



QUERCUS; WHAT IS HAPPENING? VARIATIONS IN AIRBORNE PRESENCE AND PATIENTS' SENSITIZATION IN MADRID

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INTRODUCTION

It is well known that in Madrid, Spain, the highest levels of airborne pollen are from the *Quercus* species, especially *Quercus rotundifolia* abundant in May and June. It contains multiple proteins that are allergenic but although its airborne pollen is produced in considerable quantities it is not found to cause important sensitizations or allergies (JACI 1995 96:15-23). However, both changes in the quality of pollution in this city due to an increase in diesel vehicles (from 10% in 1985 to 70% in 2013) and the expansion of motorways around Madrid cutting through areas where *Quercus* trees are abundant, make us think that these factors could affect the prevalence of sensitization to *Quercus* airborne pollen in our city.

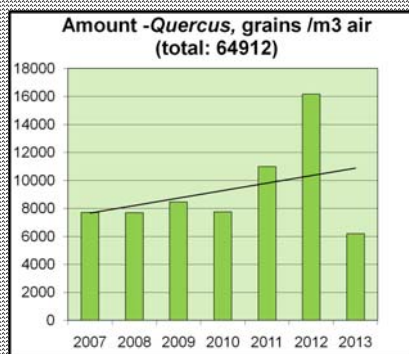
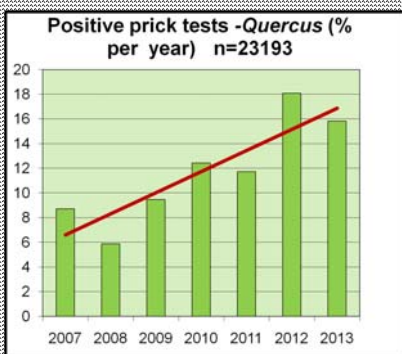
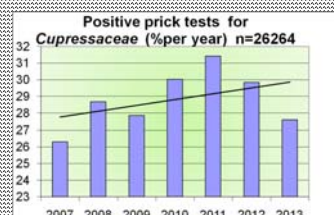
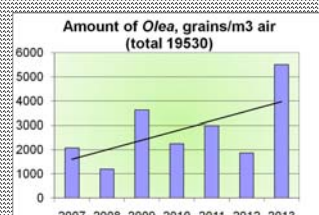
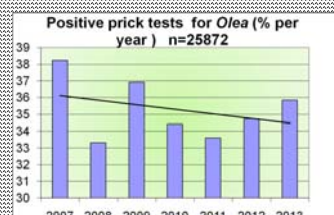
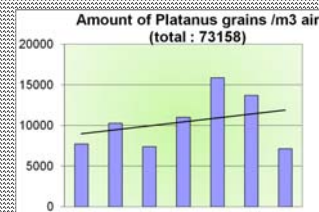
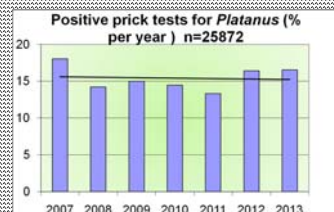
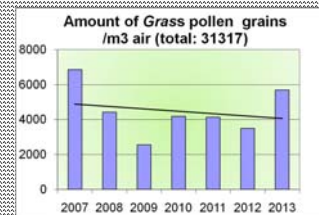
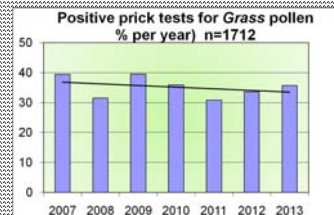
RESULTS

The highest airborne presence since 2007 to 2013 was for *Platanus hispanica* and the second place was for *Quercus rotundifolia*. The concentrations of this pollen through the last 7 years didn't have a significant variability such as the rest of the principal allergenic pollens. In contrast to the maintenance of the number of skin prick tests in the principal airborne pollens in these years *Quercus rotundifolia* have increase in a significant number of patients' its sensitization. We studied 23193 patients with commercial extracts. Table 1.

Year	Total Prick tests	Positive Quercus	%
2007	2319	202	9
2008	3671	216	6
2009	4044	383	9
2010	3933	489	12
2011	3556	417	12
2012	3103	561	18
2013	2567	406	16

METHODS

A 7 -year pollen count (2007 - 2013) was performed in our clinic in Madrid to determine the concentrations of important airborne allergenic pollens (Cupressaceae, *Olea*, *Platanus*, and Grasses) compared with *Quercus*. Pollen counts were made with a Burkard 7-day spore trap. The results were compared with results of skin prick tests with common inhalants (Inmunotek Laboratory) carried out in patients that came to our clinic with suspected sensitization to aeroallergens.



The concentrations of these airborne allergenic pollens through the last 7 years didn't have a significant variability except for *Olea*. Skin prick tests showed also that sensitization in patients with or without allergy symptoms had not changed for important allergenic pollens through these years.

CONCLUSION

We observed an important increase in sensitization to *Quercus* pollen within pollinosis patients in Madrid during this 7 year period in contrast to the rest of important airborne allergenic pollens although these pollens including *Quercus* have not changed significantly their concentration through these years.

We are still investigating which are the causes for these changes and if this would bring future consequences in the symptoms of our patients.

