Use components to identify patients for appropriate olive pollen SIT

Resolve multiple positivity to pollen tests
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Most olive pollen allergic patients are poly-sensitized to several tree, weed or grass pollen allergens and the case history does not always clearly suggest which pollens are causing the symptoms. Moreover, a positive olive pollen extract test may be a result of cross-reactivity and not by genuine olive pollen extract sensitization.

Complete natural extract detects sensitization to olive with high efficiency and sensitivity:
- Olive pollen t9

Components can help explain multiple positive pollen extract tests and resolve:
- True co-sensitization to various pollens
- Cross-reactivity caused by profilins, polcalcins or CCD

Specific olive pollen components:
- Ole e 1 – Trypsin inhibitor
- Ole e 7 – Lipid transfer protein
- Ole e 9 – 1,3 beta-glucanase

Components explaining cross-reactivity between various pollens:
- Polcalcin
- Profilin
- MUXF3 (CCD)
Suggested test profiles

**ImmunoCAP COMPLETE EXTRACTS**

- t9

**ImmunoCAP COMPONENTS**

- Ole e 1, Ole e 7, Ole e 9

- Ole e 1
  - Trypsin inhibitor like protein
  - Major olive pollen allergen
  - Marker also for ash, liliac and privet sensitization

- Ole e 7
  - nsLTP
  - Associated with severe respiratory reactions, induced by high exposure
  - Limited cross-reactivity to other nsLTPs

- Ole e 9
  - 1,3 beta-glucanase
  - Relevant component in highly exposed populations
  - Associated with severe respiratory reactions

**MARKERS FOR CROSS-REACTIVITY**

- Phil p 7
  - Polcalcin
  - Homologue of Ole e 3
  - Unique to pollen
  - Very similar in all species

- Phil p 12
  - Profilin
  - Homologue of Ole e 2
  - Present in all pollens and plant foods
  - Very similar in all species

- MUX F3
  - CCD marker
  - Present on natural allergens from pollens, venoms and foods of plant origin
  - Not present on recombinant components
  - Rarely clinically relevant

- Grass profilins and polcalcins can replace the corresponding olive components due to the high degree of similarity
Pollen of olive tree (*Olea europaea*) is one of the most important causes of seasonal respiratory allergy in the Mediterranean area.\textsuperscript{1,7}

Sensitization to olive pollen normally varies between 5–40 % in olive pollen areas.

More than 70 % of patients with sensitization to olive pollen have IgE antibodies to Ole e 1. The frequency of sensitization to Ole e 7 and Ole e 9 varies strongly between different areas (0–50 %).

Sensitization to the cross-reactive allergens profilin, polcalcium and CCD is usually less frequent (< 20 %).\textsuperscript{1,7,8}

Ole e 7 is a non-specific lipid transfer protein (nsLTP) with limited homology and cross-reactivity to other nsLTPs.\textsuperscript{8,11}

The allergen composition of olive pollen extracts for SIT may vary significantly from producer to producer, especially with respect to Ole e 7 and Ole e 9.\textsuperscript{2,10}

Allergy diagnosis in patients exposed to multiple pollen species is complex and misdiagnosis is often a cause for unsuccessful specific immunotherapy treatment.\textsuperscript{4,10,12}

Up to 30 % of patients suffering from pollinosis simultaneously present allergy to vegetables.\textsuperscript{4,7}

Olive pollen allergy is common while olive fruit allergy is extremely rare.

Ole e 1 is also a marker for sensitization to ash pollens, as well as privet and lilac pollens since they are closely botanically related.\textsuperscript{3,5,8,9}

The ash pollen season overlaps with the birch pollen season in many areas. By testing with Ole e 1 and Bet v 1 (major birch pollen allergen) one can identify the true cause of the reaction.\textsuperscript{5,6}

**Did you know that?**

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Identify primary sensitizations and understand cross-reactivity between different pollens in order to:

- Facilitate identification of patients and selection of appropriate extracts for immunotherapy. Indications for SIT should be based on documented sensitization to specific olive pollen components.
- Ideally the SIT extract should contain high concentrations of the matching olive pollen components.

Benefits for the patient and patient management:
A well-founded olive pollen diagnosis and proper immunotherapy can:
- Reduce allergic symptoms
- Improve the quality of life

Find out more about olive pollen allergy to improve patient management