PUERTO RICO PATHOLOGY
...your expert lab since 1954

GI PATHOLOGY UPDATE

E-SCOPE TO M-SCOPE

EOSINOPHILIC GASTROENTERITIS

Carmen González Keelan, MD
cgonzalez@prpathlab.com

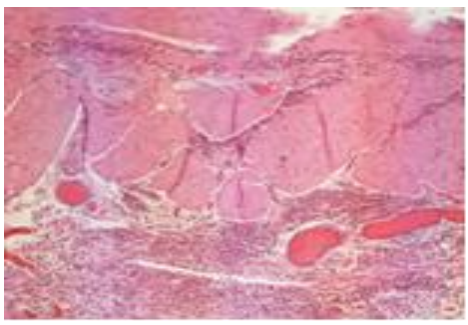

Figure 3 Thickened Edematous Wall

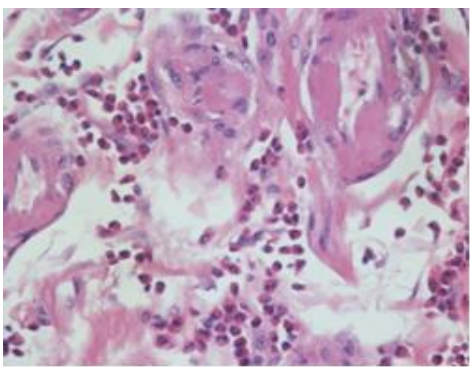

Figure 4 Eosinophil Infiltrates

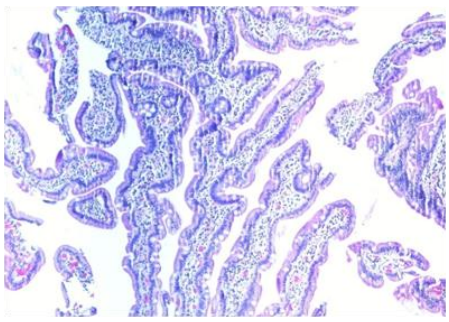

Figure 5 Normal Villus Architecture

Emilio González, MD
Ergt2002@yahoo.com

Figure 1

Figure 2

Case history: A 79 year old man with history of diabetes mellitus, hypothyroidism and right hip prothesis was admitted with small bowel obstruction. An 11cm enterectomy of a thick inflamed bowel was performed. One month after enterectomy the CBC revealed WBC 3.81 with 17% eosinophils.

Endoscopic Findings: Normal stomach and duodenum, both 18 months before the episode of obstruction (Fig. 1) and 4 months after the enterectomy (Fig. 2).

Diagnosis: Eosinophilic Gastroenteritis (EGE)

Discussion: Primary EGE is a rare disorder characterized by eosinophil rich inflammation of one or more gastrointestinal segments. Although peripheral eosinophilia (PE) is not required for confirmation, suspicion should be high when PE is associated with GI symptoms and a history of allergy. Originally described by Kaijser in 1937, EGE affects all age groups, predominantly affecting the 3rd and 4th decades of life with variably involved GI segments. In 1970, Klein classified EGE in 3 types: mucosal, mural and serosal, with the respective clinical and pathologic features:

Mucosal	Protein losing, Diarrhea, hemorrhage	Mucosal eosinophils, crypt abscesses, villous blunting
Mural	Abdominal pain, obstruction, nausea and vomiting	Thick wall, mural eosinophils, normal
Serosa	Abdominal pain, obstruction, ascites, nausea and vomiting	Serosal and ascitic eosinophils

Of unknown pathogenesis, a history of allergy is common in all types. The most common allergies being drug, asthma and food intolerance.

Diagnosis of mucosal EGE can be frustrating since eosinophils are normal inhabitants of the GI mucosa with the exception of the esophagus. However, numerous intraepithelial eosinophils with crypt abscesses, erosion or ulceration favor Mucosal type EGE. The patchy infiltrates require multiple biopsies for confirmation. The small bowel villi may be blunted or normal. Eosinophils may infiltrate the muscularis mucosa and submucosa. Mural type EGE is characterized by a thick, indurated wall and may be associated to ulceration, prominent edema and patchy eosinophil infiltrate (Fig. 3 and 4), with a normal mucosa (Fig. 5). Serosal type EGE is characterized by an eosinophil infiltrate limited to subserosa and a diagnostic ascitic fluid with abundant eosinophils.

The differential diagnosis includes the following conditions: parasites, vasculitis, Crohn disease and Gluten sensitive enteropathy (GSE). Some patients with EGE develop GSE and Dermatitis Herpetiformes on follow up.

Three possible types of disease progression have been described: Initial flare without relapse, multiple flares separated by periods of full remission and chronic disease. Steroid therapy remains the cornerstone of treatment with most patients having a good response.

[1] Powell, N. et al. Gastrointestinal Eosinophils in health, disease and functional disorders Nat Rev Gastroenterol & Hepathology 2010;7:146-56

[2] Bischoff S. et al. Gastrointestinal Food Allergy: New Insights into Pathophysiology and Clinical Perspectives. Gastroenterology 2005;128:1089-113

[3] Chang J. Y. et al. A Shift in the Clinical Spectrum of Eosinophilic Gastroenteritis toward the Mucosal Diseas Type. Clin Gastroenterology and Hepathology 2010;8:869-75

[4] Montgomery E. and Voltaggio L. Biopsy Interpretation of the Gastrointestinal Tract Mucosa.Vol 1 Non neoplastic 2nd Edition 2012