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EDITORIAL

Allergological characterization of children treated with oral immunotherapy to egg

Food allergy is a first magnitude health problem and is especially relevant in the paediatric age group. In population studies its prevalence has been estimated to be in the range 1.9–4.9% in children younger than five years of age. However, perceived (non-diagnosed) prevalence is ten times more frequent.[1,2]

Egg is one of the most important food allergen in paediatrics as it is involved in many allergic reactions. In Spain, egg together with cow milk, is the food most frequently involved in reactions among children younger than five years of age.[3,4] It usually appears for the first time during the first year of life, when egg is introduced in the infant diet,[5] and is responsible for potentially severe reactions, even when very low amounts or traces of it are consumed.

The natural history of this condition has been studied by several research groups. Initially it was considered that tolerance was reached at five years of age, but more recent studies indicate that about 50% of those children continue being allergic at the age of six.[6,7]

Until recently, the only treatment of egg allergy was its strict avoidance from diet, giving the patient or their caregivers clear instructions as how to manage reactions. However, the permanent fear to an unnoticed consumption of the food and the continuous need to revise the labelling of al foods provokes a severe negative impact on the quality of life of the patients and their families.[8,9] After this discouraging perspective and with the aim of offering therapeutic alternatives to that of the natural history of the condition, new options are coming up, including oral immunotherapy (desensitization) (OIT).

OIT consists of the administration of increasing doses of the responsible food until reaching a dose equivalent to that of a complete helping, the aim of this procedure being avoiding patients to experiment a reaction after being exposed to egg. Some patients can reach total tolerance and can consume regularly the food without having any reaction. Recently, the European Association of Allergy and Clinical Immunology (EAACI) has reviewed the available evidence of this kind of treatment and considers it a valid alternative for the treatment of those patients.[10]

In this issue of Allergologia et Immunopathologia a paper by Echevarria et al.[11] describes the clinical and immunological features of patients with persistent allergy to egg protein, particularly those related to comorbidities and to the risk of a reaction after exposure to the food. The authors present the results of a cohort of 101 patients with a mean age of six years which were included in a OTI randomized clinical trial with raw egg white performed in nine centres throughout the Spanish territory and promoted by the Spanish Society of Paediatric Allergy, Asthma and Clinical Immunology (SEICAP). Prior to OIT treatment, a complete clinical history of patients was obtained and skin prick tests, and measurements of specific IgE levels to egg white, ovoalbumin (OVA) and ovomucoid (OVM) were performed.

An important aspect of the paper that should be underlined is that 56.4% of diet transgressions during the previous year had resulted in moderate and severe reactions. However, the severity of those reactions was not related neither to the skin tests nor to the specific IgE levels.

A double-blind placebo-controlled food challenge (DBPCFC) trial with cooked egg white was performed, and if the test proved positive, it was repeated with pasteurized raw egg white prior to the inclusion in the OIT protocol. About 85% of patients reacted to cooked white and about 15% to raw white. The only immunologic factor that was capable of identifying those patients who were able to tolerate cooked egg white was specific IgE to OVM, the authors finding that a cut-off level of 2.045 kU/l was able to differentiate those tolerant versus intolerant patients. Therefore, skin tests and specific IgE levels have a very limited power to identify those children at risk of an adverse reaction. Thus, the need of new therapeutic approaches, including OIT, is warranted.

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