



Research Article

CUTANEOUS ADVERSE DRUG REACTIONS IN GENERAL PRACTICE - AN ANALYSIS

G. Rajaram^{1*}, P.Sugirda², R.Lenin²

¹Prof of Pharmacology, ²Assistant professor, Govt. Villupuram Medical College, Viluppuram, Tamil Nadu, India.

ABSTRACT

Aim: To study the pattern of cutaneous adverse drug reactions presenting to general practitioners in a semi urban area.

Methodology and Results: This study was conducted among general practitioners of Villupuram, a semi urban area in Tamilnadu State. During the study, a total of 60 CADR were reported. Data were collected using standard CDSCO ADR form. The majority of CADR were observed in the age group of 20-40 years. According to WHO causality assessment, 48 were probable and 12 were possible. The severity assessment using modified hartwig and seigel revealed 18 mild, 41 moderate and one severe CADR. The common drug groups implicated are antibiotics followed by NSAIDS and anticonvulsants. Maculopapular rash was the most common presentation of CADR.

Conclusion: Among the various types of CADR seen in this study, Maculopapular rash was the most common followed by fixed drug eruption. studies antimicrobials were the most common causative agent followed by NSAIDs and anti- convulsants. This study on CADR gains importance as the pattern of drug use is changing periodically and everyday many new drugs enter the market.

KEYWORDS: CDSCO ADR form causality assessment CADR.

INTRODUCTION

Patient safety is an important parameter in health care systems. Worldwide adverse drug reactions are the major concerns in terms of patients safety and the quality of medical care. Adverse drug reactions are the major causes of hospital admission, increased expenditure, morbidity, and even death¹. Drug use is always coupled with the risk of adverse reactions. Skin and mucosa are the common sites for initial presentation of many CADR². About 2-3% of hospitalized patients are affected by cutaneous ADRs due to variety of drugs³.

A CADR is any undesirable change in the structure or function of the skin, its appendages or mucus membranes and it encompasses all adverse events related to drug eruption, regardless of etiology. Although cutaneous reactions are common, comprehensive information regarding their incidence, severity, and ultimate health effects in general practice are often not available as many cases go unreported⁴.

Drugs used for a long period of time may cause new types of skin eruptions that have not been observed previously⁵. It is estimated that only 50% of the undesirable reaction can be detected during the pre marketing clinical trials⁶. There is a wide spectrum of CADR varying from transient maculopapular rash to fatal toxic epidermal necrolysis (TEN). The pattern of CADR and the drugs responsible for them keep changing every year⁷. These reactions can arise as a result of immunologic (or) non immunologic mechanisms. The cessation of the offending agent along with the use of systemic and topical steroids and antihistamines may be helpful in the management. Proper data about the

adverse effects of drugs help physicians to use drugs balancing the benefits and hazards⁸.

Early detection and treatment of CADR along with identification of the causative agent, are essential for preventing the progression of the reaction, preventing additional exposures, and ensuring the appropriate use of medications⁹. A standardized approach is necessary to establish a final decision of causality to result in a consistent, accurate and reproducible identification of ADR. It is most challenging and practically difficult when the patient is on multiple medicines¹⁰. To have knowledge of the CADR prevailing in general practice of a semi urban area (Villupuram, Tamilnadu state), this study was designed with the following aim.

AIM

To describe the pattern of cutaneous adverse drug reactions presenting to general practitioners in a semi urban area.

OBJECTIVES

- (1) To describe the clinical presentation of cutaneous ADRs.
- (2) To identify the offending drugs and to associate causality and severity.

MATERIALS AND METHODS

This study was conducted among general practitioners of Villupuram, a semi urban area in Tamil nadu state. All the patients who attended OPDS of general practitioners with suspected cutaneous ADR were enrolled in the study. Daily and on-call visits to the

clinics were made to collect data. Drug history and data regarding all suspected cutaneous ADRs to drugs were collected after getting consent from the patient. Detailed data were collected using central drugs standard control organization (CDSCO) ADR form. Subjects who complained of only symptom (e.g. itching) without visible skin lesions and subjects whose lesions are disease related (viral exanthemas, rash of rickettsial infections etc) were excluded from the study.

The case causality assessment criteria recommended by the WHO Uppsala monitoring centre (WHO-UmC) was followed for assessing causality of individual reactions. Only certain, probable and possible were included for analysis. In order to assess the severity, Modified hartwig and siegel-1992 ADR severity assessment scale was used.

Method of Statistical Analysis: Descriptive analysis.

OBSERVATIONS AND RESULTS

A total of 60 cutaneous ADRs were reported during the study period. Among them 34 were males and 26 were females. The youngest patient was of age 14 and oldest was of age 64. Majority of the patients were in the age group of 20-40 followed by 41-60 years.

The most common reaction pattern was maculopapular rash [30(50%)] followed by fixed drug eruption [10 (16%)], urticaria [8 (13%)], acneiform eruption [3 (5%)], erythema multiforme [3(5%)], photosensitivity drug rash [1(1.6%)], contact dermatitis [2 (3.2%)], angioedema [1 (1.6%)], and toxic epidermal necrolysis [1 (1.6%)].

The most common drug groups responsible for CADR were antibiotics followed by NSAIDs/other analgesics and anticonvulsants. Antibiotics caused 20 CADR (33%), NSAIDs/other analgesics caused 14 CADR (23%), anticonvulsants 11 CADR (18%) and other miscellaneous drugs caused remaining CADR (25%). Beta lactams were the most common antibiotic causing CADR followed by fluoroquinolones and sulpha groups of drugs.

Causality assessment was done using WHO causality assessment scale of suspected adverse drug reaction. Among 60 cases reported, 48 were probable and 12 were possible. (Table-1).

The severities of the CADR were assessed using modified Hartwig and Siegel ADR severity assessment scale 1992. Out of 60 cases 18 were mild, 41 cases were moderate and one was severe.

Table 1: WHO Causality assessment of Cutaneous adverse drug reactions

Total number of cases	60
probable	48
possible	12

Table 2: Commonly involved drug groups in cutaneous adverse drug reaction

Drug Groups	Reaction Type
Antibiotics	Maculopapular rash

	Fixed Drug Eruptions Toxic Epidermal Necrolysis Photosensitivity
NSAIDS	Maculopapular rash Fixed Drug Eruptions Urticaria Erythema multiforme
Anticonvulsants	Maculopapular rash
Immunosuppressant	Maculopapular rash Erythema multiforme

Table 3: Severity assessment of CADR (Modified Hartwig & Seigel-1992)

Total cases	60
Mild	18
Moderate	41
Severe	1

Table 4: clinical pattern of CADR

Total Cases	60
Maculopapular rash	30
Fixed Drug Eruptions	10
Urticaria	08
Acneiform eruptions	03
Erythema multiforme	03
Photosensitivity	02
Contact dermatitis	02
Angioedema	01
Toxic Epidermal Necrolysin	01

DISCUSSION

This study was carried out with an objective of revealing the types of CADR of the patients attending general practitioners in a semi urban area like Villupuram. Drug history is mandatory for the diagnosis. Polypharmacy is the main risk for CADR in the study. We did not carry out rechallenge test during the study period. It has to be done with great caution and only if extremely necessary, because a rechallenge test may cause severe or even fatal reactions¹¹.

In most of the cases, the suspected drug was withdrawn. In cases where the drugs were absolutely necessary and were not easily modified, the drugs were continued on supervision (eg) Anti tubercular drugs. Dermatologist opinion was obtained for serious CADR like erythema multiforme and TEN and were closely monitored¹². CADR were common among men compared to women in our study¹³. Majority of the patients were in the age group of 20-40 in our trial and it is in accordance with other studies¹⁴. In some studies

elderly population was more susceptible to CADR¹⁵. The difference in various studies may be due to the regional variation in the health care seeking behavior of the different population¹⁶.

Among the various types of CADR^s seen in this study, Maculopapular rash was the most common followed by fixed drug eruption which is similar to some other studies¹⁷. In accordance to the earlier studies antimicrobials were the most common causative agent followed by NSAIDs and anti- convulsants ¹⁸. Among the antimicrobials, β lactams are the most common causative agent but in some studies fluoroquinolones cause more CADR^s. These variations may be due to differences in prescription pattern of drug in different part of the world.

CONCLUSION

In our study, a wide clinical spectrum of cutaneous ADRs ranging from mild maculopapular rash to serious TEN were observed. Antibiotics, NSAIDs and anti- convulsants were the most frequently implicated drug groups. This study on CADR^s gains importance as the pattern of drug use is changing periodically and everyday many new drugs enter the market. The patients diagnosed with CADR^s were informed about the suspected drugs and the chances of cross reactivity with related groups.

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*Address for correspondence

Dr. G. Rajaram

Prof of Pharmacology,
Govt Villupuram Medical College,
Viluppuram-605 601.
Mobile: 9965724197
Email: rajaram74.rg@gmail.com