

## Introduction

- Celiac disease (CD) is an autoimmune-mediated sensitivity to gluten with a global prevalence of 1.4% based on serologic test results and 0.7% based on biopsy results.
- We hypothesize that CD is not a small bowel (SB) limited process but instead involves the pan-gastrointestinal tract.
- We aim to determine the proportion of CD patients with gastrointestinal (GI) inflammation beyond the SB.

## Methods

- We identified 300 patients with CD seen at our institution from 2017-2021 using ICD codes.
- Chart review was performed and clinical information related to CD and endoscopic evaluation was entered into RedCap.
- Data were analyzed for descriptive statistics; categorical variables were compared with Chi-square or Fisher's exact test as appropriate.

## Results

- Of 300 patients with CD, 211 (70.3%) were females and 262 (87.3%) were Caucasians.
- The presenting symptoms were abdominal pain (126, 42.0%), abdominal distention/bloating (100, 33.3%), diarrhea (84, 28.0%), lethargy (53, 17.7%), nausea/vomiting (53, 17.7%), unintentional weight loss (42, 14.0%), constipation (30, 10.0%) and steatorrhea (1, 0.3%).
- Extra intestinal involvement included hematological (27%), mucocutaneous (14.3%), metabolic bone disease (20.3%) and neuropsychiatric (10%).
- Of 300 patients, 259 had serological testing and 80% were positive for at least one serological marker.
- Histological findings suggestive or diagnostic of CD on duodenal biopsy were found in 210 (70%).
  - Amongst these patients, 74.7% (n=157) had gastritis (90%), lymphocytic predominance (32%), metaplasia (5%) and mucosal atrophy (5%). 33% (n=69) of the patients had findings on esophageal biopsies notable for esophagitis (70%), lymphocytic esophagitis (19%) and EOE (16%).
  - Patients with positive SB biopsy findings had higher odds of having positive findings on esophageal and/or gastric biopsies (p=0.0001)(Table).
- Only 91 (30%) patients had colonoscopy at the time or during the diagnosis of CD, out of which random biopsies were obtained in 18 patients with 33% being abnormal in form of lymphocytic colitis (33.3%), ulceration (16%), and erosions (5%).

**Table**

	Small Bowel Positive Biopsy	Small Bowel Negative Biopsy	p-value
<b>Esophageal biopsy</b>			
positive	69	3	
negative	100	46	p=0.0001*
	169	49	
<b>Gastric biopsy</b>			
positive	157	14	
negative	53	36	p=0.0001
	210	50	
*Fischer's exact test			

## Conclusion

- The results of this study suggest a broader GI process rather than enteropathy limited to the SB.
- Further studies are required to test the strength of association between the GI inflammatory disorders identified and CD.