

CONTINUING MEDICAL EDUCATION EXAMINATION

Immune Basis of Allergic Reactions to Food

Accreditation requested at the "Consejo Catalán de Formación Continuada de las Profesionales Sanitarias – Comisión de Formación Continuada del Sistema Nacional de Salud"

These credits can be earned by reading the text and taking this CME examination online through the SEIAC web site at www.seaic.org

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CME Items

- Which of the following is incorrect? In experimental models of food allergy, adjuvant activity such as that of bacterial toxin or damage promotes:
 - Maturation of DCs.
 - Induction of Tregs.
 - Production of alarmins by epithelial cells.
 - Breaking of oral tolerance to food antigens.
- Which of the following statements is incorrect with respect to IL-9?
 - It is produced by epithelial cells.
 - It is produced by mast cells and T cells.
 - It is associated with mastocytosis and amplification of allergic responses.
 - It is upregulated in food-allergic patients with respect to healthy controls.
- Which of the following statements is correct?
 - Sensitization to food allergens always develops via the oral route.
 - The “dual exposure hypothesis” states that early oral exposure to food allergens is associated with sensitization to foods.
 - Skin exposure is a risk factor for development of sensitization to peanut.
 - A decrease in IgG4 has been associated with development of primary oral tolerance to foods.
- Which of the following statements is incorrect regarding Tregs?
 - IL-4 production by mast cells and ILC2 promotes generation of Tregs in experimental models of food allergy.
 - Gastrointestinal Tregs are induced by oral antigen feeding in response to antigen presentation by CD103⁺ DCs in experimental models of food allergy.
 - Mutations at the Foxp3 locus have been associated with development of food allergy.
 - There is debate about the involvement of Tregs in the development of sustained tolerance after oral immunotherapy.
- Which of the following supports the hypothesis of cutaneous sensitization to food allergens?
 - The correlation between mutations in filaggrin genes and development of food allergy.
 - The correlation between peanut dust levels and peanut allergy.
 - The enhanced proliferative capacity of CLA⁺ allergen-specific T cells.
 - All of the above.
- Among the factors listed below, which is not a product resulting from the microbial degradation of food compounds?
 - Short-chain fatty acids
 - Amino acid–derived metabolites
 - Butyrate
 - Vitamin A
- Which one of the following statements is true regarding the mechanism associated with oral immunotherapy?
 - Antigen-specific IgE and IgG4 levels always correlate with development of sustained tolerance during oral immunotherapy to food allergens.
 - OIT always induces sustained suppression of basophil activation.
 - It is known that mechanisms mediating primary tolerance to food allergens and therapeutic tolerance during OIT are the same.
 - None of the above.
- Which of the following statements is correct regarding the effect of polyunsaturated fatty acids (PUFAs) on food allergies?
 - n-6 PUFAs have been shown to reduce allergenic responses.
 - n-3 PUFAs promote sensitization to dietary proteins.
 - Infant formulas enriched with n-3 PUFAs reduce the incidence of allergy.
 - n-6 PUFAs induce CD25⁺ Treg generation.
- Which of the following mechanisms has been proposed to have a role in suppressing symptoms during immunotherapy?
 - Induction of allergen-specific IgG4 blocking antibodies.
 - Induction of allergen-specific Tregs.
 - Reduction of T_H2 responses mediated by anergy/deletion.
 - All of the above.
- Which of the followings has not been reported to act as an adjuvant to promote sensitization?
 - Damage
 - Short chain fatty acids (SCFAs)
 - Bacterial toxins
 - Intrinsic adjuvant activity of the allergens