



Risk factors of patients with Microscopic Colitis and Celiac Disease

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INTRODUCTION

- Microscopic colitis (MC) is defined as non-bloody diarrhea with macroscopically normal colonic mucosa and microscopically abnormal mucosa in the form of collagenous colitis or lymphocytic colitis.
- MC affects 10-20% of the population, with true estimates higher as not every patient with chronic non-bloody diarrhea undergoes colonic biopsies.
- MC is known to be associated with celiac disease (CD), an autoimmune disease of the small intestine.
- We aimed to further characterize the risk profile and epidemiologic association between CD and MC.

METHODS

- We employed a multi-institutional database (Explorys Inc., Cleveland, OH); an aggregate of electronic health record data from 26 major US health systems.
- We formed cohorts of patients with CD and MC using Systemized Nomenclature of Medicine – Clinical Terms (SNOMED – CT).
- Microscopic colitis was defined as SNOMED terms “microscopic colitis” or “collagenous colitis.”
- Univariate and multivariate analyses were performed on the data, and associations were reported as adjusted odds ratios (aORs) with 95% confidence intervals (CIs) using IBM SPSS Statistics version 28.

Table 1. Multivariable analysis showing risk factors in patients with celiac disease, with and without microscopic colitis

CELIAC DISEASE	WITH MICROSCOPIC COLITIS (n [%])	WITHOUT MICROSCOPIC COLITIS (n [%])	MULTIVARIATE ANALYSIS (AOR [95% CI])
Total; n= 143,290	70 (0.05)	143,220 (99.95)	10.5 (8.59-12.94)
RISK FACTOR			
Female	60 (85.7)	106,640 (74.4)	2.79 (2.47-3.14)
Senior (age >65)	40 (57.1)	18,230 (27.5)	3.15 (2.83-3.50)
Tobacco use	20 (28.6)	19,480 (13.6)	2.44 (2.17-2.74)
NSAID use	60 (85.7)	99,350 (69.3)	2.58 (2.22-3.01)
PPI use	40 (57.1)	54,790 (38.2)	2.96 (2.63-3.32)

RESULTS

- Of 47,900,300 adult patients in the database, 143,290 (0.30%) carried a celiac disease diagnosis.
- Among CD patients, 70 (0.05%) carried a microscopic colitis diagnosis compared to 143,220 (99.95%) of the non-CD patients (p <0.0001).
- After multivariate analysis, celiac disease was associated with an increased odds of microscopic colitis (aOR = 10.5; 95% CI 8.59-12.94; p = <0.0001) (Table 1).

DISCUSSION

- This large population-based cohort study demonstrated significantly higher odds of MC among patients with celiac disease compared to patients without the disease with higher odds in females, older individuals, smokers, use of NSAIDs and PPIs.
- Our findings are in line with those from previous observational studies.
- Larger prospective studies would be beneficial in identifying the role of gluten exposure in development of microscopic colitis in patients with celiac disease.