

A HISTORY OF DRUG ALLERGY

Is it an allergy? Or is it a reaction?

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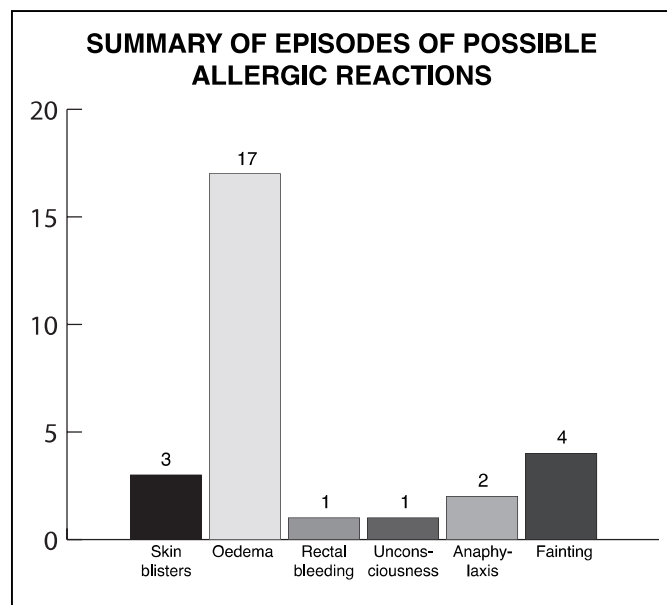
INTRODUCTION

Drug allergies are unpredictable immunologic adverse effects. In practice, maintaining accurate allergy lists can be difficult, as there may not be clear distinctions between allergies and sensitivities. A study in 2001 found that only 14% of identified drug allergies were true, 55% were undetermined and 31% were considered incorrect.⁽¹⁾ In practice, a false report of a drug allergy may prevent the patient from benefiting from the medication. On the other hand, administering the medication, in the presence of genuine allergy, may lead to serious adverse effects.

This study aims to survey women about self-reported drug allergies and to scrutinise them. It also addresses the questions whether symptoms such as nausea, vomiting and breathlessness are truly allergic reactions, or whether they are direct side effects of or sensitivities to the pharmacologic activity of the medications.

METHODS

Cases were randomly selected from those women who were attending various clinics in a teaching hospital in the north west of England as new referrals. The data was collected during the period from 1st January 2004 to 30th September 2004, and was collected prospectively through a proforma, which was completed by the practitioner who took the history. In this teaching hospital, doctors enter drug allergy in the woman's history sheet and nurses, independently, document drug allergy in their records.



RESULTS

The survey included 109 women who reported 146 episodes of drug reactions/allergies (see table 1). Some women reported more than one drug and some reported more than one reaction to the same drug. Allergies to antibiotics topped the list. Penicillin was the most frequently reported medication, followed by erythromycin, trimethoprim and cephalosporin. There were five reported episodes of drug reactions/allergies for the analgesics: aspirin and co-proxamol. On 11 occasions (7.5%) the women were uncertain about the exact nature of the reaction they had. Nine episodes of drug reactions/allergies occurred during childhood.

Drug	Total number of reports	Uncertain	During childhood
Amoxicillin	2	1	
Ampicillin	2		
Aspirin	5		
Canesten	1		
Cephalosporin	6		
Cipramil	1		
Co-amoxiclave	2		
Co-proxamol	5		
Erythromycin	10		
General anaesthesia	1		
Latex	2	2	1
Lescol	1		
Lignocaine	4	1	1
Lustral	1		
Metronidazole	5		
Micropor	1		
MMR	1		
Nifedipine	1		
NSAID	5		
Octapressin	2		
Omnopon	3	1	
Penicillin	67	6	7
Pethidine	1		
Prostin	1		
Sudafed	1		
Tetanus toxoid	2		
Tetracycline	3		
Trimethoprim	10		
Total	146	11	9

Table 1 Total number of reported reactions (109 women were included)

Six of the reported categories are classified as drug allergies (see table 2). These were reported in twenty eight (19.2%) of the episodes of drug reactions/allergies. Oedema was reported 17 times and ranged from generalised body swelling to throat oedema. On three occasions, severe skin eruptions and blisters were described. Two anaphylactic reactions were reported with Prostin and trimethoprim. Unconsciousness and fainting were reported on five occasions.

Drug	Skin blisters	Oedema	Rectal bleeding	Unconsciousness	Anaphylaxis	Fainting
Aspirin		1				
Cephalosporin		1		1		
Lignocaine						1
Metronidazole		1				
NSAID		1				
Octapressin						1
Omnopon						1
Penicillin	3	11	1			
Prostin					1	
Tetanus toxoid						1
Tetracyclins		1				
Trimethoprim		1			1	
Total	3	17	1	1	2	4

Table 2 Possible allergic reactions

Drug	Nausea and vomiting	Dyspepsia	Headache	Skin rash	Itching	Breathlessness
Amoxicillin				1		
Ampicillin				2		
Aspirin		1		2		1
Cipramil			1			
Cephalosporin				4		
Co-amoxiclave				2		
Co-proxamol	2	1				
Erythromycin	2			8		
General anaesthesia	1					
Lescol		1				
Lignocaine	1		1			
Lustral				1		
Metronidazole				2		
Micropor				1		
Nifedipine				1		
NSAID	1			1		2
Omnopon	1		1			
Penicillin	5	1		32	3	1
Sudafed				1		
Tetanus toxoid				1		
Tetracyclines				2		
Trimethoprim	1		1	6		
Total	14	4	4	67	3	4

Table 3 Gastrointestinal, skin and headache reactions

	Octapressin	Canesten	Co-proxamol	MMR	Metronidazole	Penicillin
Palpitations			1			
Lips' numbness	1					
Mouth ulcerations						1
Bad taste					1	
Sore throat					1	
Eczema				1		
Hallucinations			1			
Epistaxis						1
Joints' pain						1
Vaginal thrush						1
Vaginal soreness		1				

Table 4 Reactions to listed medications that were reported once

dyspepsia were reported 18 times. Breathlessness and headache were reported four times each. Eleven episodes of drug reactions (7.5%) were reported once, ranging from palpitation to vaginal soreness.

DISCUSSION

Self-reported allergy to drugs is highly prevalent. An incidence of 7.8% has been reported; nonetheless, it appeared to be poorly explored and women seem to be more susceptible and significantly more likely to claim a drug allergy than men.⁽²⁾ The incidence seems to be different among the inpatient population, with a reported lower incidence of 4.20 per 1000.⁽³⁾

Self-reported drug allergies could be: an allergy, which is an immune-mediated type I hypersensitivity reaction, or a sensitivity, which is an adverse drug reaction that is non-immune mediated, such as nausea and diarrhoea. Drug allergies are unpredictable immunologic adverse effects and could be an immunoglobulin E mediated, immediate hypersensitivity or type II or type III complex mediated hypersensitivity reaction.⁽⁴⁾

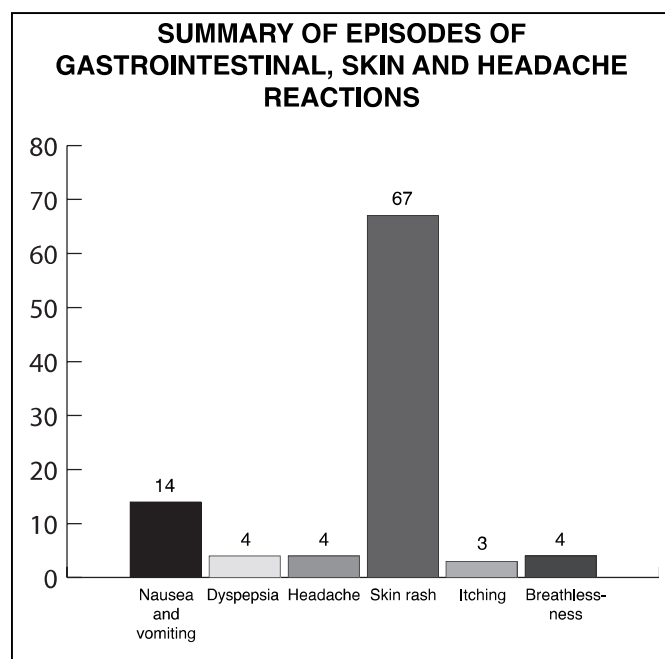
In clinical practice, the diagnosis of drug allergy depends, primarily, on the patient's history. Maintaining accurate allergy lists can be difficult and the distinction between allergies and sensitivities is not always clear, beside there is no general consensus on whether both should be included in allergy lists.

In the teaching hospital in this study there was probably an excess of self-reported allergies. The reported allergies/reactions, despite their inaccuracy and low predictive value, could have influenced the physicians' prescribing pattern and could be a source of inaccurate and inconsistent information in the medical record. It has been recognised that such inaccurate reports (alerts) have the potential for eroding the physicians' faith in allergy alerts and may also increase the likelihood of important information being ignored.⁽⁵⁾

In this survey, 73.3% of the reported episodes of drug reactions/allergies were more or less drug reactions. Reactions such as nausea and vomiting are probably sensitivities to the medications. Some of the alleged allergies were rather vague, such as palpitations, or were textbook side effects of the medication, such as thrush with antibiotics, or bad (metallic) taste with metronidazole or merely confusion between the original disease (vaginal thrush) and the medication (Canesten). Lignocaine was reported on four occasions as uncertain symptoms: fainting, headache, or nausea and vomiting. It is known that a history of allergy to local anaesthesia is unlikely to be genuine and local anaesthetic allergy is rare.⁽⁶⁾

In this survey, 19.2% of the reported episodes of drug reactions/allergies were, probably, true allergies, which means that a considerable proportion of the women have been denied the potential benefits of the medications that have not been prescribed. Physicians, frequently, refrain from prescribing certain

One hundred and seven episodes of drug reactions/allergies (73.3%) were likely drug reactions (see tables 3 and 4). Skin reaction and itching were the most frequently reported reactions. Gastrointestinal reactions came second and nausea, vomiting and



medications based on patients' self-reports, while in fact only 14% of identified drug allergies are regarded as true⁽¹⁾ and only 20% of patients react when they receive medications to which they have known allergies.⁽³⁾ It has also been shown that only 10% to 20% of patients with a history of penicillin allergy are truly allergic when assessed by skin testing.⁽⁷⁾ Similarly, by interviewing patients, pharmacists identified and removed inappropriate drug allergy labels in 28% of the assessments and at least one label was removed for 34% of the patients; thus enabling patients to receive medications that otherwise would have been withheld.⁽⁸⁾

Finally, do practitioners routinely scrutinise or challenge self-reported drug allergies? It is probable that such an exercise is frequently not undertaken or is forgotten.

CONCLUSION

The number of women in this survey is small to generate conclusions; however, it is highly likely that not all the reported allergies are true and, probably, only 19.2% were. The unchallenged history of drug allergies might have prevented some patients from receiving the potential benefits of some medications. Therefore, it is important that the clinicians and pharmacists should critically review such histories and a record of confirmed allergies should be maintained.

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