ORIGINAL RESEARCH

A Study of the Diverse Clinical Spectrum of Adverse Cutaneous Drug Reactions

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ABSTRACT

Introduction: Cutaneous Adverse Drug Reaction patterns and the drugs causing variousreactions are changing every year, which may be due to emergence of newer drugs,changing trends in the use of drugs and last but not the least emergence of HIV. Soknowledge of these drug eruptions and causative drugs is essential for the clinician forappropriate management.

Objective of the study was to study the diverse clinical spectrum of Adverse Cutaneous Drug Reactions

Material and methods: The study comprised of all outpatients as well as in-patients clinicallydiagnosed adverse cutaneous drug reactions attending the Department of DVLAll patients suffering from certain or probable drug reaction were included inthe study irrespective of age, sex and HIV status.

Results: A total of 100 patients with cutaneous drug reactions were evaluated of which60 were males and 40 females. Majority of the patients belonged to the 20-40 yearsage group. The reaction time (RT) was found to be 1-7 days in majority of the cases.Maculopapular rash was seen in 26 patients.

Conclusion: The commonest ACDR was Maculopapular rash followed byUrticaria, FDE and Acneiform eruption. Severe Cutaneous Drug Reactions wereobserved, along with certain rare drug reactions like Acute GeneralizedExanthematousPustulosis (AGEP).

Keywords: Drug, Clinical spectrum, Management

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INTRODUCTION

Primum non nocere ("first of all be sure you do no harm")-Hippocrates (460–370 BC)"Anything you can think of, anything you can see, and some things you don't eventhink of can be due to a drug". – E. Dornida Shelley, W. B. Shelley

An adverse drug reaction (ADR) may be defined as 'an appreciably harmful orunpleasant reaction, resulting from an intervention related to the use of a medicinal-product, which predicts hazard from future administration and warrants prevention orspecific treatment, or alteration of the dosage regimen, or withdrawal of the product'.[1]

ADRs constitute a major clinical problem in terms of human suffering.Adverse Cutaneous Drug Reactions are responsible for approximately 3% of alldisabling injuries during hospitalization. Many of the used drugs have reaction ratesmore than 1%.[2,3]

The incidence of ACDRs in developed countries range from 1-3% among inpatients, whereas in developing countries such as India it is 2-5% of the in patients. Maximum number of cases are seen in the 3rd and 4th decade with slight malepredominance (M:F = 1.47:1).[4] ACDRs begin within 1-2 weeks of starting amedication and gradually resolve 1-2 weeks following cessation.[5]

Present study was done to study the diverse clinical spectrum of Adverse Cutaneous Drug Reactions(ACDR)

MATERIAL AND METHODS

The study comprised of all outpatients as well as in-patients clinicallydiagnosed adverse cutaneous drug reactions attending the Department of DVL ofMahatma Gandhi Memorial Hospital, Warangal.The study period was from February 2012 to September 2013.

Inclusion criteria

All patients suffering from certain or probable drug re-

action were included inthe study irrespective of age, sex and HIV status.

Exclusion criteria

Dermatological conditions with alternate etiology mimicking drug reactions clinically were excluded.

METHODOLOGY

After taking an informed consent, detailed history and thorough clinicalexamination was carried out. To establish the etiological agent for a type of reaction,attention was paid to the drug history, temporal correlation with the drug, duration ofthe rash, approximate incubation period, morphology of the eruption, associatedmucosal and systemic involvements and improvements of lesions on withdrawal ofdrug was noted.

All the patients were subjected to a complete general physical examinationand systemic examination. A detailed examination was done and documented as perthe proforma. The causality assessment was done using WHO guidelines.

The diagnosis was based on

- WHO criteria (taken as guidance)
- Clinical history (Positive temporal correlation)
- Morphology of the reaction pattern
- Improvement of the condition on discontinuation of the suspected drugs(Dechallenge)
- Rechallenge was done in milder forms.

FOLLOW UP

All patients were asked to stop all the suspected causative drug/s.Patients with mild adverse drug reactions (Maculopapular rash, FDE, EMF)were followed up once weekly for a fortnight and twice weekly thereafter until thelesions cleared.

Patients with serious adverse drug reactions (SJS, TEN, Erythroderma/Exfoliative dermatitis) were admitted and observed after withdrawing the suspecteddrug. They were treated accordingly with supportive measures, systemic steroids andanti histamines wherever required. After the severity decreased they were dischargedand followed up once in a week until the lesions cleared completely.

RESULTS

A total of 100 patients with cutaneous adverse drug reactions were included inthe study.

60 (60%) were males, 40(40 %) were females. The male to female ratio in thestudy was 1.5:1.

The age group of the patients ranged from 3 years to 78 years with maximumnumber of patients being 43 belonging to age group 20 to 40 years.

Maximum patients were in the age group of 20 – 40 years (43%) followed by 40 – 60 years.

Reaction time (RT)

Reaction time is the time taken for the reaction to appear sincethe last exposure the suspected drug. This was commonly found to be 1 to 7 days in 69 (69%) patients. It ranged from 1 day to 180 days. Reaction time of 1 day wascommon in cases of FDE and urticaria, 180 days in cases of acneiform eruption.The commonest reason for drug intake was URTI, followed by viral fever, lowback ache etc.

The various cutaneous adverse drug reactions that were observed in the study were:

1) Maculopapular rash
2) Acute Urticaria
3) FDE & its Bullous variant
4) Acneiform eruptions
5) Exfoliative dermatitis
6) Stevens – Johnson Syndrome (SJS)
7) Angioedema
8) Vasculitis
9) Erythema multiforme (EMF)
10) Hyperpigmentation
11) Photosenstivity

Sex	Number	Percentage
Male	60	60
Female	40	40
Total	100	100

Table-1: Sex distribution

Age (years)	Number	Percentage
< 20	14	14
20 – 40	43	43
40 – 60	30	30
> 60	13	13
Total	100	100

Table-2: Age distribution

Reaction time (days)	Number	Percentage
1 – 7	69	69
8 – 14	12	12
15 – 30	6	6
31 – 60	4	4
> 60	9	9
Total	100	100

Table-3: Reaction time for the various adverse cutaneous drug reactions

Cutaneous ADR	Number	Percentage
Maculopapular rash	26	26
Acute urticaria	20	20
FDE & its bullous variant	15	15
Acneiform eruptions	12	12
Exfolative dermatitis	7	7
Stevens – Johnson Syndrome	4	4
Angioedema	3	3
Vasculitis	2	2
Erythema multiforme	2	2
Hyperpigmentation	2	2
Photosensitivity	2	2
Toxic epidermal necrolysis	2	2
Acute generalized exanthematouspustulosis	1	1
Purpura	1	1
Striae	1	1
Total	100	100

Table-4: Distribution of various Adverse Cutaneous Drug Reactions

12) Toxic epidermal necrolysis (TEN)
13) Acute generalized exanthematouspustulosis (AGEP)
14) Purpura
15) Striae

Maculopapular rash (26%) was the commonest drug reaction followed byacute urticaria (20%) and FDE and its bullous variant (15%).Severe drug reaction which includes SJS, TEN, EMF, angioedema andexfoliative dermatitis was seen in 18 (18%) of cases.

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DISCUSSION

In our study, 100 patients were evaluated of which 60 were males and 40females. Male preponderance was seen with the M:F ratio of 1.5:1. This is similar to astudy conducted by V.K. Sharma et al[4] and RakshaMP et al.[6] However variousother studies showed an equal or a female preponderance.[2,3,7,8] Routes ofadministration of suspect offending drug contributory to ACDR included oral inmajority of cases (n-89), parenteral route (IM / IV) in (n-9) while topical route wasincriminated in (n-2) in the present study.

The age group of patients ranged from 3-78 years, with maximum cases (43%)occurring within the 20-40 years age group. This is similar to studies done earlier.[2,3,4,7] Pediatric and geriatric age showed a decreased incidence as reported earlier.[7]

Reaction time (RT) is the time taken for the reaction to appear since the lastexposure to the suspected drug. This ranged from 1 day to 180 days, with shortesttime for FDE (2-3 hours) and longest for Acneiform eruptions (180 days). In ourstudy it was commonly seen to be within 1-7 days (69%) cases. This is similar to thestudy done by Gor AP et al.[9] where they saw 77.78% of reactions occurring within first 10 days of administration of the implicated drug.

Of the various cutaneous ADRs, Maculopapular rash was the commonest, seenin 26 (26%) patients similar to various other earlier studies.[3,4,7,10.11,12,13] This wasfollowed by urticaria in 20(20%), FDE in 15 (15%) and acneiform eruption in 12(12%) cases.

Other reactions seen were Exfoliative Dermatitis (7%), SJS (4%), Angioedema(3%), Vasculitis, TEN, EM, Photosensitivity and Hyperpigmentation (2% each) andone case each of AGEP, Purpura and Striae.

CONCLUSION

The commonest ACDR was Maculopapular rash followed byUrticaria, FDE and Acneiform eruption. Severe Cutaneous Drug Reactions wereobserved, along with certain rare drug reactions like Acute GeneralizedExanthematousPustulosis (AGEP).

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