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## Original Article

### Evaluation Of Prevalence Of Cutaneous Lesions Of Lichen Planus In Patients Visiting A Tertiary Care Center: A Clinical Study

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#### ABSTRACT

**Background:** Lichen planus (LP) is a chronic inflammatory and immune mediated disease. The exact aetiology and epidemiology of LP is uncertain. Hence; on the basis of above mentioned data, we planned the present study to assess to prevalence of cutaneous lesions of Lichen Planus in Patients Visiting a tertiary care center. **Materials & methods:** The present study included assessment of prevalence of cutaneous lesions of Lichen Planus in Patients Visiting a tertiary care center. After meeting the exclusion criteria, a total of 500 patients were included in the present study. Diagnosis of the LP was done on the basis of clinical presentation of the lesion, and further confirmation of the lesion was done by histopathologic section. All the results were recorded and were analyzed by SPSS software. **Results:** Out of 250 males included in the present study, only a single patient had cutaneous lichen planus. Out of 250 females included in the present study, two patients had cutaneous lichen planus. Total prevalence of cutaneous lichen planus in the present study was found to be 0.6 percent. **Conclusion:** Prevalence of cutaneous LP was found to be 0.6 percent with incidence slightly among females. Proper screening protocols should be followed for early detection of the pathology so that early and prompt treatment could be initiated.

**Key words:** Cutaneous, Lichen planus, Prevalence

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## INTRODUCTION

Lichen planus (LP) is a chronic inflammatory and immune mediated disease that involves skin, nails, hair, and mucous membranes.<sup>1</sup> Flexor surfaces of the extremities and presents as small itchy violaceous Papules in middle-aged adults, are the most common sites involved by Cutaneous lichen planus (CLP). "Pruritic, Purple, Polygonal, Planar, Papules, and Plaques" are the traditional 6 "P's" of LP.<sup>2,3</sup> The exact aetiology of LP is uncertain. Autoimmunity, immunodeficiency, food allergies, stress, habits, trauma, diabetes, and hypertension are considered as some of the etiological factors for lichen planus.<sup>4</sup> Antigen-specific keratinocyte killing by CD8+ cytotoxic T cells, mast cell deregulation, and matrix metalloproteinase activation are some of the molecular pathogenesis behind lichen planus lesions.<sup>5,6</sup> Hence; on the basis of above mentioned data, we planned the present study to assess to prevalence of cutaneous lesions of Lichen Planus in Patients Visiting a tertiary care center.

## MATERIALS & METHODS

The present study was conducted in the department of dermatology of the medical institute and it included assessment of prevalence of cutaneous lesions of Lichen Planus in Patients Visiting a tertiary care center. Exclusion criteria for the present study included:

- Patients with positive history of any other co-morbidity,
- Patients with presence of lichenoid reaction,
- Patients with any known drug allergy

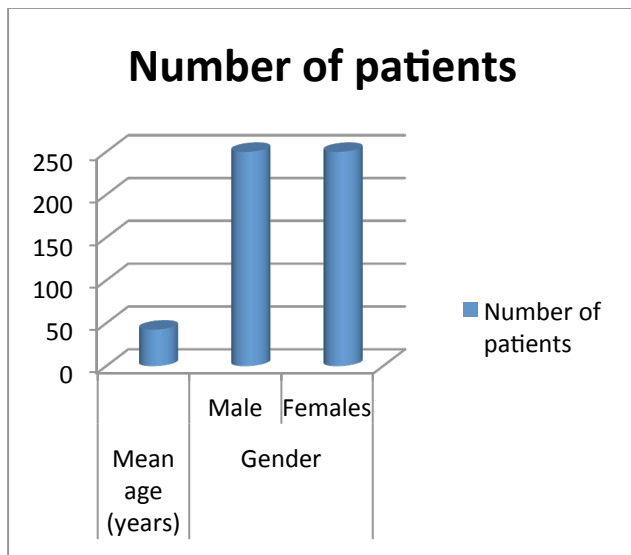
After meeting the exclusion criteria, a total of 500 patients were included in the present study. All the patients reported to the outpatient clinic of the tertiary care center for different medical complaints. Complete clinical examination of all the patients was carried out and detailed clinical and medical history was obtained. Diagnosis of the LP was done on the basis of clinical presentation of the lesion, and further confirmation of the lesion was done by histopathologic section. Biopsy was done in all the suspected cases and was sent to the experienced pathologist for further confirming the diagnosis. All the results were recorded and were

analyzed by SPSS software. Multivariate regression curve was used for assessment of level of significance.

**RESULTS**

A total of 500 patients were screened in the present study, among which 250 were males while remaining 250 were females. Mean age of the subjects of the present study was 42.5 years. Out of 250 males included in the present study, only a single patient had cutaneous lichen planus. Out of 250 females included in the present study, two patients had cutaneous lichen planus. Total prevalence of cutaneous lichen planus in the present study was found to be 0.6 percent.

**Graph 1: Demographic details of the patients**



**Table 1: Prevalence of cutaneous LP among males**

Parameter	Males (n=250)	
	Number of patients	Percentage
Cutaneous lichen planus	1	0.4

**Table 2: Prevalence of cutaneous LP among females**

Parameter	Females (n=250)	
	Number of patients	Percentage
Cutaneous lichen planus	2	0.8

**Table 3: Overall Prevalence of cutaneous LP among all the patients**

Parameter	Total subjects (n=500)	
	Number of patients	Percentage
Cutaneous lichen planus	3	0.6

**DISCUSSION**

Pathogenesis of LP is a topic of research. It is still unknown that what exact extent, this condition affects the general population. Data from the literature shows the prevalence of LP ranging from 0.22 % to 5 %. But still there is lack of clear diagnostic criteria and a uniform pattern of methodology in all these studies. In one of the past study conducted by McCartan and Healy, authors have identified the overall prevalence of LP as 1.27 % in Sweden.<sup>7-9</sup> Hence; we planned the present study to assess the prevalence of cutaneous LP. In the present study, among the 500 patients analyzed; the prevalence of cutaneous LP among males was 0.4 percent, while prevalence among females was 0.8 percent. The overall prevalence of cutaneous LP found in the present study was found to be 0.6 percent. Omal P et al evaluated the prevalence of oral, skin, and oral and skin lesions of LP from a population of patients attending the Department of Oral Medicine and Radiodiagnosis, Pushpagiri College of Dental Sciences, Tiruvalla, Kerala, India. A cross-sectional study was designed to evaluate the prevalence of oral, skin, and oral and skin lesions of LP. This was ongoing prospective study with results of 2 years being reported. LP was diagnosed on the basis of clinical presentation and histopathological analysis of mucosal and skin biopsy done for all patients suspected of having LP. Out of 18,306 patients screened, 8,040 were males and 10,266 females. LP was seen in 118 cases (0.64%). Increased prevalence of LP was observed in middle age adults (40–60 years age group) with lowest age of 12 years and highest age of 65 years. No statistically significant differences were observed between the genders in skin LP group (P=0.12) and in oral and skin LP groups (P=0.06); however, a strong female predilection was seen in oral LP group (P=0.000036). The prevalence of cutaneous LP in oral LP patients was 0.06%. This study showed an increased prevalence of oral LP than skin LP, and oral and skin LP with a female predominance.<sup>10</sup> Belfiore P et al estimated the prevalence of vulval LP (VLP) in a cohort of patients with histologically confirmed oral LP (OLP). The study group consisted of 42 women histologically diagnosed with OLP. The mean age was 60.5 years (range 27-81). They underwent genital examination, colposcopy and vulvoscopy. For the histological confirmation of clinical VLP biopsies were performed whenever a clinical lesion was found. Patients with clinical evidence, but without the histological confirmation of OLP and VLP, were excluded from the study group. Thirty-two vulval and one vaginal biopsy specimens were obtained. Histological diagnoses were confirmed in 24 of 32 (75%) patients who underwent a vulval biopsy: these represent 57% (24 of 42) of the study group.<sup>11</sup> Varghese SS et al determined the epidemiology of OLP in a cohort of South Indian population. All the case data records of 29,606 patients were retrospectively reviewed. For data review, 122 patients of OLP were selected. Estimated were type, number, and location of lesions, clinical manifestation, age of the patient, gender, onset and duration of lesion, stressful life style, habits, skin involvement and associated systemic illness, and presence/absence of dysplasia. When the distribution of OLP among the gender was considered, we found more prevalence in females than males. Fifty-seven percent of patients were associated with stressful lifestyle. Reticular lichen planus was the most common clinical subtype found. Bilateral buccal mucosal was the common site, when the distribution of sites of OLP were compared. OLP patients had high incidence of hypersensitivity reactions and 5% of OLP lesions showed anaplasia.<sup>12</sup> Yusuf SM et al studied the prevalence and clinical spectrum of lichen planus in Kano,

Nigeria. A total of 3,874 patients had various forms of skin diseases during the study period. Out of these, 158 had LP comprising of 68 (43%) males and 90 (57%) females. Lichen planus therefore, accounted for 4% of all dermatology cases that were seen on out-patients' visit. Actinic and Bullous variants had the least occurrences with 2, (1.2%) each. Lichen planus confined to the skin was observed in 152 (96%) of the patients, while skin and mucous membrane involvement was seen in remaining 6 patients (4%) out of which 3 had lesions that involved the oral mucosa. None of the patients in this study presented with lesions restricted to the oral mucosa. The scalp was affected in 12 (7.6%), while genital lesions were seen in 2 patients (1.3%). Nail involvement was observed in 15 (9%) patients. Recurrence of the disease was documented in 29 (18 %) of the patients.<sup>13</sup>

## CONCLUSION

Prevalence of cutaneous LP was found to be 0.6 percent with incidence slightly among females. Proper screening protocols should be followed for early detection of the pathology so that early and prompt treatment could be initiated. However; further epidemiological studies are recommended.

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