

Eos, Eos, Everywhere!: A Case of Hypereosinophilic Syndrome vs. Eosinophilic Enteropathy

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Introduction

- Eosinophilic gastrointestinal disorders can present with substantial peripheral eosinophilia.
- Presentation of these conditions overlap with hypereosinophilic syndromes, leading to diagnostic difficulty.
- Low prevalence of these conditions makes clinical differentiation challenging.

CASE PRESENTATION

- 73 y/o male veteran with past medical history of Samter's Triad (asthma, recurrent nasal polyps, aspirin sensitivity) and GERD presented with nausea, vomiting, and progressively worsening epigastric and periumbilical abdominal pain.
- Three weeks prior to admission he presented to Gastroenterology clinic with breakthrough reflux despite high-dose proton-pump inhibitor and H2 blocker.
- He underwent outpatient endoscopy.
- Post-endoscopy, he experienced worsening reflux symptoms with a "battery acid taste" as well as difficulty swallowing.
- Additional history revealed he was experiencing tenesmus and 20 pound weight loss over 4 weeks
- He continued to have diffuse abdominal pain, diarrhea, and peripheral eosinophilia with absolute count reaching a peak of 10,800.

DIAGNOSTICS

Upper Endoscopy Findings

- Esophagitis at the GE junction
- Antral gastropathy
- 2 small gastric polyps
- Duodenal inflammation



(A) Erosive Esophagitis vs. (B) Eosinophil Esophagitis

DIAGNOSTICS

Upper Endoscopy Tissue Pathology Findings

- Eosinophilic infiltrates in the stomach and the duodenum.

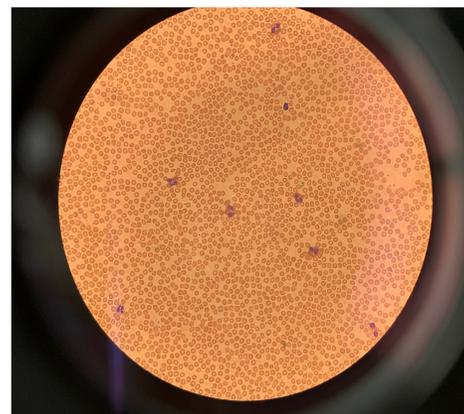
Significant Laboratory Findings

•Admission Labs

- WBC 16.7
- Eosinophils 21.8%
- Absolute eosinophil count 3600 (Normal <700)
- IgE level of 697 (↑)

•Interval Labs

- Peak absolute eosinophil count 10,800
- Eosinophil count at discharge 800 (on steroids)



Patient's actual peripheral smear with substantial peripheral eosinophilia.

CT Abdomen/Pelvis:

- Thickening of the distal esophagus
- Inflammatory changes around the descending colon

Colonoscopy Tissue Pathology Finding

- Eosinophil Infiltrates

Repeat Upper Endoscopy After Treatment

- Ongoing eosinophilic infiltration of the gastric and duodenal submucosa
- Eosinophilic deposits in the proximal esophagus.

Bone Marrow Biopsy/Flow Cytometry

- No significant pathology

MANAGEMENT

- Initially managed with six-food elimination diet and systemic steroids with some improvement in his symptoms. Shortly after discharge, however, symptoms returned and weight loss continued.
- Given his marked peripheral eosinophilia and recurrent symptoms, he was referred to Hematology/Oncology for evaluation of a primary hypereosinophilic syndrome (HES). This was ruled out with his negative bone marrow biopsy and molecular genetic testing.
- Given continued symptoms, he was started on eosinophil-directed therapy with benralizumab. After initiation he noticed an improvement in abdominal pain.

DISCUSSION

- This patient met criteria for hypereosinophilia with his substantial absolute eosinophil count. Given his many eosinophilic infiltrates throughout his GI tract there was concern for HES. His negative bone marrow biopsy and molecular genetic testing ruled out a primary, neoplastic HES.
- Eosinophilic gastrointestinal disorders are complex, particularly when they present with substantial peripheral eosinophilia.
- While these gastrointestinal disorders can present with peripheral eosinophilia and elevated IgE levels, the magnitude of these changes is typically less than what was seen in this case.
- Diagnostic overlap with hypereosinophilic syndrome warrants Hematology/Oncology work-up to rule out underlying myeloproliferative neoplasm.
- The use of biologic agents to treat eosinophilic gastrointestinal disorders is an area of active and promising research.