Severe banana allergy
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Food allergy is the most common cause of anaphylaxis in children. Banana fruit appears to have become an important cause of fruit allergy in children. The allergens involved are poorly characterized. We report a clinical case of a 18-year-old boy with generalized urticaria and oropharyngeal pruritus with dyspnoea immediately after banana ingestion at the age of 12. Since then he has eliminated this fruit from his diet and has no complaints with any other foods, namely of rosaceae family. Skin prick tests performed with commercial extracts were positive for pollen from Olea europaea 10 mm and banana 7 mm. The past medical history is remarkable for Crohn’s disease. Specific IgE measured by EAST technique was 1.94kU/l for Olea europaea pollen extract and 0.78 kU/l for banana pulp extract , 1.2 kU/l for banana peel extract and 17.5 kU/L for Pru p 3 (LTP). The molecular mass of the IgE binding bands was calculated by SDS PAGE immunoblotting in reducing and non-reducing electrophoretic conditions. The apparent molecular mass of the IgE-binding bands were: 20 kDa in banana pulp extract and 9kDa for banana peel extract (with some less intense bands of 66 kDa, 50 kDa, 40 kDa, 30 kDa, 29 kDa). The immunoblotting-inhibition method was used to study if the 9kDa binding band was an LTP protein. Banana peel extract was used as a solid phase and Pru p 3 as inhibition phase. Pru p 3 was able to produce a partial IgE-binding inhibition on the 9 kDa band. Oral food challenge was not performed due to Crohn’s disease. Discussion: Some of the detected IgE-binding bands in banana extracts show similar molecular mass to the known allergens, namely Mus a 4-thaumatin-like protein (20kDa in banana pulp extract), Mus a 5- beta 1,3 glucanase (30kDa), Mus a 2-chitinase (33kDa) in banana peel extract. Most likely, the main IgE-binding band of 9 kDa from banana peel extract is the Mus a 3 LTP protein. High sensitization to Pru p 3 allergen has no clinical manifestations in our patient. We speculate about the association between food allergy and inflammatory bowel disease in this particular case.