

Food intolerance in Crohn's disease

Tanja Spöttl, Ralf Schierl*, Martin Hausmann, Andrea Dirmeier, Jürgen Schölmerich, Hans Herfarth, Gerhard Rogler

Department of Internal Medicine I, University of Regensburg, Germany

*Evomed Medizin Service GmbH, Darmstadt, Germany

Introduction: Crohn's disease (CD) is an inflammatory bowel disease (IBD) with unknown etiology. Different genetic mutations and environmental factors are thought to play an important role in the development of CD. Immune responses against autoantigens or harmless food antigens are thought to be one reason for the perpetuation of the inflammation. The aim of this study was to determine if there are differences in food intolerance in CD patients compared to healthy volunteers.

Methods: Blood samples from 80 MC patients with different disease status (active: 47, chronically active: 24, remission: 8) and 20 healthy volunteers without history of allergy from the German IBD competence network serum bank were examined for food intolerance by the ImuPro 300 test (R-Biopharm AG, Darmstadt, Germany). The ImuPro 300 test is an ELISA for the detection of IgG-antibodies directed against about 300 different food components. Statistical analysis was performed using SigmaStat software.

Results: In CD patients a statistically significant higher number of "intolerance reactions" (elevated circulating specific IgG levels) could be detected compared to healthy controls (MC active: 70 positive reactions; control: 32 positive reactions, $p < 0.0001$, t-test). There was no difference between acute CD flare (73 reactions) versus chronically active CD (70 reactions). In CD in remission there was a trend towards reduced intolerance reactions (CD in remission: 55 reactions) without statistical significance. Whereas only minor differences between CD patients and healthy controls were found for fungi, milk products, fat and eggs, reactions to all other tested food groups were clearly increased in CD patients.

Conclusion: In CD patients "food intolerance" as measured by circulating IgG-antibodies against food components is increased compared to healthy controls. The number of intolerance reactions associates with disease activity. Further studies need to be performed to test whether a specific diet based on these results is helpful for disease management.

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