Low doses of insulin-like growth factor-I improve nitrogen retention and food efficiency in rats with early cirrhosis

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Background/Aims: In order to ascertain whether malnutrition is an early-onset feature of liver cirrhosis and whether the anabolic hormone insulin-like growth factor I (IGF-I) could be useful in the treatment of this complication, we analyzed the nutritional alterations present in rats with early-stage liver cirrhosis and the effects of IGF-I on nutritional parameters in these animals.

Methods: After a 24 h fast, a 15N-enriched diet was administered for 5 days to normal control rats and to cirrhotic rats receiving subcutaneous injections of vehicle (Group 1) or IGF-I, 2 μg 100 g bw day−1 (Group 2) during the 5 experimental days. 15N, a stable N isotope, was measured in biological samples by mass spectrometry.

Results: Compared with control rats, Group 1 animals showed significant reductions in N intake and food efficiency (p<0.05, both). In addition, the weight of the gastrocnemius muscle, its total N content and the dietary N content of this muscle were significantly lower in Group 1 than in control animals (p<0.05, all). In rats from Group 2, mean values of N intake, food efficiency, gastrocnemius N content and the amount of dietary N incorporated into this muscle were similar to those in control rats, and (with the exception of gastrocnemius N total content) significantly higher than those in non-treated cirrhotic rats (p<0.05, all).

Conclusions: A variety of nutritional disturbances were detected in rats from the early stages of liver cirrhosis. Low doses of IGF-I were found to reverse most of these changes. These results stimulate further studies to determine whether IGF-I might be useful in the correction of the malnutrition present in patients with liver cirrhosis.

Key words: Food efficiency; IGFBP; Insulin-like growth factor-I (IGF-I); Liver cirrhosis; Malnutrition; Nitrogen balance; N intake; Stable isotope 15N.

Potentiation of histamine release against inhalant allergens (Dermatophagoides pteronyssinus) with bacterial antigens in bronchial asthma

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In the etiopathogenesis of bronchial asthma, the important role of bacterial infection is more evident every day, favoring inflammation and obstruction, that is, triggering an asthmatic response. We gathered 36 patients diagnosed of bronchial asthma with sensitization to Dermatophagoides pteronyssinus and 32 healthy subjects. Histamine release tests against
Staphylococcus aureus extract alone or together with D. pteronyssinus were performed, and the results were contrasted with or without the presence of S. aureus in the nasal secretion culture. We found histamine release against S. aureus higher than 10% only at the highest concentration (200 μg/ml) and significantly higher in those patients with positive nasal secretion culture. Regarding histamine release against D. pteronyssinus in the presence of S. aureus, we found a release by coincubation significantly higher than the one obtained from the addition of release against S. aureus and release against D. pteronyssinus, both in patients with negative and with positive nasal culture, at concentrations of 20 and 2 μg/ml. In conclusion, we observed a potentiation of histamine release against D. pteronyssinus with S. aureus extract in patients with bronchial asthma. These findings support the important role of the bacterial infection in the etiopathogenesis of bronchial asthma and the importance of a treatment against this infection.

Key words: Histamine release; Bacterial antigens; Potentiation of bacterial antigens; Bronchial asthma; S. aureus.

Skin manifestations and immunological parameters in childhood food allergy


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Abstract of:


According to Hansen's contact rule, the digestive system should be considered as the main shock organ, yet in food allergy, this is not the case. Very often specific food triggers clinical manifestations not involving the digestive system; that is, reactions are manifested either in the respiratory system, as asthma or rhinitis, or in the skin. In these cases the BALT (broncho-alveolar lymphoid tissue) and GALT (gastrointestinal lymphoid tissue) units play a basic role in the sensitizations. The purpose of this study was to determine the most frequent skin manifestations of food allergy among children, and the most frequently involved foods. We also thought it interesting to evaluate the diagnostic reliability of the different standard immunological parameters utilized by the study team in food allergy. All patients underwent intracutaneous tests with 12 groups of the most frequent food allergens, as well as serum IgE, antigen-specific IgE against foods, and antigen-specific histamine release tests. Antigen-specific IgG4 determination was performed in some cases. The results obtained confirmed previous studies, the most common manifestations being: angioedema (48%), followed by urticaria (31%) and atopic dermatitis (21%). Regarding the frequency of sensitization to different food allergens, in mono- or polysensitization, fish and egg stand out in our environment. Certain food allergens are more frequently responsible for specific skin manifestations. Thus, for fish sensitization, the most frequent skin manifestation is atopic dermatitis (50%); for egg sensitization, angioedema is the most frequent skin manifestation (50%); and for milk, urticaria (50%). Finally, and in agreement with previous works regarding the diagnostic reliability of in vitro techniques, we found that the histamine release test offered the highest percentage of diagnostic reliability. Only for sensitization to milk proteins did antigen-specific IgE demonstrate higher reliability. Once again, we stress that out main problem is the lower reliability of skin tests against food allergens than against inhalant allergens. We emphasize the importance of food as a major factor in the etiopathogenesis of atopic dermatitis, as well as the need to complement the study, when possible, by means of the in vitro techniques described.

Key words: Food allergy; Atopic dermatitis; Urticaria; Angioedema; IgG4; Childhood food allergy.