

Original article

A study of treatment modalities in psoriasis in dermatology outpatient department of a tertiary care teaching hospital

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Abstract:

Introduction: Psoriasis is a common chronic inflammatory dermatosis and is a major cause of morbidity in our population. Though several treatment modalities exist, there lies a possibility of relapse and remission because of its unpredictable disease course along with negative impact on quality of life.

Aim and Objective: To study the psoriasis pattern, delineate the prevailing treatment options and compare the therapeutic interventions in terms of efficacy (short term) and cost.

Methods and Material: The Psoriasis Area Severity Index the most widely used tool for measuring the severity of psoriasis. Using this tool we evaluated 235 clinically diagnosed cases of psoriasis in the Dermatology O.P.D for one year.

Statistical analysis: The % change in PASI scores were analyzed using Wilcoxon signed ranks test and quantitative values were compared by ANOVA followed by Tukey's multiple comparison test.

Results: Analysis revealed that plaque psoriasis was the most common. Average no. of drugs prescribed was 3.46/ patient. Maximum drugs prescribed were topical 54.55 %. In majority of patients there was minimal improvement (34.29 %) in response to treatment. Of the enrolled cases 62.55 % were old cases who were on both topical as well as systemic therapy (46.81) and no therapy (34.90%).

Conclusions: Psoriasis accounted to around 0.65% of the patients attending the dermatology OPD in this tertiary care setting. There was a significant change in PASI score at the end of 8weeks in only 8.57% cases. Such poor treatment response to psoriasis warrants rigorous patient counselling as well as studies like this can be an eye opener for the prescriber.

Key-words: psoriasis, PASI score, treatment modalities

Introduction:

Psoriasis is a common chronic inflammatory dermatosis affecting up to 125 million people worldwide (2-3% of the total population), according to the National Psoriasis Foundation¹. In India the prevalence of this disease varies from 0.44 to 2.8%. The prevalence and morbidity of psoriasis has been steadily increasing in India due to the modern stressful life style, lack of adequate physical activities and associated risk of metabolic syndrome². It is a non-fatal, lifelong disease but a source of significant morbidity with a high impact on the person's economy as well as quality of life. Extensive pustular lesions with

generalized involvement of the body (erythroderma) and psoriatic arthritis are its severe complications. The disease can be effectively controlled by various therapeutic options, used alone or in combination³. Usually topical treatments with and without steroids are the first line of choice in treating psoriasis. Mild to moderate psoriasis usually responds to topical therapies like emollients, steroids, dithranol, coal tar, salicylic acid, Vit. D analogues, ultraviolet light (UVB). But severe and wide spread psoriasis, failure or intolerance of topical therapy and complicated forms like psoriatic arthritis need systemic therapy or a combination of both topical and

systemic therapy like PUVA (psoralen plus UVA), cytotoxic drugs (methotrexate, hydroxyurea), immunosuppressants (cyclosporin, glucocorticoids), oral retinoid (acitrenin). Though currently a wide array of treatment modalities are available to combat psoriasis, there lies a possibility of negative impact on quality of life, relapse and remission because of the unpredictable disease course. A number of clinical studies on psoriasis and newer biologic treatments basing on the disease pathogenesis are published each year. However, evaluation of the treatment modalities of this disease in a particular area from time to time is required to provide an insight into the pattern of disease, profile of drug use and available novel therapeutic options.

Objectives:

In the above context the present study aims,

- a. To study the disease (psoriasis) pattern.
- b. To delineate the prevailing treatment options for the given condition
- c. To compare the therapeutic interventions in terms of efficacy (short term) and cost in this tertiary care setting.

Materials and Methods:

This was a prospective outpatient based observational study of one year duration. Following permission from the Institutional Ethics Committee, two hundred thirty five (235) clinically diagnosed cases of psoriasis registered with the Dermatologist in the O.P.D were enrolled for the study. The sociodemographic data and clinical details of each patient were collected according to a proforma designed and validated by the dermatologist. The written Informed consent was obtained from the patient before including them in the study. The inclusion and exclusion criteria for patient selection were as follows:

Inclusion criteria:

1. Patients with established diagnosis of psoriasis (old/new)
2. 15-55 yrs age group

Exclusion criteria:

1. Patients with H/O renal, hepatic or haematological diseases.
2. Known hypersensitivity to methotrexate, phototherapy
3. $TLC < 3 \times 10^9/L$

4. Platelet count $< 50,000/cmm$
5. $Hb < 9 \text{ gm/dl}$

Evaluation was done at baseline (0 week), at 4 and 8 weeks of treatment. The short term efficacy evaluation i.e, extent of clinical severity of the disease was assessed by the psoriasis area severity index (PASI)^[4,5]. The % change in PASI scores from baseline were analyzed using Wilcoxon signed ranks test after 4 and 8 weeks and quantitative values were compared by ANOVA followed by Tukey's multiple comparison test.

The response to the given treatment was determined by the disease clearance (PASI) at the end of 8wks. Patients with more than 75% reduction in PASI score were considered as marked improvement; 51% to 75%, moderate improvement; 26% to 50%, minimal improvement; and less than 25%, no improvement. Drug treatments and cost of treatment (drug cost only) was also recorded.

Results:

Basing on the inclusion and exclusion criteria a total of 235 patients were enrolled during the study period which accounted to around 0.65% of the patients attending the dermatology OPD. Table 1 provides the summary of the patient's demographic profile. Mean age was 39.57 ± 10.04 years. Males were 60.85% (mean age of onset 38.35) while females were 39.15% (mean age of onset 41.92). The male to female ratio was 1.59:1. Most of patients were in the age group of 35-55 years range that visited the OPD during the study period. Psoriasis was found to be common in married individuals and urban population. No significant association with educational status of the patient was observed.

Table 2 provides the Disease characteristics of the study population. Of the enrolled 235 cases 62.55 % were old cases of which 46.81% were on both topical as well as systemic therapy and 34.90% no therapy [not treated or irregularly treated]. Analysis of data revealed that plaque psoriasis was the most common type (57.14 %), followed by exfoliative, erythrodermic, pustular and psoriatic arthritis patients. In 28.51% of cases the lower limb (single) was the most common initial site to be affected followed by generalized psoriasis (11.49%), plantar

surface (11.49%) and other sites like scalp, both lower limbs, trunk etc. A positive family history was present in only 25.7% of the patients who were surveyed. There was no association with smoking or alcohol in majority (60%). Relevant data on past drug history was not found.

There was a significant change in PASI score from baseline at 8 weeks. But a marked improvement (PASI score > 75%) at the 3rd visit (8 weeks) compared to baseline score was seen in only 8.57% cases. 34.29% had moderate improvement (PASI score 51- 75%), 31.29% had minimal improvement (PASI score 26- 50%) and 25.71% had no response to treatment (PASI score < 25%).

A prescription survey of the enrolled cases revealed that, average number of drugs prescribed was 3.46 per patient which included topical (1.89) and systemic formulations (1.57). Maximum drugs prescribed were topical (54.55 %) compared to systemic (45.55 %). Commonly prescribed topical agents were salicylic acid (50%), halobetasol propionate (30%), followed clobetasol propionate (20%) while the most commonly prescribed systemic agents were levocetirizine dihydrochloride (50%) followed by methotrexate (25%). Total cost (drug cost) was found to be Rs.11668.00 and average cost per patient was found to be Rs. 333.37.

Table 1: Summary of patient’s general information

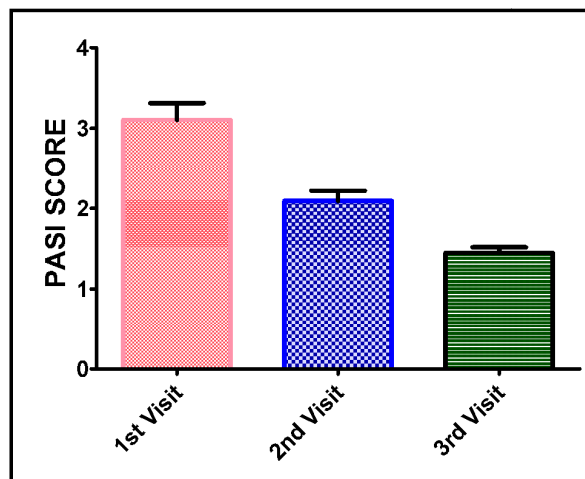
Patient characteristic	% of patients
Gender	
Male	60.85
Female	39.15
Age group(years)	
15-24	14.04
25-34	18.72
35-44	31.49
45-55	35.74
Educational status	
Illiterate	4.25
Primary	23.40
Secondary	38.29
Graduate	27.65
Professional	6.38

Marital status	
Married	81.28
Unmarried	18.72
Resident	
Rural	22.98
Urban	77.02

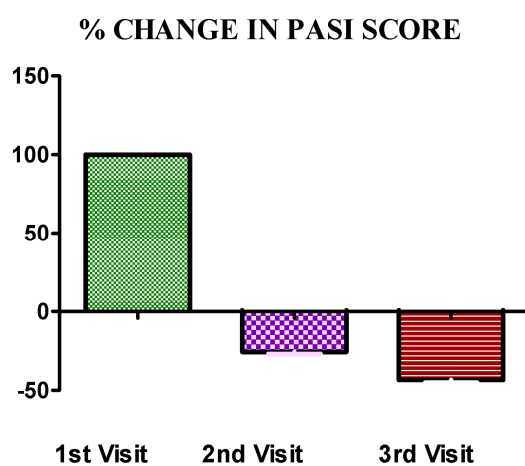
Table 2: Disease characteristics

Disease characteristic	% of patients
Diagnostic category	
Old case	62.55
New case	37.45
Psoriasis site	
Palm	8.94
Trunk	8.94
Both limbs	9.79
Scalp	10.21
Palmoplantar	10.64
Generalized	11.49
Lower limb (single)	28.51
Plantar	11.49
Previous treatment history	
No treatment	34.90
Topical	18.30
Systemic & topical	46.81

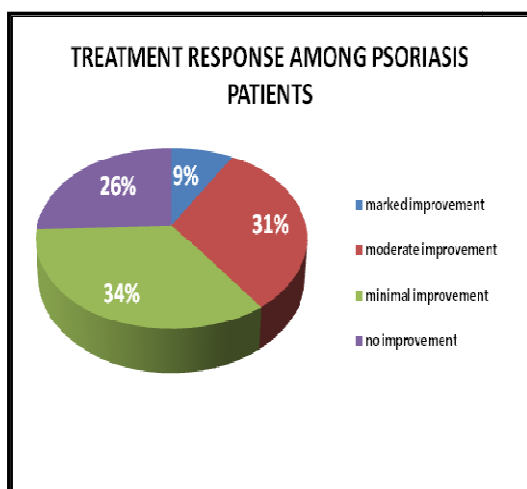
Graph -1



Graph -2



Graph -3



Discussion:

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. Simultaneous assessment the cost of different treatment options and whether such treatment is economical aims to follow the rational use of drugs concept. Therefore, intermittent monitoring of the pattern of drug use in a hospital setting is needed to analyze their rationality.^[6]As with most studies our observations do agree with the finding of male preponderance in psoriasis^[7, 8], and higher mean age of onset. As majority of patients suffered from plaque psoriasis be they were initially treated with topical corticosteroids and emollients followed by addition of systemic drugs at 4 weeks onwards.

The degree of severity of psoriasis is generally based on the following factors: The proportion of body surface area affected, disease activity, response to previous therapy and the impact of the disease on the person. Several scales exist for measuring the severity of psoriasis but so far, PASI is considered as a gold standard.^[9-12] Hence, we used this tool for measuring the outcome of antipsoriatic agents in this study. PASI combines the assessment of the severity of

lesions and the area affected into a single score in the range of 0 (no disease) to 72 (maximal disease). Most of the patients were subjected to both systemic as well as topical therapies. But only few (8.57%) of them had marked improvement compared to no response at all in 25.71%. No single psoriasis treatment works for everyone. Different situations and individuals may need different interventions. Therefore patient centered treatment approach is key to bringing this chronic disease into remission.

Conclusion: Psoriasis accounted to around 0.65% of the patients attending the dermatology OPD in this tertiary care setting. There was a significant change in PASI score (marked improvement) from the baseline at the end of 8 weeks in only 8.57% cases. Such poor treatment response to psoriasis warrants rigorous patient monitoring and counselling. Though extrapolation of findings of this study to the general population would be too early, but it can be concluded that studies like this can be an eye opener for the prescriber. Further long term and multicentre studies are needed to substantiate the above observations.

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