Eosinophilic Esophagitis in Pediatric Patients Receiving Infliximab

The treatment of pediatric inflammatory bowel disease (IBD) has improved markedly with the use of biologic therapy which includes such medications as infliximab. Although infliximab has been used for some time in the treatment of pediatric IBD, new potential side effects of this medication are sometimes noted. Eosinophilic esophagitis (EoE) is an immune reaction in which eosinophils infiltrate the esophagus and cause inflammation and potential fibrosis. Esophageal eosinophilia (EE), on the other hand, is present when eosinophils infiltrate the esophagus without associated inflammation. EE has an uncertain etiology but may lead to EoE.

The authors of this study retrospectively determined the number of EE cases in children with IBD after initiation of infliximab. Data for this study was collected over a 3-year period (2000-2003) from two tertiary hospitals which used the Partners Healthcare Research Practice Data Registry. Children with EE diagnosed before an IBD diagnosis, before use of infliximab, or after being switched from infliximab to another biologic therapy were excluded.

In total, 12 patients fit study criteria. All patients on infliximab had greater than 15 eosinophils per high power field in the setting of having normal esophageal biopsies prior to starting infliximab. One patient had ulcerative colitis, and the rest had Crohn's disease. Inflammatory criteria were present in 82% of the patients with Crohn's disease (B1 Montreal classification or non-stricturing, non-penetrating disease) with 27% of these patients having upper gastrointestinal tract IBD. Most patients were male, and all were white. The mean age at IBD diagnosis was 11.6 years, and the mean time from the diagnosis of IBD to starting infliximab was 4.9 years. The time duration from starting infliximab to being diagnosed with EE was 5.9 years. Atopy was present in 75% of patients with food allergies being the most common atopic diagnosis. Half of this patient group had a family history of IBD, and 75% of patients had a history of atopy. Most patients had a history of peripheral eosinophilia after starting infliximab and before / at the time of EE diagnosis. Five of these patients had dysphagia while another four patients had GERD or odynophagia symptoms. Three patients had no symptoms.

The Index of Severity for Eosinophilic Esophagitis (I-SEE) of these patients ranged from 1 to 6, indicating no to mild symptoms. The Eosinophilic Esophagitis Endoscopic Reference Score (EREFS) of these patients ranged from 0 to 3 indicating that most patients had minimal endoscopic findings in association with EE / EoE. One patient with EE switched to vedolizumab during the study. Otherwise, therapies for EE in this patient group consisted of 3 patients undergoing observation alone, 6 patients starting proton pump inhibitor (PPI therapy), 1 patient starting PPI therapy with topical esophageal steroids, and 2 patients starting PPI therapy with topical esophageal steroids and food elimination. All patients who started the various therapies for EE had a clinical response.

This study provides potential evidence that EE may be a side effect in pediatric patients with IBD who use infliximab. There are some caveats to consider. The relatively small number of patients were recruited during a period in which first-line biologic therapy was not as prevalent as it is currently. Also, half of the patients had a family history of gastrointestinal inflammation (including IBD, celiac disease, and EoE) suggesting the importance of family history in this setting. Since children under the age of 6 years (early-onset IBD) appear to be one of the fastest growing groups of patients with IBD, more information is needed in this specific population to determine the potential risk for developing EE and subsequent EoE in the setting of IBD and infliximab use.

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