



Original article

# A clinicopathological study of cutaneous lichen planus

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## Abstract

**Background:** Lichen planus is an idiopathic subacute or chronic inflammatory disease of the skin, mucous membranes and nails. We studied the clinicopathological profile of lichen planus in Indian population.

**Methods:** A total of 145 cases of histologically diagnosed lichen planus samples were included. Clinical features like age, sex, type of lichen planus, location were recorded in the case record form. Histological features of lichen planus were studied.

**Results:** Out of 145 cases, majority (61%) were of classical lichen planus. Majority of cases were in the age group of 20–40 years and showed female preponderance. Most commonly, violaceous lesions occurred in lichen planus, pigmented in lichen planus pigmentosus, and both violaceous and pigmented in lichen planopilaris.

**Conclusions:** In Indian population, common age of occurrence of lichen planus is lower as compared to western literature, and a large number of cases (28%) are in the paediatric age group (<18 years).

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**Keywords:** Lichen planus; Cutaneous; Pathology

## 1. Introduction

Lichen planus (LP) is an idiopathic subacute or chronic inflammatory disease of the skin, mucous membranes and nails. (Boyd and Neldner, 1991) Exact pathogenesis of lichen planus is still unclear. Several hypotheses have been made regarding its aetiology, including genetic, infective, psychogenic and autoimmune factors (Sugerman et al.,

2000; Sontheimer, 2009). Recent studies provide evidence that autoreactive cytotoxic T lymphocytes are the effector cells which cause degeneration and destruction of keratinocytes (Sontheimer, 2009).

Cutaneous lichen planus is characterized by polygonal flat-topped, violaceous papules and plaques, which in some cases can be intensely itchy. The lesions may result in long-standing residual hyperpigmentation, especially in dark-skinned patients. LP has characteristic histopathological features which make the diagnosis relatively easy.

Cutaneous LP has worldwide distribution with its incidence varying from 0.22% to 1% depending upon geographic location (Boyd and Neldner, 1991). According to one study LP represents 0.38% of all dermatology outpatients in India. (Bhattacharya et al., 2000) However, there is a paucity of Indian literature describing the clinicopathological profile of lichen planus. Therefore, we conducted this study to document and analyse the clinicopathological profile of LP in Indian population.

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### 2. Materials and methods

The study was conducted in the Department of Pathology at our Institute. Retrospectively we analysed all the cases of lichen planus received in our department in the last 2 years. A total of 145 histologically diagnosed lichen planus samples were included for studying the clinicopathological aspects of lichen planus. Clinical features like age, sex, type of lichen planus, location were recorded in the case record form from the pathology archives. Haematoxylin and Eosin (H & E) stained slides and blocks were retrieved from the record for all cases. Sections stained with H & E were used to study the histological features of lichen planus. The diagnoses for all the lichen planus cases included in the study were confirmed on repeat histological examination. All morphological features were also noted for comparison with clinical subtype.

#### 2.1. Statistical analysis

Fisher’s Exact test was used to assess associations between various variables. All analyses were performed using SPSS software. A *p*-value of less than 0.05 was considered statistically significant.

### 3. Results

Out of 145 cases of lichen planus studied, 88 (61%) were of lichen planus classical type, 40 (27.5%) were of lichen planus pigmentosus and 17 (11.5%) were of lichen planopilaris. 79/145 (54.5%) were females and 66/145 (45.5%) were males with sex ratio of 0.8:1 (male:female). Majority of the patients of lichen planus, lichen planus pigmentosus and lichen planopilaris were in the age group of 20–40 years. The age range of the patients was from 5 to 60 years in males and 7 to 76 years in females. The mean age of males was a decade lower than that of females in LP and lichen planus pigmentosus (Figs. 1 and 2).

The duration of the disease varied. Some patients sought help as early as a few days after its onset, while others,

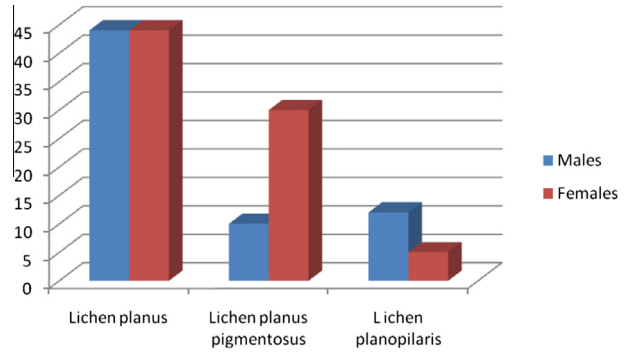


Figure 2. Gender distribution according to type of disease.

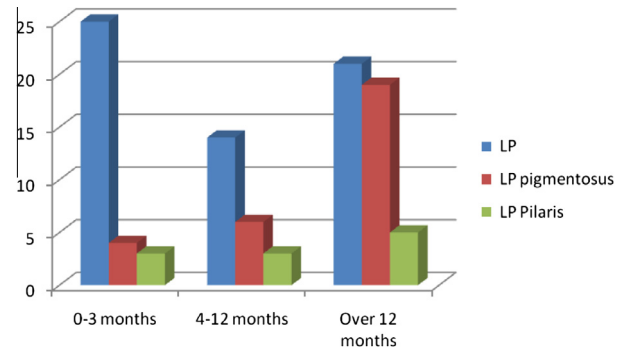


Figure 3. Types and duration of lichen planus.

particularly those with lichen planus pigmentosus had the disease for several years (Fig. 3).

All the cases (145) were divided into different subgroups based on clinical variants as well as on the basis of anatomic distribution as involving head and neck, trunk, upper limb, lower limb or others (nail or mucosal involvement). Lesions of lichen planus (classical type) were mostly present on lower extremities while those of lichen planus pigmentosus and lichen planopilaris had head and neck as their predominant site of involvement (Fig. 4).

A significant association was found between the age of the patient and the occurrence of classical lichen planus on lower limb (*p* value = 0.001). It was observed that involvement of lower limb was more common in younger

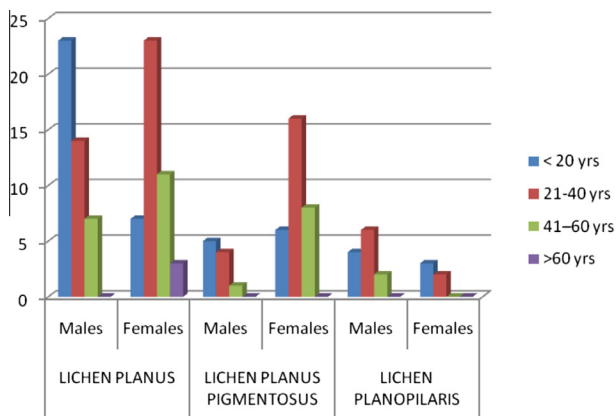


Figure 1. Age and sex distribution of patients with different forms of lichen planus.

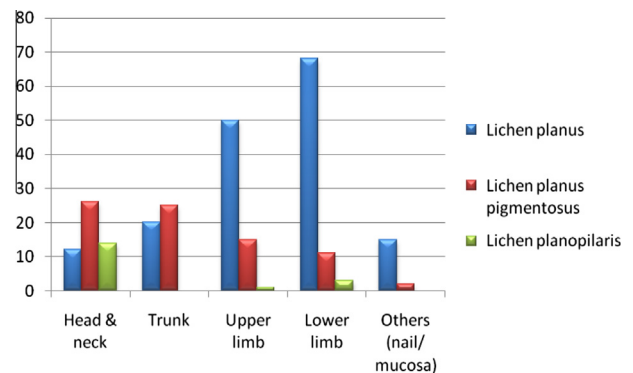


Figure 4. Anatomic distribution of different types of lichen planus.

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