

Frequency of oral involvement in cutaneous lichen planus patients

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Abstract

Objective The purpose of this study was to find the frequency of oral involvement in patients with cutaneous lichen planus.

Methods A 6-month cross-sectional study was conducted in the Department of Dermatology at Bahawal Victoria Hospital, Bahawalpur. This study comprised 91 patients between the ages of 20 and 60 years who had cutaneous lichen planus that was confirmed by biopsy. The presence or absence of oral lichen planus was examined by a consultant dermatologist for each patient. The computer programme SPSS version 22.0 was used to enter and evaluate the data.

Results The average age of the study participants was 43.86 ± 10.46 years. There were 53 (58.24%) female patients and 38 (41.76%) male patients. Mean duration of disease of cutaneous lichen planus was 14.30 ± 10.46 weeks. Oral involvement was diagnosed in 51 (56.04%) patients and there was no oral involvement in remaining 40 (43.96%) patients.

Conclusion There is a high frequency of oral involvement in patients of cutaneous lichen planus. Patients with cutaneous lichen planus should be evaluated for oral lichen planus as well.

Key words

Cutaneous lichen planus, oral involvement of lichen planus.

Introduction

Lichen planus (from the Greek word "Leichen", which means "tree moss," as well as the Latin word "planus," which means "flat") is an inflammatory mucocutaneous illness that was originally described by Dr. Wilson in 1869.¹ It is an idiopathic chronic inflammatory mucous membrane, nail and skin disorder. Lichen planus (LP) pathophysiology is still a mystery.² Many theories have been proposed to explain its cause, including genetic, infectious, autoimmune and psychogenic, aspects.³ Recent research suggests

that autoreactive cytotoxic T lymphocytes play a significant role in keratinocyte destruction and degeneration.⁴ Cutaneous lichen planus (CLP) is a skin condition that affects the flexural areas of the limbs and causes itchy purplish papules and plaques to appear all over the body. The classic "P's" of LP are "Purple, Pruritic, Planar Polygonal, Plaques and Papules." The LP lesions are usually symmetrically and bilaterally distributed.⁵ Oral Lichen planus (OLP) may be the only clinical symptom, or it may be accompanied by cutaneous or other mucosal symptoms in the gastrointestinal tract, genital area, or eyes.⁶ Approximately 20% and 15% of OLP cases are associated with genital and cutaneous lichen planus.⁷ Another study found that oral involvement in cutaneous lichen planus occurs in 62.50%.⁸ Oral squamous cell carcinoma (OSCC), which has a malignant

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Table 1 Descriptive statistics of age (years).

Mean	43.86
Standard deviation	10.46
Minimum	20
Maximum	60

Table 2 Descriptive statistics of duration of disease (weeks).

Mean	14.30
Standard deviation	10.46
Minimum	3
Maximum	48

transformation rate of 0.4-5.3 percent, is one of the most significant problems linked to the progression and prognosis of OLP.⁹ OLP was classified as a possibly malignant disorder by the World Health Organization (WHO).¹⁰ As prior research has yielded mixed results on the prevalence of oral involvement in patients with cutaneous lichen planus, more research is needed to develop an adequate and useful instrument for assessing OLP. The purpose of this study is to determine the frequency of oral involvement in cutaneous lichen planus patients in the local population, so that the results of this study may be a useful addition in the existing literature by providing the local statistics of the problem and will further help the clinicians to design a protocol for proper evaluation of oral lesions in order to reduce the oral cancer risk.

Methods

A 6-month cross-sectional study was conducted in the department of Dermatology at Bahawal Victoria Hospital, Bahawalpur from September 2017 to March 2018. The disease was diagnosed clinically and confirmed by skin biopsy. Total 91 patients suffering from lichen planus of > 2 weeks duration, belonging to either sex and age between 20 to 60 years were included in the study after receiving informed consent. Patients who were not willing for biopsy or those taking drugs which are associated with development of lichen planus like NSAIDs, antimalarial, antidepressants and anti-hypertensive were

excluded from the study. After this, each patient was evaluated by the consultant Dermatologist [for presence or absence of oral involvement]. The predesigned proforma was used to capture all of the data, including the demographic information acquired from the patients. The computer programme SPSS version 22.0 was used to enter and evaluate the data.

Results

This study includes a total of 91 patients. Mean age of study patients was 43.86 ± 10.46 years. Minimum age was 20 years and maximum age was 60 years (**Table 1**). There were more females as compared to males in this study. There were 53 (58.24%) female patients and 38 (41.76%) male patients in this study (**Figure 1**). Regarding duration of disease, mean duration of disease of cutaneous lichen planus was 14.30 ± 10.46 weeks. Minimum duration of disease was 3 weeks and maximum duration was 48 weeks (**Table 2**). Regarding frequency of oral involvement in patients of cutaneous lichen planus, Oral involvement was diagnosed in 51 (56.04%) patients and there was no oral involvement in remaining 40 (43.96%) patients (**Figure 2**). One of the patients with oral involvement (1.9%) developed squamous cell carcinoma at a place where an OLP lesion was confirmed.

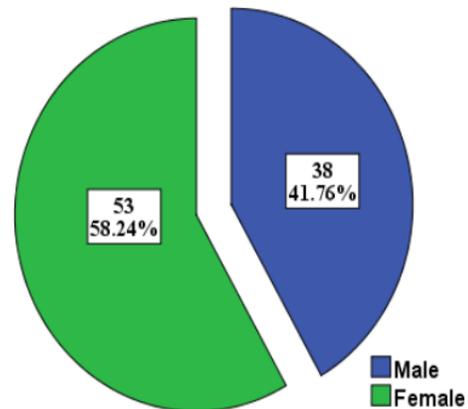


Figure 1 Frequency of gender.

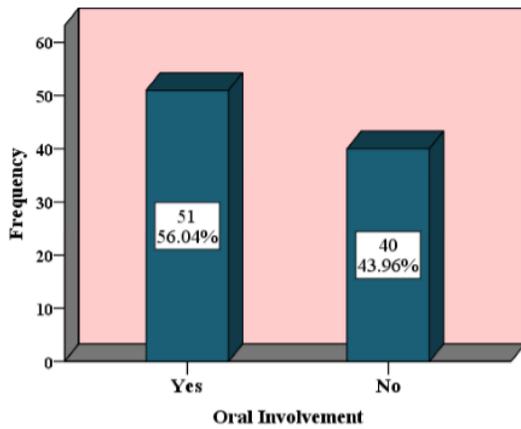


Figure 2 Frequency of Oral Involvement.

Discussion

Lichen planus is an inflammatory disease of skin, nail, hair and mucous membrane.² The global incidence is estimated to be less than 5%,^{2,5} with no clear gender preference. Oral, ocular, otic, genital, bladder, esophageal, laryngeal, nasal and anal surfaces are all mucosal sites of involvement.² While LP symptoms can manifest in a variety of ways, the oral cavity and skin are the most frequently affected locations. Oral lichen planus (OLP) is a mucosal form of lichen planus that is frequently chronic and necessitates long-term treatment and clinical monitoring.¹¹ The frequency of oral lichen planus involvement in patients with cutaneous lichen planus was investigated in this study. In present study there were more females as compared to males, with 58.24% female and only 41.76% male population. Many studies have also found females' predominance in cutaneous lichen planus patients, however, contradicted by others as well in the past.¹² In an Egyptian study there were 68.75% female patients and 31.25% male patients.¹³ An Italian study have also reported male/female sex ratio of 1 to 1.8 which is comparable to our study.¹⁴ However, in an Indian research the male to female ratio was shown 1.61:1.¹⁵ In this study mean duration of disease presentation was

14.30±10.46 weeks which is in accordance with the study conducted in Rawalpindi where mean time of presentation was 2.1±1.5 months.¹⁶ OLP is a disorder of the oral mucosa that has the potential to be cancerous.¹⁷ The estimated prevalence of oral LP (OLP) is 0.5% to 2.6%.¹⁸ In present study oral involvement was found in 56.04% patients. Previous studies have also shown involvement of oral mucosa in 70-77% of systemic lichen planus patients.¹⁹ However a study conducted in Rawalpindi showed 25% of patients with cutaneous lichen planus had oral involvement.¹⁶ Similarly another Spanish study showed 19% of cutaneous lichen planus patients also presented with oral involvement.²⁰ The development of oral squamous cell carcinoma may be the most dangerous complication of this illness, although this is controversial. In our study only one patient developed squamous cell carcinoma where OLP lesions were confirmed. This percentage (1.9%) corresponds to previously reported data. A research in south-eastern Spain found a 0.9 percent malignancy rate [5/550 OLP patients].²¹ According to another study, during the follow-up period, 1.85 percent of 808 OLP patients in Italy had oral cancer.²² In a British study, thirteen out of 690 OLP patients (1.9%) developed oral squamous carcinoma.²³ Malignant transformation was found in 0.71 percent [4 OLP patients] in another Croatian study, which is consistent with our findings.²⁴

Conclusion

We concluded from the findings of this study that people with cutaneous lichen planus have a high frequency of oral involvement, however SCC only develops in a small number of OLP patients. So patients with cutaneous lichen planus should also be evaluated for the presence of oral involvement of lichen planus and possible malignant transformation even in individuals who do not meet the typical high-

risk category for oral SCC.

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