

## Introduction

- Celiac disease is an immune mediated reaction to the gluten protein, primarily affecting the small intestine. It occurs in populations with genetic predisposition, usually resolving with gluten free diet regimen. The association between eosinophilic gastrointestinal diseases and celiac disease is established but in the following case we will discuss a patient with significant peripheral eosinophilia and celiac disease without eosinophilic gastrointestinal disorder.

## CASE PRESENTATION

- 45 years old male, with history of hypertension, presented with progressively worsening intermittent colicky lower abdominal pain for the past 2 months.
- Associated with recurrent episodes of nausea and vomiting, and non-bloody watery diarrhea.
- Labs were significant for Hemoglobin 12 gm/dL, WBC's 26,000 with 62% Eosinophils (16,500 /uL), Platelet of 332 Thou/uL. Peripheral blood smear was negative for parasites, stool was negative for parasites or bacterial infection.
- Patient had upper GI endoscopy which showed grade A reflux esophagitis, congestive gastropathy, non-bleeding gastric ulcer, Duodenitis, Biopsies were obtained during the EGD.
- Pathology of the small intestine ( duodenum ) showed duodenal mucosa with mild villous atrophy and focal increased intraepithelial lymphocytes suggestive of celiac disease. Negative for Whipple disease and chronic duodenitis by PAS stain.
- Pathology of the stomach showed chronic gastritis
- Esophageal biopsy was negative for increased eosinophils.
- Patient was started on gluten free diet that was resulted in gradual resolution of his symptoms and normal eosinophilic count after one month

## Esophagogastroduodenoscopy

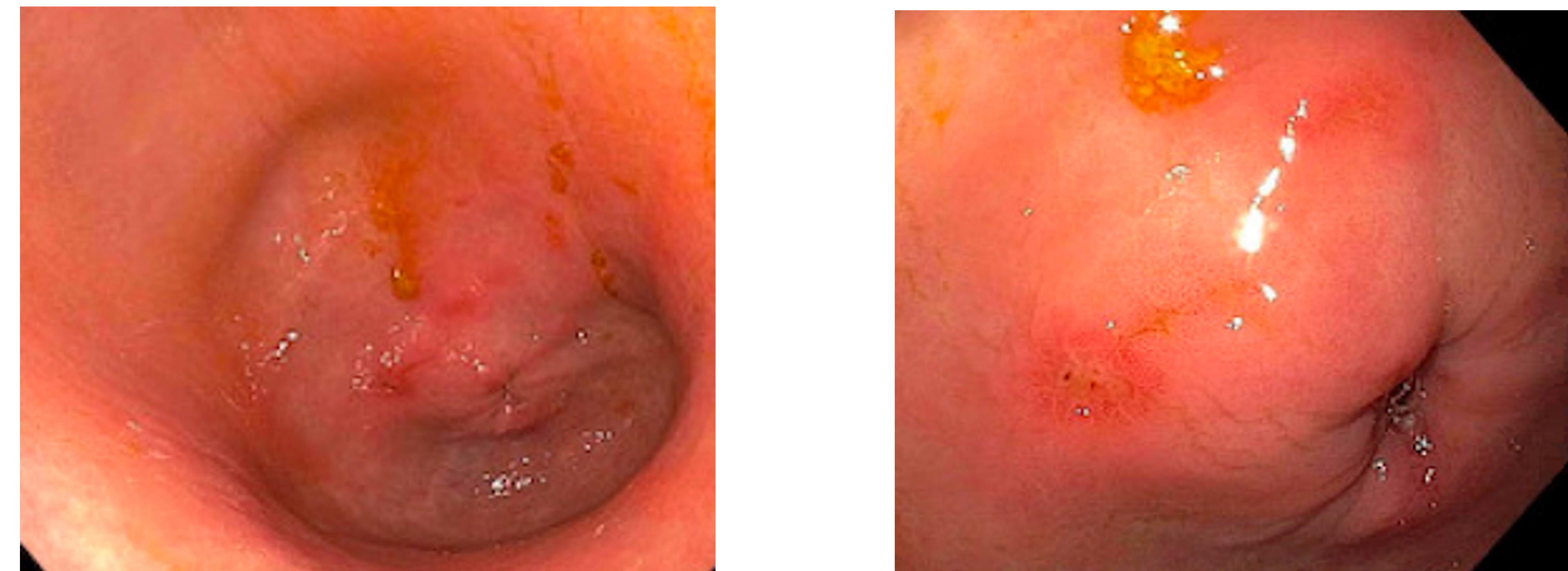


Figure 1: upper endoscopy showing peripyloric region of the stomach with congestive gastropathy and non-bleeding gastric ulcer

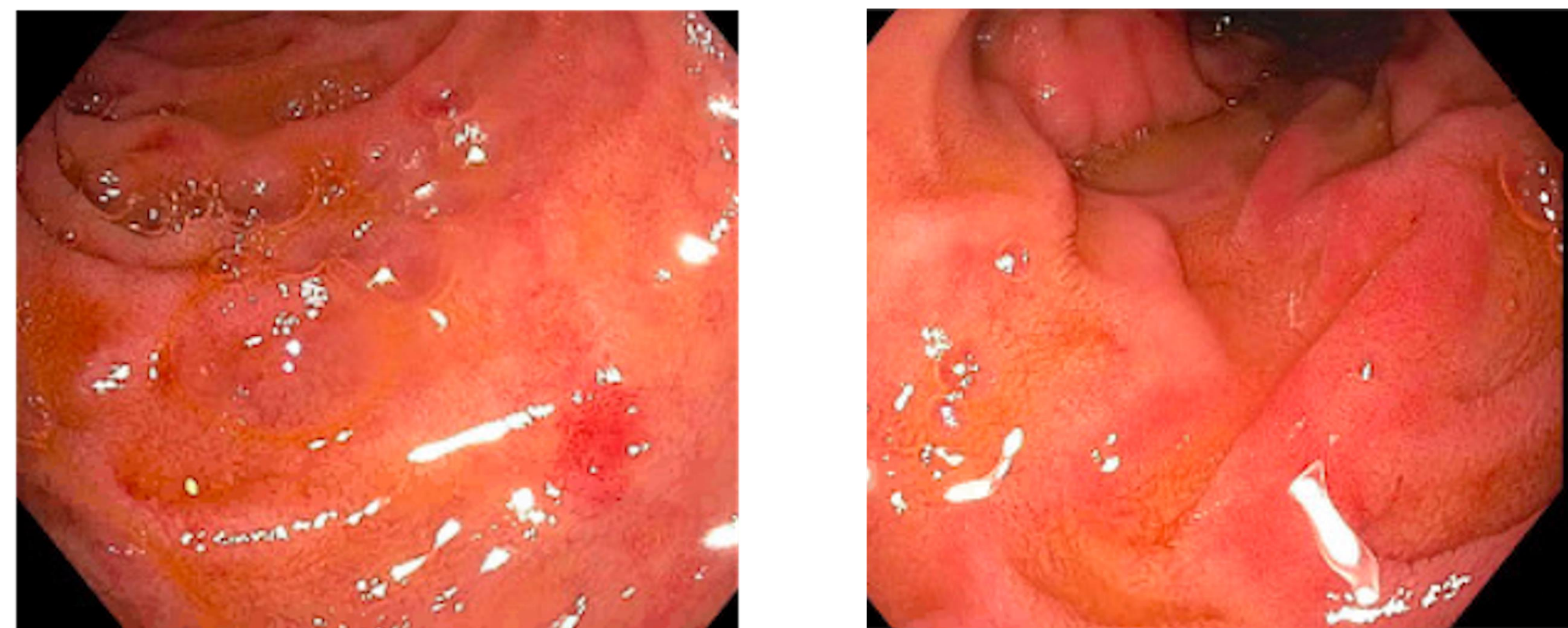


Figure 2: upper endoscopy showing 2<sup>nd</sup> part of the duodenum with duodenitis

## Discussion

- Patient with celiac disease can present with typical gastrointestinal symptoms such as diarrhea, weight loss, bloating, abdominal pain, as well as non- gastrointestinal abnormalities such as abnormal liver function test, iron deficiency anemia, and it may be asymptomatic
- Eosinophilic gastrointestinal disorders is a rare condition Characterized by eosinophilic infiltration of the bowel wall defined as maximum esophageal eosinophil count of at least 15 eos/hpf
- It usually presents with various gastrointestinal manifestations and is one of the causes of peripheral eosinophilia
- There are reported cases with association between celiac disease and Eosinophilic gastroenteritis, but systematic reviews did not find evidence of relation between both diseases.
- Both disorders can present with various gastrointestinal manifestation and possible peripheral eosinophilia, but has different histological features, and dietary modification is the main treatment for Celiac disease and plays an important role in management of Eosinophilic gastroenteritis.
- In our case the patient presented with gastrointestinal symptoms and significant peripheral eosinophilia, without evidence evidence of Eosinophilic gastrointestinal disorder.

## REFERENCES

- Rubio-Tapia, Alberto MD1; Hill, Ivor D MD2; Kelly, Ciarán P MD3; Calderwood, Audrey H MD4; Murray, Joseph A MD1. ACG Clinical Guidelines: Diagnosis and Management of Celiac Disease. American Journal of Gastroenterology: May 2013 - Volume 108 - Issue 5 - p 656-676 doi: 10.1038/ajg.2013.79
- Dellon, Evan S MD, MPH1, 6; Gonsalves, Nirmala MD2, 6; Hirano, Ikuo MD, FACG2, 6; Furuta, Glenn T MD3; Liacouras, Chris A MD4; Katzka, David A MD, FACG5. ACG Clinical Guideline: Evidenced Based Approach to the Diagnosis and Management of Esophageal Eosinophilia and Eosinophilic Esophagitis (EoE). American Journal of Gastroenterology: May 2013 - Volume 108 - Issue 5 - p 679-692 doi: 10.1038/ajg.2013.71