

# Apremilast, A Recent Advance in Systemic Treatment of Psoriasis (25 Cases)

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## ABSTRACT

**Introduction:** Apremilast, an orally administered small molecule inhibitor of phosphodiesterase 4 (PDE4) has been licensed by the US Food & Drug Administration for the management of active psoriatic arthritis (March 21, 2014) and moderate to severe plaque psoriasis (Sep 23, 2014).

**Aims & objectives:** Aim of the study is to evaluate the utility of Apremilast in the treatment of psoriatic patients, despite prior therapy with conventional disease modifying drugs.

**Materials & methods:** Total 25 patients were included in our study. Tablet Apremilast 30mg in twice daily dosing was given to all patients. All routine investigations are done. The effect of administration of drug was recorded by PASI score.

**Result:** In all 25 patients, Tablet Apremilast 30mg twice daily given. At the end of 16 weeks, significantly more patients taking Apremilast achieved 75% reduction PASI -75 in 32% of patients, PASI-50 in 56% of patients and 12% patients left the study. No significant adverse events emerged with continued Apremilast exposure.

**Conclusion:** Orally administered Apremilast is an effective, generally well tolerated & convenient option for the treatment of psoriasis.

**Keywords:** Apremilast, Psoriasis, PASI

## INTRODUCTION

Psoriasis is a chronic, auto-inflammatory papulosquamous skin condition with remissions and exacerbations prevalence ranging from 0.9% to 8.5%.

There are several clinical cutaneous manifestations of psoriasis but most commonly the disease presents as chronic, erythematous, scaling papules and plaques. There are five main types of psoriasis: Plaque (psoriasis vulgaris) guttate, inverse, pustular and erythrodermic.

Apremilast is a Phosphodiesterase 4 (PDE4) inhibitor that modulates inflammatory signalling pathways and plays a central role in the pathogenesis of psoriasis. Apremilast was approved by the US Food and Drug Administration in 2014 and by the European Commission in 2015 for the treatment of adult patients with active psoriatic arthritis and for patients with moderate to severe plaque psoriasis.<sup>[1]</sup>

## MATERIALS AND METHOD

Objective of the study was to evaluate the utility of Apremilast in the treatment of psoriatic patients, despite prior therapy with conventional disease modifying drugs.

### Inclusion criteria:

1. Both males and females patients >18years of age.
2. Moderate (2-10% BSA) to Severe (>10% BSA) psoriasis who previously failed to show improvement in their PASI score on conventional systemic therapy and topical therapy.

### Exclusion criteria:

1. Patients <18 years of age.
2. Pregnant and lactating women.

3. Patients refused to follow up.

**Method:** We enrolled 25 cases in this study. They were treated on day 1 with 10 mg in the morning; this is increased to 10 mg in the morning and evening on day 2. The evening dose is further increased by 10 mg (to 20 mg) on day 3. On day 4, the morning dose is increased to 20 mg, so that 20 mg is taken twice daily, and on day 5 the evening dose is increased to 30 mg. The maintenance dose of 30 mg twice daily begins on day 6. A one-week titration pack containing 10-mg, 20-mg, and 30-mg tablets is available to facilitate the initiation of therapy, then with 30mg once daily for 4 months. First follow up after 15 days to look for any side effects and then every monthly till 12 months.

**Efficacy assessment:**

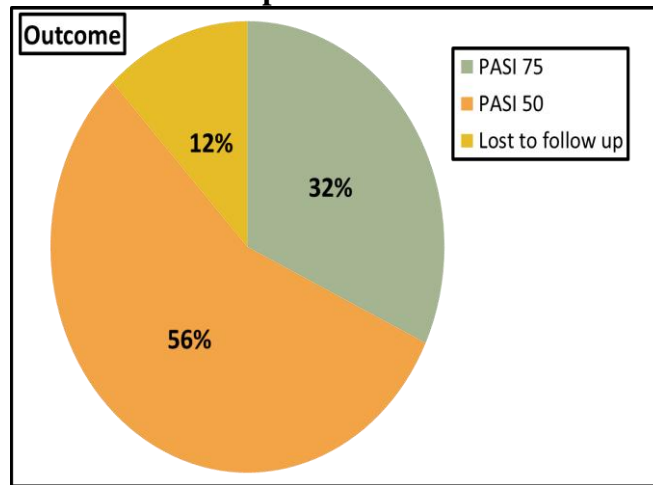
- Primary efficacy endpoint: - Proportion of patients achieving at least 75% improvement in PASI at 16weeks.<sup>[2]</sup>

- Secondary efficacy endpoint: - PASI 50, 90 and 100 response at week 16.

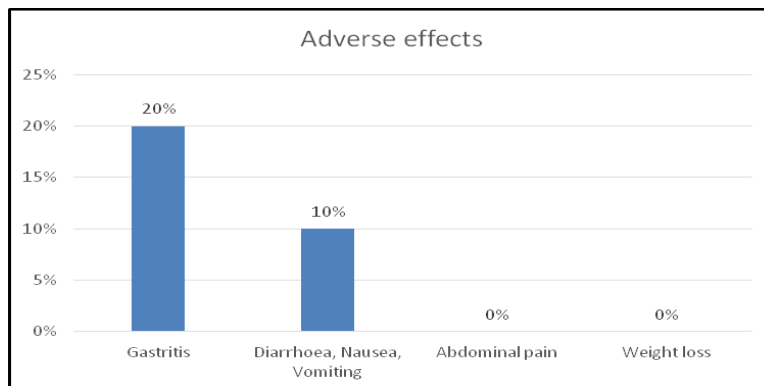
**RESULTS**

Out of the 25 patients, 22 completed the entire study. The end result of the study clearly indicated the therapeutic justification for the use of Apremilast in plaque-type psoriasis. In 88% of the patients in this study, an improvement in psoriasis was witnessed as per the Psoriasis Area Severity Index (PASI) score, with 32% of the patients had a reduction of >75% of their PASI and 56% of the patients having a reduction of >50% of their PASI score from the baseline as per Graph-1. Adverse effects were also very mild as per Graph-2. Thus, we have seen the effectiveness of Apremilast in treating patients with psoriasis.

**Graphs and tables:**



Graph 1: Percentage of patients achieved PASI 16 weeks after treatment.



Graph 2: Presence of adverse effects

**Figures:**



Figure 1: Clinical images of a patient with pictures A-C taken prior to the start of treatment and pictures D-F taken 16 weeks after treatment.

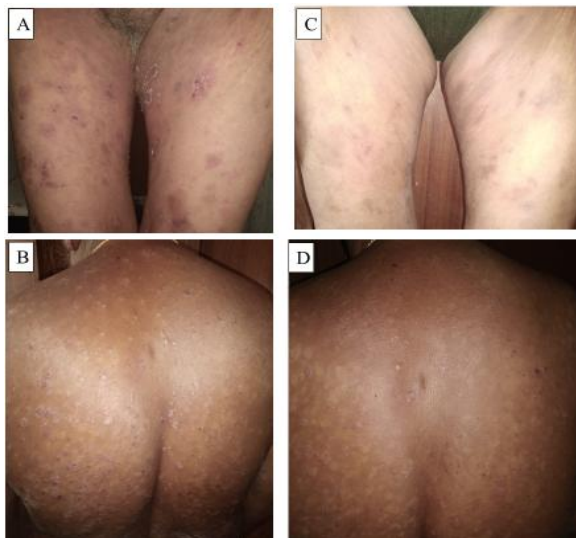


Figure 2: Clinical images of a patient with pictures A-B taken prior to the start of treatment and pictures C-D taken 16 weeks after treatment.

**DISCUSSION**

Evidence from various clinical studies has established the efficacy of Apremilast monotherapy irrespective of previous exposure to the systemic agents.<sup>[3,4,5,6]</sup> Our study in comparison is a small and short cross-sectional study with 25 patients studied over 16 weeks. Of the 25 patients, 56% patients achieved between 50-74% PASI reduction with a majority of them attaining more than 50% PASI reduction at the end of 16 weeks. 8 patients achieved 75% and more PASI reduction at

the end of 16 weeks. 3 patients discontinued the drug due to financial issues.

In previous studies on the safety profile of Apremilast, the drug was found to be safe with well tolerated mild to moderate adverse effects, the commonest being gastrointestinal effects like nausea, vomiting and diarrhoea.<sup>[7]</sup> The other less common adverse effects reported include headache, upper respiratory tract infections, weight loss, depression and suicidal tendencies. Apremilast didn't have any effect on the haematological, hepatic and renal systems. Comparatively, in our study there were very few adverse effects reported, commonly gastritis, nausea, vomiting and diarrhoea, which were well tolerated and subsided within the first week of treatment.

**CONCLUSION**

Orally administered Apremilast is an effective, generally well tolerated and convenient option for the treatment of psoriasis. Continuation of Apremilast therapy is associated with further improvement in the severity of psoriasis with favourable safety profile which merits its long-term use.

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