

## ORIGINAL CONTRIBUTIONS

# DAPSONE VERSUS CORTICOSTEROIDS IN LICHEN PLANUS

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Seventy-five patients with Lichen Planus (LP) were enrolled from out-patient department for screening the therapeutic effect of dapson. Patients were divided into two groups of 50 and 25. In regimen-1 (R1) 25 patients were given local corticosteroids and oral chlorpheniramine maleate. In regimen-2 (R2) 50 patients were given oral dapson and chlorpheniramine maleate and topical coconut oil. It was found that total efficacy of R2 was 18% higher than R1.

*Key Words: Dapsone, Lichen planus*

### Introduction

Lichen planus (LP) is a common skin disorder of unknown aetiology having various morphological variants with LP vulgaris being the commonest variant.<sup>1</sup> LP is found to be significantly associated with hypertension, diabetes mellitus and other autoimmune diseases. Mucous membranes, nails and hair may be involved in LP. Cellular and humoral immunity play a role in pathogenesis of the disease. Various drugs like local and systemic corticosteroids, dapson, griseofulvia, propranolol, vit A acid, cyclosporine and cyclophosphamide have been tried but dapson has been reported to give encouraging results.<sup>2-5</sup> The rationale for its use is that, LP is an autoimmune disorder and dapson inhibits adherence of antibodies to neutrophils which is important in autoimmune skin diseases and secondly it acts as an anti-inflammatory agent by

inhibiting the release of chemotactic factors from mast cells.<sup>3</sup>

We compared the effect of dapson and local corticosteroids in LP.

### Materials and Methods

Seventy -five patients with LP of various types were enrolled in the study. Detailed clinical history was taken and thorough general physical, systemic and derma-



Fig.1. Lichen planus vulgaris

tological examinations were done. Routine investigations including haemoglobin, total leucocyte count, erythrocyte sedimentation rate, urinalysis and stool examination were

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done in all cases. In addition fasting blood sugar, blood urea, serum glutamic oxaloacetic transaminase, and serum glutamic pyruvic transaminase were also done in all cases. Out of 75 cases, 25 were treated with conventional therapy (R1) and 50 cases with dapsone therapy (R2). Before treatment diagnosis was confirmed by biopsy and after treatment biopsy was done in 50 cases (18 cases of R1 group and 32 cases of R2 group). T cell count was done in all cases. In



Fig.2. Hypertrophic LP

regimen -1 (R1) patients were given tab chlorpheniramine maleate thrice daily and local corticosteroid (betamethasone 0.1%) twice daily locally for three months. In regimen-2 (R2) patients were given tab dapsone 50 mg tds along with tab chlorpheniramine maleate 4mg tds and coconut oil locally for three months. Patients were followed up every 15 days for a period of three months. Clinical interpretation was made by observing reduction of itching, regression of the size and shape of papules and appearance of new lesions.

**Results**

Out of 75 cases, maximum number of cases (60%) belonged to age group 30-60 years and 4% cases were less than 10 years. Male to female ratio was 1.08:1

The different types of LP observed are given in table I.

**Discussion**

Dapsone has a therapeutic effect in several dermatoses and in lichen planus it has been used by several authors.<sup>2-5</sup> It is used in dermatology for its anti-inflammatory

properties. It may be due to inhibition of myeloperoxidase hydrogen peroxide cytotoxic system. Effect of dapsone in lymphocyte rich dermatoses may be through a similar mechanism proposed for polymorphonuclear rich infiltrative dermatoses.<sup>6</sup> It may have an antiinflammatory effect by inhibiting the release of inflammatory or chemotactic factors from mast cells.<sup>7</sup> Dapsone is known to produce reduced responsiveness of lymphocytes to PHA in vitro and in vivo.<sup>8</sup> The most common untoward effect of dap-

Table I. Different types of Lichen planus observed

Type of Lichen planus	No. of male patients (34)	No of female patients(36)	Total no. of cases (75)	Percentage
LP vulgaris	24	29	53	70.7
LP hypertrophicus	6	2	8	10.7
LP actinicus	1	2	3	4.0
LP linearis	2	0	2	2.7
Follicular LP	0	1	1	1.3
LP atrophicus	1	0	1	1.3
LP annularis	1	0	1	1.3
LP pigmentosus	1	0	1	1.3
LP mucous membrane/alone	3	2	5	6.7
<b>Total</b>	<b>39</b>	<b>36</b>	<b>75</b>	<b>100</b>

Results of response to treatment are shown in table II

Table II. Response to treatment

Duration	R1	%	R2	%
After 1 month	0/25	-	2/50	4%
After 2 months	4/25	16%	17/50	34%
After 3 months	10/25	40%	29/59	58%

sone is haemolysis of varying degree. It is dose related and develops in almost every individual treatment with 200-300 mg of dapsone daily.

In our study, in R1 40% patients showed good response while in R2, 58% patients showed good response at the end of 3 months therapy. It was also observed that LP with mucous membrane involvement showed excellent

response to dapsone in 3 months time. Similar are the observations by Kumar et al who reported good response in 66.5% of cases.<sup>4</sup> Our study showed that dapsone is definitely superior to local corticosteroids alone in treating LP cases.

### References

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