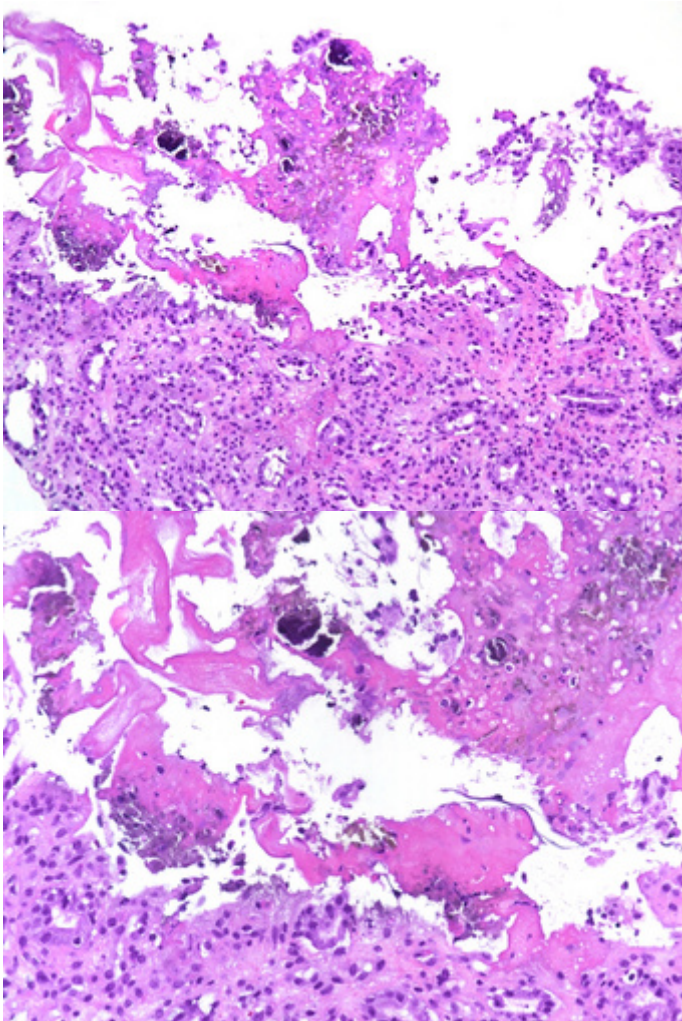
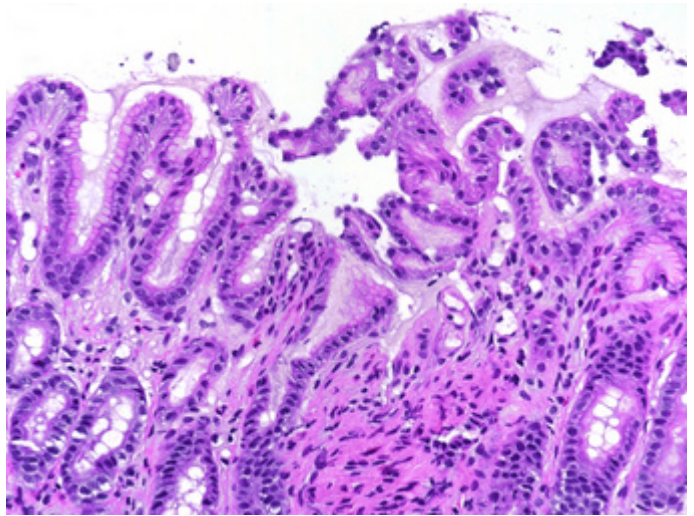
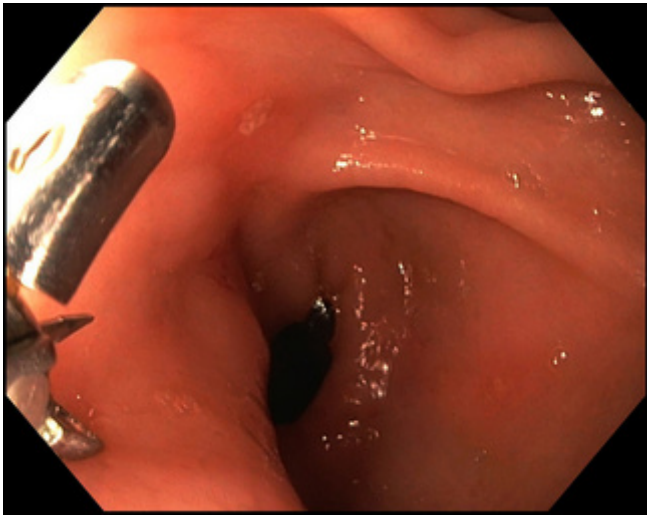
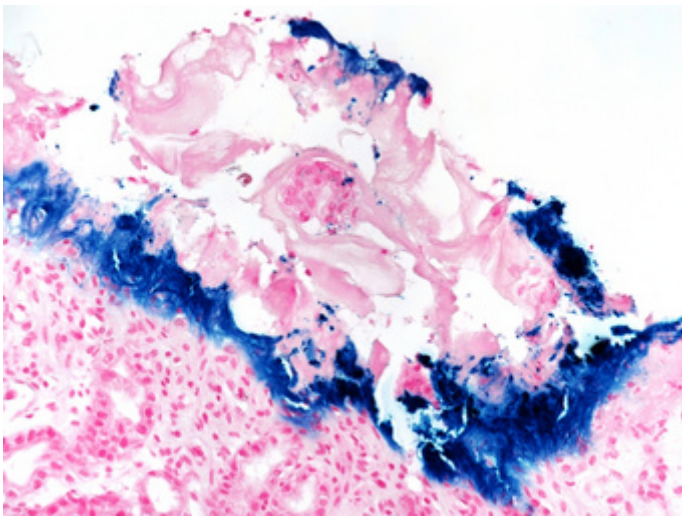


# January 2019

Antral biopsy from a 54-year-old woman.

What is your diagnosis?





## Diagnosis:

Iron pill gastritis.

## Comment:

The patient underwent endoscopy due to iron deficiency anaemia. Two acute erosions were detected in the antrum (Panel A), and biopsies were taken. Basically, the antral mucosa shows a reactive gastropathy pattern, which is characterized by foveolar hyperplasia, prominence of smooth muscle fibers as well as mild vasodilatation and congestion, together with paucity of acute and chronic inflammatory cells (Panel B). One of the biopsy specimens shows an erosion with hypocellular condensed stroma and deposition of granular brown pigmented material on the surface of the mucosa, admixed with luminal fibrinous debris (Panels C-D). Prussian blue staining proves the brown extracellular material to be crystalline iron (Panel E). *Helicobacter pylori* was not identified.

Iron pill gastritis is a known, but frequently underrecognized side effect of oral iron supplementation. On enquiry, our patient had been taking iron pills during the „last weeks”.

With respect to histogenesis, it is believed that ferrous sulphate pills or tablets cause direct caustic effects on the upper gastrointestinal mucosa, resulting in reactive gastropathy with erosions, ulcerations and fibroinflammatory exudation. However, the exact mechanism of mucosal damage is not entirely clear.

On the histological level, three distinct patterns of iron deposition have been identified by Marginean et al.: A) a “nonspecific” stromal cell predominant pattern, which may be associated with gastric inflammation, associated with prior mucosal haemorrhage or iron medications; B) extracellular coarse clumps of crystalline iron deposition associated with oral iron medications, mild gastritis, and reactive gastropathy type changes (“Iron-pill gastritis”); and C) gastric glandular siderosis, which may be associated with systemic iron overload/hemochromatosis.

Mucosal damage due to iron pills can likewise be observed in the oesophagus, while in the duodenum this is exceptionally rare.

## For further reading:

- › Abraham SC, Yardley JH, Wu TT. Erosive injury to the upper gastrointestinal tract in patients receiving iron medication: an underrecognized entity. *Am J Surg Pathol.* 1999; 23: 1241-1247.
- › Marginean EC, Bennick M, Cyczk J, et al. Gastric siderosis: Patterns and significance. *Am J Surg Pathol.* 2006; 30: 514-520.

- › Haig A, Driman DK. Iron-induced mucosal injury to the upper gastrointestinal tract. *Histopathology*. 2006; 48: 808-812.
- › Kaye P, Abdulla K, Wood J, James P, Foley S, Ragunath K, Atherton J. Iron-induced mucosal pathology of the upper gastrointestinal tract: a common finding in patients on oral iron therapy. *Histopathology*. 2008; 53: 311-317.
- › Chen Z, Scudiere JR, Montgomery E. Medication-induced upper gastrointestinal tract injury. *J Clin Pathol*. 2009; 62: 113-119.

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