

DRUG ALLERGY AND POLLINOSIS

A SHORT REPORT

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2 series of patients with pollinosis and drug allergy studied 10 years apart and comprising 115 cases are presented. In both series grass pollens and parietaria are as usual the most common cause of pollinosis but Parietaria was more common in the first series. Beta-lactams were the major cause of drug allergy in the first group, superseded by NSAID in the second group. Rhinitis was the more frequent symptom on pollinosis and urticaria/angioedema on drug allergy.

Pollinosis - Drug Allergy.

Pollinosis is an almost experimental model of allergic diseases caused by allergen exposition limited in time and space.

Drug allergy is an iatrogenic disease more currently correlated to NSAID (non-steroidal anti-inflammatory drug) and to the beta-lactam group of antibiotics comprising penicillin, ampicillin, amoxicillin cephalosporins, and derivated compounds.

Atopy is linked to pollinosis and probably also to certain cases of drug allergy mainly IgE mediated as in most of reactions to beta-lactams antibiotics. We have tried to analyse the eventual relationship between pollinosis and drug allergy and to see if atopic patients suffering from hay fever are more prone to have reactions to beta-lactams (1).

We have presented at two previous EAACI meetings studies on the association between pollen and drug allergies analysed ten years apart (1, 2). In the first studies β -lactams were more frequently associated with pollen allergy than non steroidal anti-inflammatory drug (NSAIDS). The aim of the second study is to verify if the association pattern has changed (2).

■ **Material and methods first group** 5.000 outpatients 1 000 with pollen allergy (20%) 2.157 drug allergy (9,14%). 68 patients (6,8%) have simultaneously pollen and drug allergy, 6,8% of pollinosis, 26,5% of drug allergy. Clinical history, assay of specific IgE skin prick tests for pollens and for drugs (guidelines of EAACI Interest group) in all the patients.

■ **Second group:** From 4.600 patients 952 patients allergic to pollens and 141 with hypersensitivity to

drugs have been studied in the last five years. 47 patients were simultaneously allergic to pollens and drugs (4,9% of pollinosis) (33,3% of drug allergy). Clinical history, skin prick tests for pollens and prick and ID when necessary for drugs, specific IgE when possible done in all 47 patients.

■ **Results first group:** 37 (54,4%) female and 31 (45,6%) male (6 to 36 years). The greater incidence (52,9%) between 30 and 49 years. 60 (88,2%) attended by pollinosis and 8 (11,8%) by drug allergy. Pollen allergy provoked rhinitis in 23 (33,8%) asthma alone in 11 (16,1%) urticaria and angioedema in 4. Drug allergy urticaria in 16 (35,5%) urticaria angioedema in 7 (15,5%) and angioedema alone in 13 (28,8%). Skin prick tests were positive for grass only in 6 cases (8,8%) also positive to Parietaria (pellitory wall) in 56 cases (73,5%) to olive tree in (18,8%) and to Artemisia in 6 (8,8%). The majority of the patients presented a history of drug reactions to antibiotics beta-lactams, 29 cases (42,6%) followed by reaction to NSAIDS in 11 patients (16,2%) and other drugs (co-trimoxazol, erythrocyne and other macrolides or local anesthetics. In drug allergies without pollinosis the pattern is reversed with reaction to NSAIDS in 70% of the patients and to antibiotics in 10%. There was no significant correlation between allergy to any pollen and one drug (3,4).

■ **Second group:** This population comprises 32 females (68,1%) and 15 males (31,9%), in the previous study females (54,4%) males (45,6%). 40 patients (85,1%) attended by pollinosis and 7 (14,9%) by drug allergy. In pollen allergy clinics was rhinitis in 45 and asthma alone in 2 clinics of drug allergy: urticaria-angioedema in 32 (68,8%), shock in 2, bronchospasm

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in 2. In pollinosis the results of skin prick tests-grass pollens 32 (68%), Parietaria 19 (40,2%), olive tree 12 (25,5%). In drug allergy were: β -lactams 19 (40,4%), NSAIDS 24 (51,1%) and other drugs (16,2%). There was no correlation between allergy to one specific pollen and a group of drugs.

■ **Overall results 2 groups:** From 115 patients 69 were females (60%) and 46 males (40%), 100 patients attended by pollinosis (87%) and 15 (13%) by drug allergy. In pollen allergy clinic was rhinitis in 87 (76%), asthma + rhinitis in 13 (11%), urticaria/angioedema in 6 (5%). For drug allergy-clinics was urticaria/angioedema in 109 (95%) asthma in 3 (3,6%), shock in 2 (1,7%). Skin prick testes were positive for grass pollens in 94 (81,7%) for Parietaria in 65 (56,5%) olive tree in 25 (21,7%) and Artemisia (mgwort) in 6 (5,2%). Drugs implied in both series were beta-lactams in 48 (41,7%) NSAIDS in 35 (30,4%) and other drugs in 12 (10,4%).

DISCUSSION

The association between pollen allergy and drug allergy is not very common appearing in 6,8% of pollinosis and in 14,8% of drug allergies. Distribution of drug allergies in patients allergic to pollens is opposed to the general distribution of drug allergies. In the first group of pollinosis allergy to betalactam is the first whereas in patients without respiratory allergy reactions to NSAIDS are more frequent (3, 4). The coexistence of IgE mediated reactions and research of cross reactivity between pollens and antibiotics could probably explain these results.

Reporting to the results previously obtained, in the second series there is a greater number of grass pollens allergy instead of Parietaria and a greater incidence of NSAIDS hypersensitivity instead of β -lactams. These results can be explained by a decrease of beta-

lactam antibiotics prescription to allergic patients or an increase in the use of NSAIDS in the last few years. The association of pollinosis and drug allergy can be coincidental depending on the conditions of exposure to pollens and drug prescriptions. Atopic patients can be more prone to have IgE mediated reactions and therefore allergy to pollens and between drugs more frequent hypersensitivity to beta-lactams than to NSAIDS which is not in the great majority of patients linked to specific IgE. However it must be emphasized that the percentage of patients allergic to Beta-lactams is in this limited series superior to the percentage of patients allergic to these drugs in the overall population studied in our center by drug allergy (3, 4). In this larger group comprising all the patients positive results were found for NSAIDS in 48 out of 115 patients and for beta-lactams in 35. An atopic status can be associated to IgE mediated reactions either to pollens or to beta-lactams and allergic patients more prone to be sensitized to this group of antibiotics. Hypersensitivity to NSAIDS and beta-lactams are the more frequent causes of drug allergy in our series of out-patients. The conjunction of a complete clinical history with skin tests and current laboratory methods when available are necessary for diagnosis of each specific drug allergy and prevention of possible new reactions.

References

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