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Molecular diagnosis in pediatric allergy

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In recent decades we have been assisting the identification, isolation and purification of a large number of allergens of different origins and, on the other hand, the application of recombinant DNA technology to the field of pediatric allergology for the biotechnological production of allergens with high purity and consistent quality from batch to batch, so that the use of purified allergens, natural or recombinant, is a real advance in clinical allergy.

The combination of these advances in molecular biology with those produced in nanotechnology has allowed the development of new technologies, among them the so-called microarrays. The protein microarray allows the detection of specific IgE against multiple molecules simultaneously, enabling the so-called molecular diagnosis or component diagnosis (CRD), which has a special interest in the diagnosis of food allergy as well as in the precision diagnosis of polysensitized patients.

The CRD will allow us to identify the individual patterns of sensitization to different proteins from the same allergenic source, with the possibility of identifying:

- Sensitization to proteins associated with an increased risk of serious reactions, such as lipid transfer proteins (LTP).
- Sensitization to homologous proteins in different allergenic sources with possible involvement in cross reactivity phenomena.
- Indicate a precise immunotherapy.

The microarray technology constitutes an important advance in the diagnosis of allergy, it allows us to establish an accurate molecular diagnosis, to know the patterns of sensitization that a patient presents with the own differences according to the geographical area to which it belongs and to detect sensitization to molecules responsible for cross reactivity syndromes. A clear indication of this tool is in the study of the patient polysensitized and in the precise indication of an immunotherapy.

Biography

Carlos sanchez salguero is the coordinator of the allergy pediatrics section in puerto real university hospital and associate professor of pediatrics at the medicine school in Cádiz (spain). He is a specialist in Pediatrics since 1998. During the years 1999-2000 served as director of pediatrics department in the regional hospital of Montilla (córdoba), then returned to the province of Cadiz where he was director of the pediatrics department in the regional hospital of Villamartin. In 2008 he moved to Puerto real university hospital where he was appointed coordinator of the allergy pediatrics section. Actually, his principal field of working is the specific oral tolerance induction with milk, egg and hake. He has published papers in relevant journals in the field of pediatric allergy. He has worked as an author in 4 books and chapters. He has authored several publications indexed in pubmed in national and international journals of prestige and more than 100 communications to national and international congresses of prestige.

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