

Duodenal siderosis: a rare clinical finding in a patient with duodenal inflammation

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An 84-year-old man without any significant past medical history (PMH) was admitted for anemia and weight loss. There was no history of gastrointestinal bleeding or iron supplement use. Physical examination was benign except for pallor. His labs showed: hemoglobin 6.8 (11.0-15.6) g/dL, serum iron 30 (65-175) µg/dL, total iron binding capacity 141 (179-378) µg/dL, ferritin 416 (22-275) ng/dL, and transferrin 109 (188-341) mg/dL. An esophagogastroduodenoscopy (EGD) was performed which revealed a duodenal polyp, and duodenitis with dark brown pigmentation (Fig. 1A,B). Histopathologic examination of this pigmented mucosa revealed glandular deposition of brown pigments (Fig. 2A), confirmed to be iron with Prussian blue stain (Fig. 2B).

Iron deposition in gastric and duodenal mucosa has been found in association with oral iron medications, alcohol abuse, blood transfusions, hemochromatosis, and decompensated cirrhosis with esophageal varices [1,2]. The endoscopic finding of mucosal iron deposition is highly variable ranging from yellow-brown to black mucosa, with associated ulcerations or regenerative polyps [3].

Histologically, three main patterns of iron deposition were described by Marginean *et al* [1]. Type A (“non-specific”) variant is free floating siderosomes located intracellularly in macrophages, stroma, and epithelium. Type B (“iron-pill gastritis”) is large clumps of fibrillar iron located extracellularly and in blood vessels, macrophages, and epithelium. Type C (“gastric glandular”) variant is free floating siderosomes located in deeper glands of the antrum and fundus.

Iron deposition in duodenal mucosa is extremely rare and isolated duodenal siderosis has never been reported in the literature. Without significant PMH and predominantly

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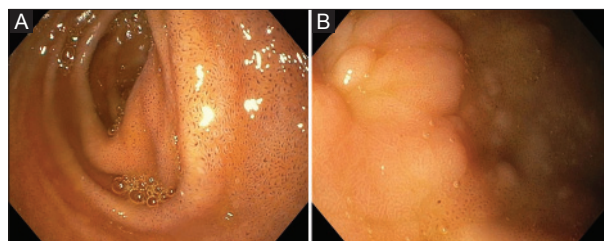


Figure 1 (A) Endoscopic image demonstrating multiple dark brown pigmented patches that did not change in shape, pattern, or color despite endoscopic water irrigation and suctioning. (B) Endoscopic image showing a polyp in the duodenal bulb

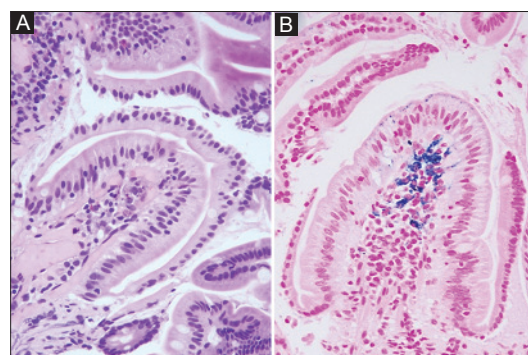


Figure 2 (A) Distended intestinal villi show submucosal deposition of brown pigments (H&E stain, original magnification 400X). (B) Brown pigments are hemosiderin in nature, confirmed by positive Prussian blue stain (H&E stain, original magnification 400X)

intraglandular, iron deposition not entirely fitting any of those patterns has been described by Marginean *et al* [1]. Our case may represent an “idiopathic” variant of gastroduodenal siderosis. Recognition of variable patterns of deposition may guide further workup and treatment of iron overload cases.

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