Food avoidance after negative challenge in children
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Introduction: A negative oral food challenge (OFC) should normally be followed by its reintroduction in the diet. However, this fails in a subset of children.

Aim: 1) To analyse the rate of occurrence and the reasons for failure of reintroduction of the implicated food after negative OFC in children; 2) To determine the proportion of food avoidance in children who did not undergo OFC.

Methods: A retrospective study of children with an OFC scheduled between January 2012 and December 2015 was performed. Clinical records were reviewed and the food consumption status (FCS) was obtained using a short structured phone or paper enquiry answered by the caregivers.

Results: Data of 127 children (59% male; median age [interquartile range, IQR] 5 [7] years); 64% atopic (48% allergic rhinitis; 38% asthma and 27% atopic eczema); was collected. A total of 235 OFC were scheduled during this period and only 186 were performed and 137 were negative. The major foods tested were with cow’s milk (29%), hen’s egg (26%), fish (14%) and crustaceans (11%). Data on FCS was obtained in 97.3% of the total 235 OFC scheduled during the study period. The mean time (±std) between the OFC and the assessment of FCS was 13 ± 6.9 months. Food avoidance was maintained in 26.3% of the 137 negative OFC. Food rejection was the main reason (44%), followed by the fear of reaction by caregivers (35%). Food avoidance was related with the suspected food group (p<0.01). Further comparison of children’s FCS revealed no significant differences with respect to gender (p=0.651), age (p=0.07), clinical manifestation of the index reaction (p=0.627) or the presence of allergic comorbidities (p=0.133). Eviction of the suspected food was maintained in 61.2% of the 49 OFC scheduled that were not performed, in contrast to the 37.1% when an OFC was performed, independently of its result; p<0.001.

Conclusion: Avoidance of the offending food is still the mainstay of management and so, children with suspected food allergy often present with a long-lasting elimination diet. Despite a negative challenge outcome and advice to re-introduce the food in the diet, 26.3% of the children were still avoiding the implicated food. Almost two thirds (61.2%) of the patients who did not undergo OFC maintained avoidance of the suspected food. These data highlight the importance of performing an OFC in preventing unnecessary restrictive diets as well as alert to the need of assessing food consumption after a negative OFC.