

Eosinophils in the Pediatric Gastrointestinal Tract-

Challenges in the nomenclature, criteria, and differential diagnosis of eosinophilic gastrointestinal disorders

Eosinophils are normally found throughout the pediatric gastrointestinal (GI) tract, except in the esophagus of young patients. Thus, the pathologist interpreting GI biopsies must decide if eosinophils are significantly increased above the normal background density for a given anatomic location and, if so, if there is evidence for a specific etiology. Criteria for GI eosinophilia vary and there is considerable variation in interpretation between pathologists. Any eosinophils in the pediatric esophagus are generally considered abnormal. The pediatric stomach generally contains a low density of mucosal eosinophils, with higher concentrations found in the small intestine; the cecum typically contains the highest density of eosinophils in the GI tract, with a progressive decrease while moving distally in the large intestine. There is also considerable geographic variation in GI eosinophilia, further complicating standardization criteria; some studies suggest that inhaled environmental allergens may stimulate GI eosinophilia. Specific diseases associated with GI eosinophilia may be divided into two groups. The first group, referred to as eosinophilic gastrointestinal disorders, has been defined as disorders that primarily affect the GI tract with eosinophil-rich inflammation in the absence of known causes for eosinophilia. At least a subset of these patients appear to have allergic disease with features intermediate between IgE-mediated food allergy and cellular-mediated hypersensitivity. Depending on the location of the eosinophilic infiltrate, subtypes of eosinophilic

gastrointestinal disorders are referred to by the descriptive terms eosinophilic esophagitis, eosinophilic gastritis, eosinophilic gastroenteritis, and eosinophilic colitis. While these histologic terms have no etiologic specificity, many authorities use “eosinophilic esophagitis” synonymously with allergic or idiopathic disease, distinct from the eosinophilic inflammation of the esophagus seen with gastroesophageal reflux disease. Eosinophilic esophagitis is of current interest as there is a perception of increased incidence in recent years, histologic criteria vary, morbidity is often significant, and the disease may be difficult to treat. Eosinophilic proctocolitis is of interest to the pediatric pathologist because of the subtype found in infants with allergy to dietary proteins; common symptoms include vomiting and/or regurgitation, pallor, colitis, and bloody diarrhea, as well as occasional constipation mimicking Hirschsprung disease. Histology typically shows increased mucosal eosinophils and preserved crypt architecture. The second group of diseases associated with GI eosinophilia, sometimes classified as secondary eosinophilic gastrointestinal disorders, includes gastroesophageal reflux disease, infection (Helicobacter pylori, tissue-invasive helminths), mass lesions (leiomyomatosis, inflammatory pseudotumor/inflammatory fibroid polyp), inflammatory bowel disease, obstruction (Hirschsprung disease), chronic granulomatous disease, vasculitis (Churg-Strauss syndrome, polyarteritis nodosa), connective tissue disease (scleroderma), hypereosinophilic syndrome, drug reactions (gold salts, azathioprine, gemfibrozil, enalapril, carbamazepine, clofazimine, co-trimoxazole), and transplantation (solid organ transplant recipients, graft vs. host disease). Clinical-pathologic correlation remains critical

as work continues to define diagnostic criteria, elucidate pathogenic mechanisms, and evaluate treatment regimens for the wide spectrum of disorders associated with increased eosinophils of the GI tract.

This document was created with Win2PDF available at <http://www.win2pdf.com>.
The unregistered version of Win2PDF is for evaluation or non-commercial use only.
This page will not be added after purchasing Win2PDF.