# Case of Iron Deficiency Anemia secondary to a Pyogenic Granuloma

Mashkurul Haque[1]; Laith Numan, MD[2]; Zarir Ahmed, DO[2]; Michelle Baliss, DO[2]; Soumojit Ghosh, MD[2]; Christine Hachem, MD[2]
[1]Saint Louis University School of Medicine, [2]Saint Louis University School of Medicine, Division of Gastroenterology & Hepatology

## Introduction

- Pyogenic granulomas (PG) are lesions in the skin or mucosa composed of vasodilative granulation tissue. Although commonly found in the oral cavity, they are rare throughout the rest of the gastrointestinal (GI) tract.
- Gastrointestinal PGs typically present as insidious microcytic anemia, which can be severe. We present a case of a patient with iron deficiency anemia secondary to pyogenic granulomas.

## Case Report

A 75-year-old Caucasian female was referred to the hospital for coronary artery bypass graft evaluation. Medical history was significant for coronary artery disease, microcytic anemia, and tobacco use. On work-up, she was found to have iron deficiency anemia, with labs showing hemoglobin of 8.5 g/dL and a mean corpuscular volume of 78.3 fL. Her baseline hemoglobin was 12 g/dL last known five years before. Iron studies showed low iron at 24 ug/dL and low transferrin saturation of 7%. She denied any hematemesis, melena, or hematochezia. A digital rectal exam demonstrated soft, brown stool. Diet at that time was unchanged from baseline. No other sources of non-GI bleeding were identified.

Further endoscopic work-up was obtained. Colonoscopy and video pill capsule were unmarkable. Esophagogastroduodenoscopy revealed three large gastric polypoid lesions that were consistent with visual findings of pyogenic granulomas (Figure 1). Biopsy revealed an entirely fibrin composition and inflammatory cells with granulation tissue and a strip of reactive foveolar epithelium. The patient was started on iron supplementation and is being followed closely by GI.

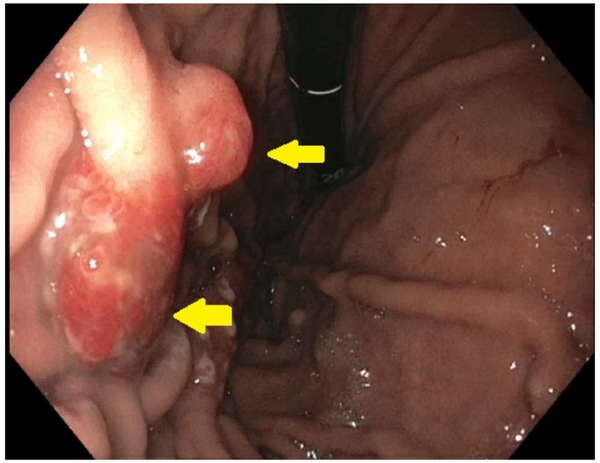

*Figure 1. Semi-pedunculated polyps (arrows) with hyper vascular appearance. No obvious stigmata of bleeding*

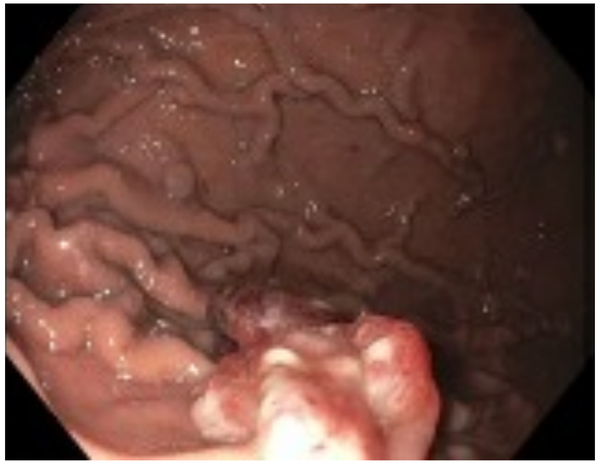

*Figure 2. EGD images showing alternate angle of gastric pyogenic granulomas.*

## Discussion

- Hemangiomas of the GI tract are relatively rare, accounting for 0.3% of all GI tumors.
- Pyogenic granulomas are benign polypoid forms of capillary hemangiomas. Initially, it was thought that PGs were caused by infection, but they are most likely multifactorial, including mucosal irritation resulting in reactive processes.
- The most common clinical manifestation of gastrointestinal PG is insidious anemia, which can be severe.
- Endoscopically, these lesions are commonly erythematous, pedunculated polyps. They are typically described as having a smooth but visibly ulcerated surface that can be friable or oozing blood.
- Further, visual aspects of PG include the underlying vasculature causing dark red to fresh sanguine appearance. Histologically, PGs are lobular-patterned hemangiomas with capillary vessels. Similar to this case, granulation tissue and a single layer of endothelial cells may also be present.
- Conservative management includes supporting blood loss with iron supplementation. If unresponsive, endoscopic management includes resection with a snare polypectomy, endoscopic mucosal resection, band ligation, or heat application.

## Contact

Mashkurul Haque
Saint Louis University School of Medicine
Email: mashkurul.Haque@health.slu.edu
Phone: 919-600-0449

## References

1. Hirakawa, K. *et al.* A case of pyogenic granuloma in the duodenum: Successful treatment by endoscopic snare polypectomy. *Gastrointest. Endosc.* **47**, 538–540 (1998).
2. Kusakabe, A. *et al.* Pyogenic granuloma of the stomach successfully treated by endoscopic resection after transarterial embolization of the feeding artery. *J. Gastroenterol.* **40**, 530–535 (2005).
3. Meeks, M. W. *et al.* Gastrointestinal: Pyogenic granuloma of the duodenum. *J. Gastroenterol. Hepatol.* **31**, 1235 (2016).