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Food intolerance in Crohn's disease

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QUESTION:

Are there any differences in food-specific, IgG-mediated immune reactions (type III) in Crohn's disease patients compared to a healthy patient population?

RESULT:

In Crohn's disease patients, the number of immune reactions to foodstuffs is significantly increased compared to the healthy patient population. The strength of the immune reaction correlates with the stages of the Crohn's disease patient. There are specific reaction patterns for different foodstuffs.

CONCLUSION:

The results reveal a specific reaction pattern for several foodstuffs in Crohn's disease. This shows that the detection of food-specific IgG-antibodies does not constitute a sign of a normal reaction of the immune system to the foodstuff, but that various foodstuffs may be responsible for specific diseases and symptoms.

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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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