IgG4 is Elevated in Eosinophilic Esophagitis but Not in Gastroesophageal Reflux Disease Patients.

Abstract:

For eosinophilic esophagitis (EoE) recently an association with immunoglobulin (Ig)G4 rather than IgE has been reported. Gastroesophageal reflux disease (GERD) is the most important differential diagnosis of EoE. We compared esophageal IgG4 plasma cell infiltration and serum IgG4 levels of EoE patients (before and after budesonide therapy) with GERD patients. Prospectively collected serum samples of 17 EoE patients before and after 8 weeks of therapy with budesonide (1 mg BID) were analyzed for total and antigen-specific IgG4 and IgE levels. Also, immunohistochemical analysis of total and IgG4-positive plasma cells was performed on esophageal biopsies of these patients. In total, 14 GERD patients without histologic proof of eosinophilic infiltration were taken as a control group. Total IgG4 serum levels in EoE patients were significantly higher than in GERD patients (121.0 vs. 71.2 mg/dL; P=0.038) and decreased under budesonide therapy (121.0 vs. 104.2 mg/dL; P=0.019). IgE levels did not differ significantly between all groups. In EoE patients also a high number of esophageal IgG4-positive plasma cells was detected and significantly reduced under therapy (29.1 vs. 0.1 IgG4-positive cells; P<0.001). In GERD patients no relevant esophageal plasma cell infiltration could be seen. In EoE patients...
elevated systemic IgG4 serum levels compared with GERD patients can be seen and decrease under topical steroid therapy. Also, local IgG4 plasma cells expression is high in EoE, but not in GERD patients and normalize under therapy. These findings are further proof for a possible association of EoE with IgG4.