

DRUG ALLERGY AND ASTHMA

A.-G.Palma-Carlos, MD, PhD, FAAAAI (1); M.-L. Palma-Carlos, Pharm D, PhD. (1)

The prevalence of drug induced asthma in a series of 347 patients with drug induced adverse effects has been evaluated corresponding to 10% of drug adverse effects always due to NSAIDS.

Drug Hypersensitivity - Asthma - NSAIDS.

Drug allergy is a growing problem but the incidence of the reaction to different groups of drugs is not well known and depends on the patients recruitment in hospital, allergy centers or daily practice. In this paper we intended to evaluate the incidence of drug reactions in a Allergy Center and the distribution of allergy reactions and asthma to different drugs (4, 5).

The link between drug and adverse reactions and asthma has been described for the first time in 1922, 85 years ago by Fernand Widal (11) in a trial comprising aspirin sensitivity, asthma and nasal polyposis the so-called in Europe Fenand Widal syndrome. In 1968 M. Samter more largely introduced the concept in USA. (6). Aspirin induced asthma can be extended to other non-steroid anti-inflammatory drugs NSAIDS namely the COX-1 inhibitor. Patients with NSAIDS induced asthma have in most cases a severe form of asthma. This particular form of asthma is more current in women than in men with a peak age of onset in the early 30. It progresses from the upper to the lower respiratory tract and asthma symptoms start 1 to 5 years after the onset of rhinitis (1, 2, 8, 9, 10).

In this paper the prevalence of asthma and rhinitis in a large group of patients with adverse reactions to drugs will be discussed.

Drugs inhibiting angiotensin converting enzyme (ACE) such as Captopril might lead to exacerbations of asthma because ACE is an enzyme that degrades the bronchoconstrictor mediator, bradykinin. Many patients treated with ACE inhibitors develop an irritant cough but this is not a hypersensitivity reaction. Exacerbation of asthma has rarely been reported in

asthmatic patients (1, 3). Patients presenting cough or wheezing after ACE inhibitors will not be included in this paper.

Beta-adrenegic drugs used for hypertension, angina pectoris, glaucoma, tremor anxiety etc. can also cause asthma but this neither a true drug allergy (1, 3).

MATERIAL AND METHODS

From 9067 new patients consulting in the last 10 years, 416 (4,6%) reported drug allergy. The files of these patients have been reviewed. Drug allergy can be the main disease or associated with rhinitis, asthma non drug associated, eczema, urticaria, angioedema of other etiology. Clinical history, skin tests-prick, intra dermal and patch for late cutaneous reactions, research of specific IgE to the few drugs for which this method is available and for a few recent patients CASTS have also been done (4, 5).

RESULTS

375 out of the 416 (90%) patients had cutaneous reactions to the drugs mainly urticaria and angioedema. Asthma, always with rhinitis was reported in 41 patients (10%). Some patients reported reactions to more than 1 group of drugs. Hypersensitivity to non-steroidal (anti-inflammatory drugs) (NSAIDS) was the more frequent, in 275 cases (66,1%) followed by beta-lactams 143 (34.3%) other antibiotics, macrolides 8 (2.0%) gentamicyn-netylmycin 2 (0,5%) quinolones 9 (2.2%), in a total of 19 patients (6.0%). Reactions to local anesthetics were reported and confirmed in 31 patients (7.5%) and to sulfamethoxazole trimethoprim

(1) Clinical Allergy Immunology Center, CAIC Lisbon (Portugal) -
Email : a-g-palma-carlos@clix.pt

in 17 (4.1%). Reactions to statins and fibrates, with myositis were diagnosed in 4 cases, steroid allergy found in 3 cases, vitamin B12 allergy in 2 cases and ranitidine in 1. The more frequent association of two different drug allergies was between NSAIDS and beta-lactams found in 65 patients (15.6%). Less frequent associations were found between NSAIDS, local anesthetics, other antibiotics or sulfamethoxazole-trimethoprim. Asthma was reported only in 35 cases always after NSAIDS (4,5) (tables 1, 2, 3, 4, 5, 6, 7) (figure 1).

DISCUSSION

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. In this group asthma was not very frequent (10%) and linked in all the cases of anti-inflammatory drugs mainly aspirin and also diclofenac. No case of asthma was observed after the use of more recent inhibitors of COX-2, celecoxibe and etoricoxibe and also never after nimesulide. Drug associated asthma is less frequent than other drug adverse effects. In practice only NSAIDS are prone to cause asthma, rhinitis or both. A careful clinical history and eventually skin tests or in "vitro methods" can allow to prevent drug associated asthma.

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DRUG ALLERGY

■ 416 Patients

• Females 290 (69.7%)
• Males 126 (30.3%)

DRUGS INVOLVED - 1 416 Patients

NSAIDS	275 (66.1%)
β-Lactams	143 (34.3%)
NSAIDS+β-Lactams	65 (15.6%)
Local Anesthetics	31 (7.5%)
Sulfamethoxazol-Trimethoprim	17 (4.1%)
Quinolones	9 (2.2%)
Macrolides	8 (2.0%)
Statins	4 (1.0%)

DRUGS INVOLVED - 2 416 Patients

ACE-inhibitors	4 (1.0%)
Angiotensin II Blockers	2 (0.5%)
Corticosteroids	4 (1.0%)
Vit. B12	2 (0.5%)
Vit. B1	2 (0.5%)
Allopurinol	2 (0.5%)
Tetracyclin	2 (0.5%)
Gentamycin	2 (0.5%)

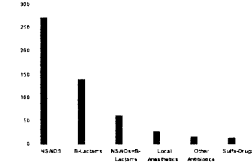
DRUGS INVOLVED - 3 416 Patients

Furadantin	2 (0.5%)
Resochine	1 (0.25%)
Tramadol	1 (0.25%)
Tychochysosid	1 (0.25%)
Ranitidin	1 (0.25%)
Fibrates	1 (0.25%)
Antileucotrienes	1 (0.25%)
Curarisers	1 (0.25%)
Muscle relaxants	1 (0.25%)
Fluconazol	1 (0.25%)

DRUGS INVOLVED

Association of more than 1 drug	97 (23.3%)
NSAIDS + βLactams	65 (15.6%)
NSAIDS + other drugs	
Association of 2 adverse reactions are frequent	

MAIN DRUGS INVOLVED IN 416 PATIENTS



Asthma/Rhinitis and Drug Allergy

□ 416 Patients

Asthma/Rhinitis	41 (10%)
Urticaria/Angioedema	
Erythema	375 (90%)
Asthma-NSAIDS	41