

High frequency of genital involvement in lichen planus: a cross sectional study

Mohammad Ebrahimzadeh, MD
Farideh Dehghani, MD
Niloofar Amirniroumand, MD

Department of Dermatology, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

*Corresponding Author:
Farideh Dehghani, MD
Department of Dermatology, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
E-mail: farideh.dehghan@ssu.ac.ir*

Conflict of interest: none to declare

Received: 20 July 2014

Accepted: 11 September 2014

Background: Lichen planus is a chronic inflammatory disease of unknown etiology that may involve mucocutaneous tissues. The main aim of our study was to evaluate the frequency of oral and genital lichen planus in men and women affected by skin lesions.

Method: A total of 132 patients with clinical and histopathological diagnosis of lichen planus were evaluated for oral and genital involvement. All data was analyzed by SPSS version 19. Chi square test and t-test were used for statistical analysis.

Result: Of 132 patients enrolled in this study, 72 were men and 60 were women. Genital and oral lichen planus were diagnosed in 59 (44.7%) and 26 (19.7%) patients, respectively. Genital lichen planus was observed in 43 men (59.7%) and 16 women (26.7%). Chi – square test showed a significant association between gender and genital involvement. Oral lesions were detected in 17 (23.6%) male patients and 9 (15%) female patients but the association between gender and oral involvement was not statistically significant.

Conclusion: High rate of oral and genital involvement in lichen planus in our study reveals the need for evaluating all mucosal surfaces in patients with lichen planus even if they are asymptomatic.

Keywords: genital, lichen planus, mucous membrane, oral

Iran J Dermatol 2014; 17: 130-133

INTRODUCTION

Lichen planus is a mucocutaneous inflammatory disorder with a usually chronic course that can involve the skin, oral mucosa, scalp, nails, and genitalia^{1,2}. It occurs in about 0.5-1% of the general population and is more common in females than in males. Although the exact etiology of lichen planus is unclear, a T-cell mediated autoimmune reaction in which cytotoxic CD8⁺ T-cells induce apoptosis of basal keratinocytes has been suggested^{3,4}. Cutaneous lichen planus is often manifested by itchy flat topped violaceous papules that can be covered with white lines called the Wickham striae. Other cutaneous variants of lichen planus are linear, annular, atrophic, hypertrophic, and vesiculobullous⁵. Mucosal lichen planus often

involves the tongue and buccal mucosa⁶. The most common form of oral lichen planus is the reticular variant, followed by erosive, atrophic, and plaque type. Atrophic and erosive forms are often accompanied by a burning sensation, soreness, and pain while the reticular type is usually asymptomatic⁷. Lichen planus of the genitalia is typically located on the glans of penis in men and may have an annular configuration. In women, typical papules, reticular and glazed erythema with secondary erosions can occur on the vulvovaginal area. Urethral stenosis, dyspareunia, burning, and pain are common in genital involvement^{5,8}.

Previous investigations have reported that oral lichen planus is a precancerous lesion. Although squamous cell carcinoma is observed in 0.4% to 2.5% cases of oral lichen planus, it does not exceed

1% in most cases⁹. Data on the prevalence of malignancy in genital lichen planus is scarce and the estimated range is from a low risk up to 2.4% in few case reports³.

There are few articles on the prevalence of mucosal lichen planus in Iran and the aim of our study was to determine the frequency of oral and genital involvement in males and females visited at our dermatology clinic.

PATIENTS & METHODS

In this cross sectional study, following informed consent, all patients with a clinical suspicion were enrolled after histological confirmation of lichen planus. Exclusion criteria were lichenoid reaction to drugs or amalgam based on clinical and histological investigations. Our study was performed from spring 2013 to autumn 2013 and information including age, gender, duration of disease and presence or absence of pruritus was recorded. Examinations were carried out by a dermatologist and involved areas, especially oral and genital, were recorded. The data was analyzed with SPSS version 19. Chi square test and t-test were used for statistical analysis.

RESULTS

Of 132 patients enrolled in this study, 72 were men and 60 were women. Genital and oral lichen planus were diagnosed in 59 (44.7%) and 26 (19.7%) patients, respectively. Therefore, genital lesions were more common than oral lesions and nearly half of the patients had genital involvement. Genital lichen planus affected 43 men (59.7%) and 16 women (26.7%). Chi square test showed a significant association between gender and genital involvement ($P = 0.0001$).

Oral lesions were detected in 17 (23.6%) male and 9 (15%) female patients but the association between gender and oral involvement was not statistically significant ($P = 0.154$). Genital lesions were accompanied by oral lesions in 8 (11.1%) male and 2 (3.3%) female patients. Statistical analysis showed a significant relationship between gender and concurrent oral and genital involvement ($P = 0.001$).

The age range of the patients was 9-78 years with a mean age of 37.6 years in patients with

genital involvement and 45 years in patients with oral lesions. T-test showed a significant association between age and genital involvement ($P = 0.005$), indicating that genital lesions were more frequent in young adults than the older adults. However, this relationship was not found between age and oral lichen planus ($P = 0.175$).

The disease duration was between 1 month and 22 years with a mean duration of 12.3 and 17.5 months for genital and oral lesions, respectively. However, statistical analysis did not reveal a significant association between disease duration and genital ($P = 0.7$) or oral involvement ($P = 0.821$). Among 132 patients in this study, pruritus was found in 120, of whom 54 (45%) patients had genital lesions. This symptom was detected in 19 (15.8%) patients with oral involvement. In other words, of 59 patients with genital lesions, 54 (91.5%) suffered from pruritus. Moreover, 73% of the patients with oral involvement reported itching during the disease duration. Pruritus was found in all of the 10 patients with concurrent oral and genital lesions.

DISCUSSION

In this study, we assessed the frequency of genital and oral involvement in patients with lichen planus. Of 132 patients enrolled in our survey, 59 patients (44.7%) had genital lesions and 26 patients (19.7%) had oral lesions. Ten patients (7.6%) suffered from both oral and genital involvement. The results are not the same in the previous studies performed in our country and other parts of the world. In 2012, Davarmanesh et al evaluated the frequency of genital involvement in women with oral lichen planus in southern Iran. Among 36 women with clinical and histopathological diagnosis of oral lichen planus, nineteen complained from genital symptoms but only two patients with a final diagnosis of genital lichen planus were identified. The low frequency of genital involvement in this study could be due to the inadequate patient population¹⁰. Ismaeili et al evaluated 120 patients with lichen planus over a mean period of 3 months. Oral and genital involvement was identified in 33% and 6% of the patients, respectively. However, in our study, genital lichen planus was more common than oral lichen planus (44.7% vs. 19.7%) and genital involvement was more frequently observed

in male patients than the female patients. This finding is in contrast to the results reported by Ismaeili et al that detected genital lesions in men but not in women ¹¹. Esfandiarpour et al studied 300 patients with lichen planus in Kerman and found oral and genital involvement in 65% of the patients ¹² but they did not specify the percentage of oral and genital involvement separately. In 2008, Li et al investigated 124 patients with lichen planus and reported that 12.1% of them had genital lesions and 7.3% had concurrent oral and genital involvement ¹³. This rate was 76.3% for oral lesions and 71% for genital lesions in another study on 38 patients in India ¹⁴.

According to the obtained results, mucosal lichen planus including oral and genital involvement are more frequent in the tropical areas such as southern parts of Iran and India. Genital lichen planus was identified in 1.2% of the patients and concurrent occurrence of oral and genital was detected in 4% of the patients in a similar study in Slovenia ¹⁵. These results are significantly low in comparison with our findings and previous studies conducted in Kerman and India.

The age range of the patients with genital lesions was 9-78 years with a mean age of 37.6 years in our study. This association was statistically significant while the mean age of the patients with oral involvement was 45 years with no significant relationship. Similar results have been obtained in other investigations. In a study by Machado et al, the age range of the patients was 17-75 years with a mean age of 49.7 years for oral lichen planus. They found no significant relationship between age and oral involvement ¹⁶. Also, patients with an age range of 4-78 years were enrolled in a study in Kerman in 2007. The mean age of the patients with oral and genital lichen planus was 32.4 years with no significant relationship. As a result, oral and genital lichen planus can occur at any age and their frequency is not affected by age ¹².

Among 132 patients enrolled in our study, 72 (54.5%) were male and 60 (45.4%) were female. Genital lichen planus was detected in 59.7% of the male and 26.7% of the female patients. There was a significant relationship between gender and genital involvement. Similar results were obtained by Machado et al and Ebrahimi et al. According to their investigations genital lichen planus was more common in men than women and there was

a significant association between the rate of genital involvement and gender ^{16,17}.

Itching is one of the most important symptoms of lichen planus that we considered in our study. Of 132 patients, pruritus was detected in 54 (45%) patients with genital lesions and 19 (15.8%) patients with oral lichen planus. All of the patients with concurrent oral and genital involvement suffered from pruritus during the course of the disease. Because the lesions of oral lichen planus are most commonly asymptomatic or tender, it seems that pruritus reported by patients with oral involvement was due to the concurrent skin lesions that were not considered in our study. In conclusion, we noted a high rate of genital involvement, especially in male patients, in our study. Therefore, it is very important to evaluate all mucosal surfaces in patients with lichen planus even if they are asymptomatic.

REFERENCES

1. Prakash S Mohan R, Ghanta S, Verma S, et al. Meteorological influences on the incidence of lichen planus in a north Indian population. *J Oral Sci* 2013; 55:311-8.
2. Makkar M, Pandey P, Dixit A, et al. Twenty nail dystrophy associated with lichen planus in a child: a case report. *Iran J Dermatol* 2011; 14: 113-6.
3. Wagner G, Rose C, Sachse MM. Clinical variants of lichen planus. *J Dtsch Dermatol Ges* 2013;11:309-19.
4. Shekar C, Ganesan S. Oral lichen planus. *J Dent Sci Res* 2011; 2: 62-87.
5. Usatine RP, Tinitigan M. Diagnosis and treatment of lichen planus. *Am Fam Physician* 2011;84:53-60.
6. Sharma A, Białynicki-Birula R, Schwartz RA, Janniger CK. Lichen planus: an update and review. *Cutis* 2012;90:17-23.
7. Lodi G, Carrozzo M, Furness S, Thongprasom K. Interventions for treating oral lichen planus: a systematic review. *Br J Dermatol* 2012;166:938-47.
8. Le Cleach L, Chosidow O. Clinical practice. Lichen planus. *N Engl J Med* 2012;366:723-32.
9. Taghavi Zenouz A, Mehdipour M, Attaran R, et al. Squamous cell carcinoma arising from an oral lichenoid lesion: a case report. *J Dent Res Dent Clin Dent Prospects* 2012; 6:29-32.
10. Davarmanesh M, Samsami Dehaghani A, Deilami Z, et al. Frequency of genital involvement in women with oral lichen planus in southern Iran. *Dermatol Res Pract* 2012; 2012: 365230.
11. Esmaeili N, Barzegari M, Rezaei M. Clinical manifestations of lichen planus: A report of 120 cases. *Iran J Dermatol* 2005; 8: 110-4.

12. Esfandiarpour I, Rahpima M. Frequency of clinical variants of lichen planus in dermatology out-patients in Kerman. *Iran J Dermatol* 2007; 10: 283-9.
13. Li J, Chen X, Xie H, et al. Lichen planus in Hunan: 124 patients. *Zhong Nan Da Xue Xue Bao Yi Xue Ban* 2010;35:1178-82.
14. Eralp A, Yuksel N, Kaymak Y, et al. Concurrent oral and genital involvement in lichen planus. *Indian J Dermatol Venereol Leprol* 2009;75:77-8.
15. Stojanovic L, Lunder T, Renner-Sitar K, et al. Thorough clinical evaluation of skin, as well as oral, genital and anal mucosa is beneficial in lichen planus patients. *Coll Antropol* 2011;35:15-20.
16. Machado AC, Sugaya NN, Migliari DA, Matthews RW. Oral lichen planus. Clinical aspects and management in fifty-two Brazilian patients. *West Indian Med J* 2003;52:203-7.
17. Ebrahimi M, Lundqvist L, Wahlin YB, Nylander E. Mucosal lichen planus, a systemic disease requiring multidisciplinary care: a cross-sectional clinical review from a multidisciplinary perspective. *J Low Genit Tract Dis* 2012;16:377-80.