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Cup a 1, precision immunotherapy, a first safety real life study

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Background

Allergy to Cupressaceae has exponentially grown over the past years and cupressaceae extracts have evolved, but they've always been very difficult to produce and contain a huge amount of carbohydrates and few proteins so the patients don't have the expected efficacy as with other pollen immunotherapy. In 2019 a molecular immunotherapy with only Cup a 1, major allergen of Cupressaceae, was released, as we know almost 100% of the patients sensitized to Cupressaceae recognize Cup a 1 above the rest. The aim of this study was to observe the safety of this novel molecular immunotherapy on a cluster schedule (4 weeks)

Material and methods

We have done an observational retrospective study where we included patients allergic to cypress tree. The study was performed in 8 hospitals in Spain, they were asked to compile information of the patients treated with the major allergen, Cup a 1 of *Cupressus arizónica*. The requested data of the patients was age, sex, allergic disease and previous non allergic diseases; classification of rhinitis with ARIA and asthma with GEMA; prick test made before administering the immunotherapy, no programmed visits/calls or emails to the clinic or emergency room due to the immunotherapy or their pathology.

Results

N = 95

- 56,8% men
- 78,8% > 18 years old

Demographic data

98,9% allergic rhinitis

IT Schedule, Day	Dose	
1 Vial A (0,3µg/ml)	0,1ml + 0,2ml	0,03µg + 0,06µg
8 Vial A (0,3µg/ml)	0,4ml + 0,4ml	0,12µg + 0,12µg
15 Vial B (3µg/ml)	0,1ml + 0,2ml	0,3µg + 0,6µg
22 Vial B (3µg/ml)	0,4ml + 0,4ml	1,2µg + 1,2µg

Asthma

- 42,5% > 18 years old
- 54,5% < 18 years old

Adverse reactions

7 (7,4%) Local reaction

- 85,7% > 18 years old
- 57,1% men

100% allergic rhinitis

57,1% Asthma; all > 18 years old

71,4% polysensitized

3 Non schedule visits

- 2 phone visits
- 1 on site visit
- 0 emergency room visits

Conclusions

In conclusion, this the first study with Cup a 1, molecular immuntoherapy, where its safety is proof, no systemic reactions were reported and all the patients continued with the treatment, with good tolerance, it has an incidence of adverse reactions similar to other pollen immunotherapies, and we are treating patients with a controlled extract. There's a clinical trial ongoing to achieve safety and efficacy in a bigger sample.