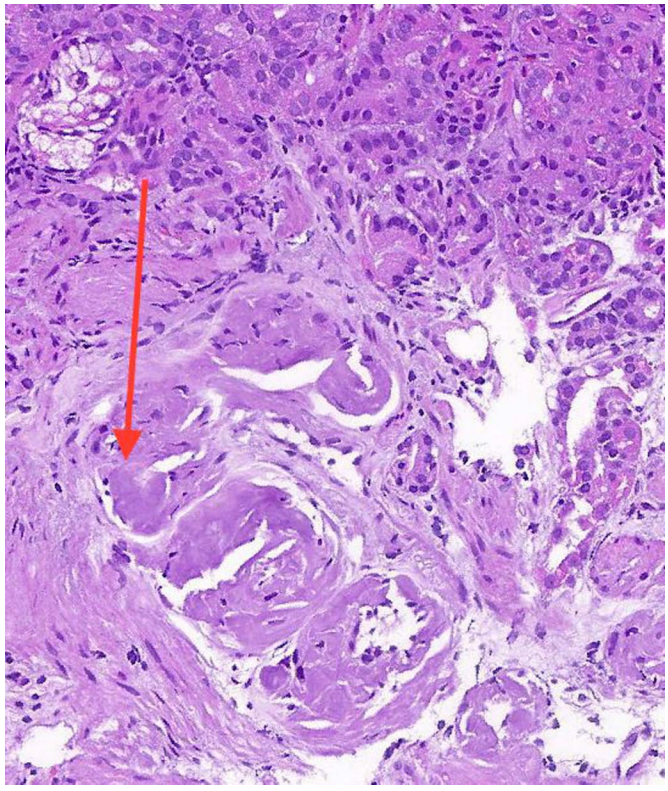

Figure 2. Biopsy from the stomach shows the presence of perivascular eosinophilic deposits of amorphous material suggestive of amyloid.

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Correspondence: Sridhar Sundaram, MD, DM, Department of Gastroenterology, Seth GS Medical College and KEM Hospital, Dr. E Borges Rd, Parel, Mumbai 400012, Maharashtra, India (drsridharsundaram@gmail.com).

Amyloidosis is a condition of extracellular fibrillar protein deposition, commonly associated with tissue injury and dysfunction.[1] GI involvement is uncommon in patients with amyloidosis, with a reported risk of only about 3%. Among patients with GI involvement, 79% have underlying systemic amyloidosis and 21% have only GI amyloidosis without evident plasma cell dyscrasia or extraintestinal involvement.[2] In the reported series, weight loss (45%), GI bleeding (36%), and heartburn (33%) were the most common symptoms of GI amyloid.[3] Menke et al reported GI involvement in 8% of patients with systemic amyloidosis with 1% having symptomatic gastric involvement.[4] Endoscopic findings in patients with gastric amyloidosis include submucosal tumors, polyps, thickened gastric folds, loss of rugal folds, antral narrowing, erythema, ulcerations, and erosions. Submucosal hematomas are often seen in patients who present with bleeding.[5] Torrential bleeding can occur when the submucosal hematoma ruptures. Common sites of amyloid infiltration are the second part of the duodenum, stomach, colorectum, and esophagus.[6] Congo red stains are recommended for patients with unexplained weight loss, bleeding, abdominal pain, or early satiety associated with a monoclonal gammopathy.

Currently, no treatment guidelines exist for endoscopic therapy for bleeding from gastric amyloidosis. Also, endoscopic therapy is largely ineffective in this setting. Amyloidosis of the stomach should be considered in patients with nonvariceal bleed and gastroparesis in the background of systemic amyloidosis. In addition, rarely despite the absence of systemic amyloidosis, amyloid deposits may be seen in the gastrointestinal tract. Hence, high index of suspicion is required for identification of this disorder.

DISCLOSURES

Author contributions: Both authors helped in patient management. S. Sundaram drafted the manuscript and is the article guarantor.

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