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CASE REPORT

GASTRIC SIDEROSIS IN A LONG TERM IRON PILL TAKER.

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Abstract

Oral Iron supplementation may lead to iron deposition in gastric mucosa. This is not recognized as much as in conditions of iron overload such as hemochromatosis and multiple blood transfusions. Nevertheless mucosal damage secondary to oral iron intake over a long period of time is a significant cause of Gastric Siderosis.

INTRODUCTION

This 88 years old African American Female was actually referred for evaluation of **Dysphagia**.
On physical examination, She was alert and well oriented. She was ambulant and walked on her own. Her conjunctiva was **pale,** but rest of the physical examination was essentially negative**.** Her vital signs were WNL (with **Pulse 80/min** and **B.P 120/70** mmHg).
EGD showed presence of a **Zenker's Diverticulum** and mild **Schatzki's Ring.** She also had **Chronic Antral Gastritis. (Fig.1.)** But **No** erosions or ulcerations were found.

Fig.1: Pre-pyloric area with gastritis of mild to moderate severity (Area of biopsy)

Biopsies taken to rule out H.Pylori gastritis showed evidence of **Gastric Siderosis (Fig.2 & 3)** and mild Gastritis.

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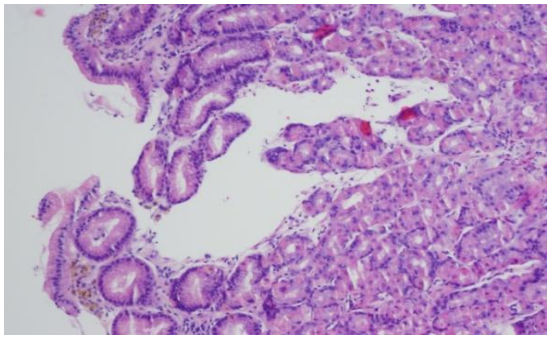

Fig.2: Gastric mucosa shows mild inflammation and focal iron deposition (stained brown).

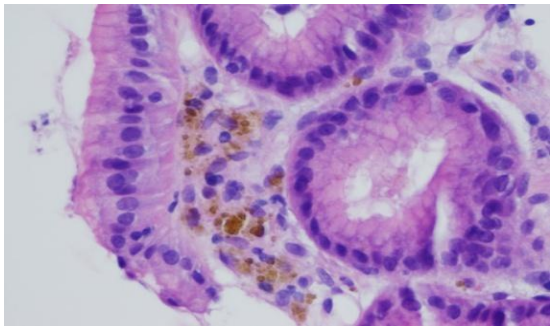

Fig.3: High power shows brown pigmentation consistent with iron accumulation as extracellular clumps.

Biopsy was **negative** for *H.pylori.*

Co-morbidities included history of **Seizure** disorder, **Osteoporosis**, **Hypertension**, **Hyperlipidemia**, **Urinary Incontinence** & **GERD**.
She was on multiple medications including **Omeprazole** 40 mg P.O daily, **Phenytoin** 100 mg P.O daily, **Ferrous Sulphate** 325 mg P.O daily, **Aspirin** 81 mg P.O daily, **Pravastatin** 20 mg P.O daily, **Megestrol** 40 mg daily, **Meloxicam** 15 mg P.O daily & **Alendronate** 70 mg once a week.
She has never been operated for anything. She did not Smoke or drink Alcohol.

Laboratory studies showed:

Hb 9.6gm/dl, **Hct 29** and Transferrin Saturation **18% [excluding the possibility of Hemochromatosis]**.

DISCUSSION:

Three patterns of Iron deposition in Gastric Mucosa[1] are known:

1) **Iron Pill Gastritis**[4] or **Reactive Gastropathy**: Oral Iron has corrosive effect on the Gastric wall. Focal Iron clumps are seen diffusely in extracellular space in people taking Iron Pills. (Fig 4a)
2) **Non-Specific**: Epithelial, Stromal Cell and Macrophage Deposition of Iron after local bleeding from Stomach wall due to Ulcers, Erosive Gastritis or Injury. This is usually patchy/ focal. (Fig 4b)
3) **Gastric Glandular Siderosis**: Diffuse Fundic and Antral Epithelial/Glandular deposition of Iron in overload states such as Hemochromatosis and heavy transfusions. . (Fig 4c)

CAUSES/RISK FACTORS:

Erosions, Hemochromatosis[3] (Iron Overload States), Iron Pills[2], Aspirin, NSAIDs, Alcohol[3] and Gastric Dysmotility.

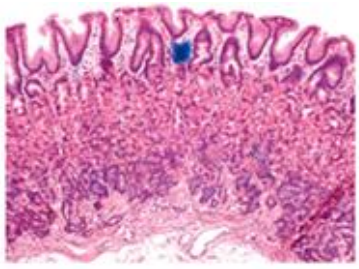

Fig 4a: Extracellular Iron clump

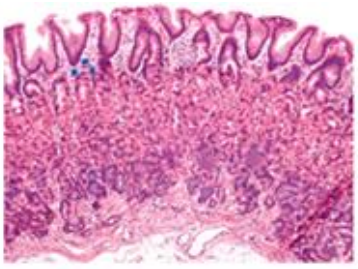

Fig 4b: Iron in macrophages or stromal cells

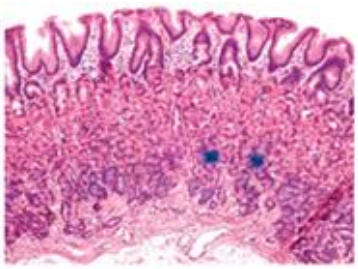

Fig 4c: Iron in Gastric glands

Iron Deposition is easily visible and can be highlighted by Iron stains (here as bluish in color). ***(Improvisation)***

We wondered why most patients who take oral Iron do not develop Gastric Siderosis, *and why some people do*? It is easy to understand why patients may develop Gastric Siderosis in Hemochromatosis (Iron Overload states) and also with Gastric Erosions and Hemorrhage (uptake by macrophages). However, this patient had *intact Gastric Mucosa, grossly*. We think that patients who take oral iron supplements may develop focal microscopic gastric erosions facilitating migration of iron particles into the extracellular space, especially if they have more than one risk factor such as old age, prolonged periods of iron intake, gastric dysmotility, partial gastric obstruction, NSAIDs and alcohol ingestion.

CONCLUSION:

It is plausible that she may have had Erosive Gastritis intermittently due to **NSAID**s and developed Gastric Siderosis. But, there may be some other, yet unknown, causes that are significant to know for developing this unusual finding. We recommend that the above mentioned risk factors be kept in mind when prescribing oral iron supplements to avoid complication of gastric siderosis.

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