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### **Inflammatory Diseases and Resections of the Digestive Tract Influence the Risk of Circulating Food-Specific-IgG**

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**Objectives:** Individuals affected with inflammatory diseases of the digestive tract or have had surgical removal of sections of the digestive tract are often in need to adjust their diet. The symptomatology associated with food intake issues is often informally reported as food sensitivity. We investigated the circulating food-specific-IgG among ten conditions.

**Methods:** To test circulating IgG immune response as a marker of food sensitivity we used a panel of 109 foods across 16 food categories, against 198 sera. Participants presented either digestive disease with an inflammatory component (periodontitis, eosinophilic esophagitis, duodenitis, ulcerative colitis, Crohn's disease, appendicitis), food malabsorption due to intolerance, or an ostomy (jejunostomates, ileostomates and colostomates). To estimate the effect of the experimental data and demographics on the risk of presence of food-specific IgG a logistic regression model was used.

**Results:** Eosinophilic esophagitis and food malabsorption groups had a significant risk of presenting circulating food-specific IgG (OR 6.68 ( $p = 0.016$ ) and 16.70 ( $p = 0.003$ ), respectively). Participants with Crohn's disease in the small intestine had a significant risk (OR 4.67 ( $p = 0.048$ )) compared to those with ulcerative colitis. Additionally, the impact of surgical resection was noticeable, with colostomates, jejunostomates and ileostomates showing a significant risk (odds ratios (OR) 2.69 ( $p = 0.22$ ), 12.70 ( $p = 0.002$ ), and 6.19 ( $p = 0.011$ ) respectively). The strengths of this study reside in the choice of analysis groups encompassing inflammatory diseases from the oral cavity to the colon.

**Conclusions:** The risk of the having circulating food-specific IgG differed widely among the conditions investigated. The maintenance of a colonic environment might influence the risk of food sensitivity in ostomates.

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