



Innovación y experiencia al servicio del ciudadano

CCD's sensitization profile in a Mediterranean Area

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BACKGROUND:

Cross-reactive carbohydrate determinants (CCD's) are glucidic epitopes, with significant structural homologies, which may cause cross-reactivity interactions between many different allergen protein families, being a confusing factor for specific IgE assays.

OBJECTIVE:

To study the sensitization profile to CCD's, using component resolved diagnosis (CRD) technologies, in allergic patients from a Mediterranean Area.

METHODS:

Three-hundred and twenty-six patients with CRD tests performed between 2012-2013, were included. Patients were diagnosed with allergic rhinitis and/or asthma and/or food allergy or anaphylaxis. Age ranged: 4-65 years. CRD was performed by ImmunoCAP-ISAC 112 (Phadia AB, Uppsala, Sweden), LuxScan scanner (CapitalBio Corporation) and software (MIA v.3.1.2.). Values $\geq 0,35$ ISU were considered positive. We excluded Ole e 1 component due to its clinical relevance in our environment.

RESULTS:

Twenty-four patients (7.3%) were positive to CCD's. Twenty-three (95.8%) were positive to cypress Cup a 1. Twenty-two (91.6%) were positive to grass Phl p 4, nineteen (79.1%) to plane tree Pla a 2, eighteen (75%) to walnut Jug r 2, seventeen (70.8%) to Japanese cedar Cry j 1 and fifteen (62.5%) to bromelin MUXF3.

Jug r 2 was the only allergenic component detected in 66% of positive patients to walnut, while Pla a 2 was detected in 42.1% of positive patients to plane tree and Phl p 4 in 31.8% of those positive to grass pollen.

Seventeen patients (70.8%) were positive to lipid transfer proteins (LTP's) and all of them showed the same pollen sensitization profile: Cry j 1, Cup a 1, Pla a 2.

CONCLUSION:

The CCD-bearing allergen most frequently detected in our geographic area is Cup a 1. The main CCD-sensitization marker is Jug r 2 instead of MUXF3. LTP allergic patients show a typical pollen sensitization profile due to the cross-reactivity among CCD's: Cup a 1, Cry j 1 y Pla a 2. The clinical relevance of these findings must be studied further.

CCD's bearing allergen components	
Phl p 4 (grass pollen)	MUXF3
Cry j 1 (Japanesse cedar)	
Cup a 1 (cypress)	
Pla a 2 (plane tree)	
Ole e 1 (olive tree)	
Jug r 2 (walnut)	

