

SHORT REPORT

Lupin sensitisation in a population of 1,160 subjects

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ABSTRACT

Lupin is part of the Mediterranean diet and is also used as a thickener of food products. It has been recognised as a cause of serious allergic reactions.

This study aims at determining the prevalence of lupin sensitisation in 1,160 subjects consulting allergologists. This population performed skin prick tests (SPT) to lupin. In case of positivity, a clinical questionnaire was applied and the subjects were tested for other legumes, common inhalants and latex.

We find a 4,1 % sensitisation rate to lupin, a 75 % co-sensitisation between lupin and legumes, a 82,1 % co-sensitisation between lupin and pollen and a 28,5 % co-sensitisation between lupin and latex.

To conclude, we documented a high lupin sensitisation in a selected population, thus stressing the importance of lupin as a food allergen.

Key words: food allergy, latex, legumes, lupin sensitisation, pollen.

INTRODUCTION

This study documented a lupin sensitisation rate of 4,1% (Lupinus sp), a member of the Leguminosae family, is part of the Mediterranean diet and is

also used as a thickener of wheat flour and other food products all over Europe. Though it has been recognised as a cause of serious allergic reactions, the prevalence of sensitisation and allergy is not documented¹.

MATERIALS AND METHOD

This study aims at determining the prevalence of lupin sensitisation in a selected population. For 1 year (May 2005 to May 2006), all individuals consulting allergologists at Hospital Pulido Valente (Lisbon, Portugal) and performing skin prick tests (SPT) to air-borne and food allergens were further tested for lupin (commercial extract, IPI). In case of positivity to lupin, a clinical questionnaire was applied, the subjects were skin-prick-tested for other legumes (fava bean, pea, chick-pea, bean, soy, peanut and lentil), common inhalants and latex (commercial extract, BIAL) and lupin-specific IgE was measured (UNICAP).

RESULTS

In a population of 1,160 there were 48 subjects with positivity to lupin (4,1 % sensitisation rate), 39 of which answered clinical questionnaires (18 males, 21 females; average age 33.4). From these, 28 performed the additional SPT (see table I for results) and 12 measured specific IgE. Nine subjects (= 48-39) could not be contacted for the questionnaire, 11 (= 39-28) could not perform the additional SPT and a further 27 (= 39-12) could not be measured for lupin-specific IgE.

Among the 39 questioned subjects, 29 ingested lupin regularly without symptoms, 5 reported con-

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Table I
Results of the SPT (28 subjects).

	N.º of subjects with positive test
At least one legume	7
Fava bean	9
Soy	8
Chick-pea	13
Pea	8
Peanut	12
Bean	13
Lentil	7 (18 not tested)
At least one pollen	23
Grasses	14
Birch pollen	11
Mugwort	15
Olive	10
Latex	8

vincing symptoms of allergy (urticaria 2 patients, anaphylaxis 1, respiratory 1, abdominal pain and diarrhoea 1), 5 had never eaten lupin and all eat peanut without symptoms. All 5 patients with lupin allergy were pollen-sensitised and reported symptoms during the pollen season.

Measurement average of lupin-specific IgE was 1,6 kUA/L (min-0,10kUA/L, max-17,3kUA/L).

DISCUSSION AND CONCLUSIONS

The high (4,1 %) lupin sensitisation rate is comparable to peanut in a study of french subjects consulting allergologists². As no systematic tolerance investigation through oral food challenge was carried out in the subjects not regularly eating lupin, the allergy prevalence could not be ascertained.

This study, like others, demonstrated a high (75 %) co-sensitisation between legumes³. However, its clinical implications could not be drawn, as subjects did not regularly eat all the tested legumes.

Among the 28 patients performing additional SPT, 23 (82.1 %) were also sensitised to at least one pollen, which suggests cross-reactivity. As previously documented for legumes, we find that all patients with lupin allergy are pollen-sensitised, which supports the hypothesis that pollen-leguminosae cross-reactivity might have clinical significance³.

Our latex sensitisation prevalence (28,5 %) comes close to that reported for risk groups for natural rubber latex allergy. The existence of cross-reactivity between latex and Leguminosae has already been documented in inhibition studies and could explain this result⁴.

To conclude, we find a high lupin sensitisation in 1,160 subjects consulting allergologists, thus stressing the importance of lupin as a food allergen.

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