



Association of EoE and Celiac Disease in a National VA Database



Nicole Strossman¹, Alexa Trovato, MD², Nicole Nudelman¹, Nihita Manem¹, Katherine Donovan¹, Evan S. Dellon MD³, Christopher Ashley, MD⁴, Darren E. Gemoets, PhD⁴, Michael Tadros MD⁵
¹Albany Medical College, Albany, New York, ²Boston Medical Center, Boston, Massachusetts, ³University of North Carolina School of Medicine, Chapel Hill, North Carolina, ⁴Albany Stratton VA Medical Center, Albany, New York, ⁵Albany Medical Center, Division of Gastroenterology, Albany, New York

Introduction

- Conflicting evidence exists regarding the association between Eosinophilic Esophagitis (EoE) and Celiac Disease (CD), leaving clinicians questioning whether it is necessary to perform small bowel biopsies during endoscopy for patients with EoE.

Aim

- To assess the relationship between EoE and CD in a large population-based study to better assess the utility of this procedure in this setting.

Methods and Materials

- A nationwide, retrospective case control study was done using patient data from the Department of Veterans Affairs electronic health records.
- Using ICD9 and ICD10 codes, patients with EoE (530.13, K20.0) and CD (579.0, K90.0) were identified.
- The prevalence of EoE in CD and the prevalence of CD in EoE, as well as odds ratios of the respective conditions, were determined.

Results

- Using a random sample of 1,110,189 VA patients, 1,022 cases of EoE (0.092%) and 1,285 cases of CD (0.116%) were identified.
- The prevalence of CD within the EoE cohort was 1.08% (n=11; OR= 9.46, 95% CI: 4.89,16.32).
- The prevalence of EoE within the CD cohort was 0.86%, (n = 11; OR= 9.46, 95% CI: 4.89,16.32).
- Adjusting for race, ethnicity, and gender resulted in a similar OR (OR=8.66, CI: 4.47, 14.95).
- All patients with both EoE and CD were Caucasian and non-Hispanic.
- Stratified by gender, 10 of the 11 patients with both EoE and CD were male.

	Patients with EoE	Patients without EoE
Patients with CD	11	1,274
Patients without CD	1,011	1,107,893

Table 1. Prevalence of EoE and Celiac Disease among patients in the VA EHR

Conclusions

- The results of our study show that there is an increased odds of CD within EoE and vice versa in VA patients.
- These results suggest to maintain a high suspicion of overlapping diagnoses in Celiac and EoE patients, with a low threshold to biopsy, especially if there are any symptoms or mucosal changes that are suggestive of disease.
- In spite of these findings, further research into the association of Celiac Disease and EoE with prospective studies are needed.

Future Considerations

- Assessing if there are certain risk factors found in patients with both EoE and CD.
- Assessing if there are similarities or differences regarding triggering foods and/or allergens for EoE in patients who also have CD.
- Assessing underlying microbiome changes in patients with EoE and CD.

Corresponding Author

Micheal Tadros, MD
Albany Medical Center, Division of Gastroenterology
Email: tadrosm1@amc.edu

References

1. Hommeida S, Alsawas M, Murad MH, Katzka DA, Grothe RM, Absah I. The Association Between Celiac Disease and Eosinophilic Esophagitis: Mayo Experience and Meta-analysis of the Literature. *J Pediatr Gastroenterol Nutr.* 2017;65(1):58-63. doi:10.1097/MPG.0000000000001499
2. Quaglietta L, Coccorullo P, Miele E, Pascarella F, Troncone R, Staiano A. Eosinophilic oesophagitis and coeliac disease: is there an association?. *Aliment Pharmacol Ther.* 2007;26(3):487-493. doi:10.1111/j.1365-2036.2007.03388.x
3. Ludvigsson JF, Aro P, Walker MM, et al. Celiac disease, eosinophilic esophagitis and gastroesophageal reflux disease, an adult population-based study. *Scand J Gastroenterol.* 2013;48(7):808-814. doi:10.3109/00365521.2013.792389
4. Stewart MJ, Shaffer E, Urbanski SJ, Beck PL, Storr MA. The association between celiac disease and eosinophilic esophagitis in children and adults. *BMC Gastroenterol.* 2013;13:96. Published 2013 May 30. doi:10.1186/1471-230X-13-96
5. Thompson JS, Lebowitz B, Reilly NR, Talley NJ, Bhagat G, Green PH. Increased incidence of eosinophilic esophagitis in children and adults with celiac disease. *J Clin Gastroenterol.* 2012;46(1):e6-e11. doi:10.1097/MCG.0b013e318221aefd
6. Johnson JB, Boynton KK, Peterson KA. Co-occurrence of eosinophilic esophagitis and potential/probable celiac disease in an adult cohort: a possible association with implications for clinical practice. *Dis Esophagus.* 2016;29(8):977-982. doi:10.1111/dote.12419
7. Jensen ET, Eluri S, Lebowitz B, Genta RM, Dellon ES. Increased Risk of Esophageal Eosinophilia and Eosinophilic Esophagitis in Patients With Active Celiac Disease on Biopsy. *Clin Gastroenterol Hepatol.* 2015;13(8):1426-1431. doi:10.1016/j.cgh.2015.02.018

This material is the result of work supported with resources and the use of facilities at the Stratton VAMC. The views expressed in this presentation are those of the authors and do not reflect the position or policy of the Department of Veterans Affairs or the United States government.