

Pattern of drug use in psoriasis inpatients in the department of dermatology at a tertiary care teaching hospital

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ABSTRACT

Background: The pattern of drug use in people hospitalized with a primary diagnosis of psoriasis has never been studied previously in India. The aim of the study was to characterize the prescription pattern of people admitted to hospital with psoriasis so that rational prescribing could be promoted among dermatologists.

Methods: Case files belonging to 32 patients, admitted in the Department of Dermatology with psoriasis, of a tertiary care teaching hospital in Kerala, over a period of 1-year were retrieved with the assistance of the medical records department. The data thus obtained was analyzed using descriptive statistics.

Results: The average age of patients who were admitted with psoriasis was 49.9 years, and their average duration of hospital stay was 7.96 days. A total of 296 formulations were prescribed to 32 patients. Out of 296 formulations, only 10 (3.37%) were generic and rest 286 (96.62%) branded. Fixed dose combinations consisted of 32.43% (96/296) of the prescribed formulations. Psoriasis vulgaris (56.25%) was the most common cause for admission. Of all the prescribed medications, 4 (1.35%) did not contain clear instructions for the route of administration. Strength was clearly mentioned in only 89 (30%) of the preparations. In 98% of the prescriptions, the exact dose was missing.

Conclusions: The study reveals various deficiencies which exist in the prescribing pattern of drugs for management of psoriasis. Educational interventions among the doctors as well as students should be carried out to promote rational drug use.

Keywords: Psoriasis, Inpatient management, Dermatology, Drug utilization, Prescription analysis

INTRODUCTION

Psoriasis is a common, chronic, disfiguring, inflammatory, and proliferative condition of the skin, in which both genetic and environmental influences have a critical role.¹ It is characterized by well-demarcated erythematous plaques with silvery scales. Other presentations of psoriasis include guttate, pustular, erythrodermic, inverse, and nail psoriasis.² Psoriasis causes considerable psychosocial disability and has a major impact on patients' quality of life.³⁻⁵

Most cases are not severe enough to warrant admission and are treated as outpatients. Rare life-threatening presentations can occur that require inpatient management. Such presentations are far less common than in the past due to the many systemic medications now available for treating severe psoriasis.⁶

Prevalence of psoriasis in India varies from 0.44% to 2.8%. It is twice more common in males compared to females, and most of the patients are in their third or the fourth decade of life at the time of presentation.⁷

Numerous topical and systemic therapies are available for the treatment of psoriasis. Treatment modalities are chosen on the basis of disease severity, relevant comorbidities, patient preference (including cost and convenience), efficacy, and evaluation of individual patient response.⁶

Rational use of therapies available for psoriasis can minimize the systemic and cutaneous adverse effects associated with them. In order to derive the optimum benefit with least adverse effects, various factors have to be taken into consideration while prescribing, including the nature

of the disease, age of the patient, site affected, and the pharmacology of these drugs such as potency and frequency of use.^{6,8}

Monitoring patterns of drug use at regular intervals is one of the many measures which is commonly undertaken to analyze the rationality of their use to offer feedback or suggestions to clinicians.⁹

The fundamental aim of drug utilization research is to facilitate their rational use. Without an accurate understanding of how drugs are being prescribed and used, it is difficult to suggest measures to improve the prescribing habits.¹⁰

METHODS

Case files belonging to 32 patients, admitted in the Department of Dermatology with psoriasis, of a tertiary care teaching hospital in Kerala, over a period of 1-year were retrieved with the assistance of the medical records department.

A comprehensive retrospective analysis was performed by noting down the details of the prescription chart. The patient related information, including age, sex, type of psoriasis, and days of hospital stay, was collected.

Information related to the use of various therapies in psoriasis such as type of the drug, whether given as fixed dose combination (FDC), total number of drugs, dosage form, dosing frequency, duration, route of administration, quantity to be used or applied, and potency were also recorded.

The data thus obtained was analyzed using descriptive statistics. Ratios, proportions, and percentages were used to describe the data.

RESULTS

The average age of the 32 patients who were admitted with psoriasis was 49.9 years. The majority of the patients (62.5%) were above the age of 50 years. Only 5 (15.62%) of the patients were <30 years of age. The oldest patient who was admitted was aged 81 years and the youngest aged 1. Of the total 32 patients who were admitted an overwhelming majority were male (71.87%) and about a fourth of them female (28.12%).

Psoriasis vulgaris (56.25%) was the most common cause for admission followed by plantar psoriasis (12.5%), sebopsoriasis (12.5%), and erythrodermic psoriasis (12.5%). Pustular psoriasis (6.25%) made up for the remaining cases (Figure 1).

The average duration of hospital stay was 7.96 days. The total numbers of formulations prescribed for the 32 inpatients

admitted with a diagnosis of psoriasis in the dermatology ward were 296, i.e., a mean of 9.25 per patient. Out of 296 formulations, only 10 (3.37%) were generic and rest 286 (96.62%) branded. FDCs consisted of 32.43% (96/296) of the prescribed formulations.

178 (60.13%) of these formulations were oral preparations, 73 (24.66%) were topical preparations, and 30 (10.35%) were to be given parenterally. Of all the prescribed formulations, 9.79% were antibiotics. 79.3% of these antibiotics were administered systemically, whereas the rest 20.7% were given topically. Total percentage of formulations containing one or more corticosteroids was 11.48%. Of these 11.48%, 23.6% were administered systemically, whereas the rest 76.4% were given topically. Of all the formulations, 8.78% were emollients. 65% of patients used at least 1 emollient during their stay in the hospital. 14.18% of formulations were antihistamine in nature. The predominant antihistamine (67%) was hydroxyzine. All these statistics have been shown graphically in Figure 2.

Of all the prescribed medications, 4 (1.35%) did not contain clear instructions for the route of administration. Strength was clearly mentioned in only 89 (30%) of the preparations. An overwhelming majority 287 (96.95%) of prescribed medications contained clear instructions as to the

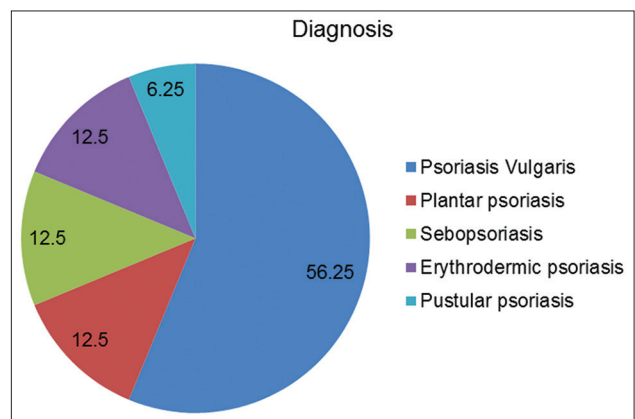


Figure 1: Various types of psoriasis cases which were admitted (in %).

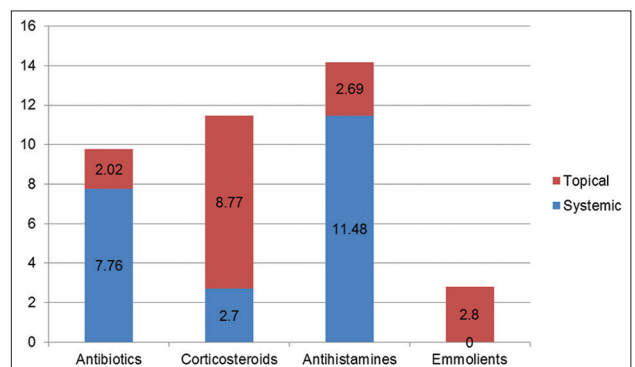


Figure 2: Different groups of drugs used along with their route of administration (percentage of all drugs).

duration for which they should be administered. 56 (19%) of formulations were missing the instructions as to their frequency of administration. In 98% of the prescriptions, the exact dose was missing.

DISCUSSION

There are very few studies if any, from India and abroad which have analyzed prescribing pattern among hospitalized patients with psoriasis. Hence, we conducted this study to fill the lacunae in understanding the prescription pattern in such patients.

In our study, the average age of the patients who were admitted with psoriasis was 49.9 years, and the majority of them were above the age of 50 years. This correlates well with the study conducted by Steinke et al.¹¹ Of all the inpatients, an overwhelming majority were male and about a fourth of them female. Male preponderance is reported from many other Indian studies, whereas international studies do not show any such bias.⁷

The average duration of hospital stay in our study was just 7.96 days, whereas other studies have reported anywhere from 16.812 to 19.611 days. The lesser duration of hospital stay perhaps could be attributed to very sick patients not being admitted and referred to other higher centers.¹²

In our prescription charts, most medications were prescribed by their brand names, generic names were sparingly used. This practice is known to increase the cost of therapy and should be discouraged. Use of generics usually provides flexibility to the dispensing pharmacist and generic drugs are less expensive than brand-name drugs.¹³

A third of patients were prescribed FDCs which when used in rational combinations tend to offer patients convenience and improves their compliance to therapy.¹⁴

Emollients were underused in spite of the evidence of their “steroid sparing effect,” i.e., their ability to reduce the need to use topical steroids.¹⁵

Not specifying the quantity of medication to be used can result in under-usage of the preparation and could result in a sub-therapeutic outcome, at the same time over use can result in unwanted adverse effects.¹⁶

Clear explanations must be given so that patients are aware of how much medication to use, where and when to apply it, and for how long. The risk of side-effects increases with the potency, and the amount of medication used.⁶

Topical antibiotics may be used where there is a limited infection. A short course of a suitable oral antibiotic should be reserved in severe cases. To prevent development of resistance, all antibiotics, whether topical or systemic, should be used carefully and judiciously.¹⁷

CONCLUSION

The findings of our study show the use of various drugs such as antihistamines, emollients, antibiotics and both topical and systemic corticosteroids in the inpatient management of psoriasis. Another common finding was the inadequate prescribing information especially regarding the quantity and strength of various medications to be used and excessive use of brand names.

Repeated and intermittent monitoring of drug usage pattern combined with regular feedback to the prescribers is essential. Measures to facilitate and encourage rational prescribing among the students and prescribers should be undertaken.

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