

Original Article

Associations of lichen planus: A study of 63 cases

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Abstract *Background* Lichen planus (LP) is a disease of unknown etiology, but immunopathological mechanisms are implicated in its pathogenesis. Some disorders are associated with LP more frequently than is expected by chance.

Objectives The study was aimed to determine the frequency of autoimmune disorders associated with lichen planus and to compare our results with international literature.

Patients and methods The current study was conducted in the outpatient department of dermatology, Ziauddin Medical University, KDLB Campus, Karachi. Clinically diagnosed cases of lichen planus belonging to both sexes and all age groups fulfilling the inclusion criteria were enrolled. After a detailed history and examination, patients were investigated. The diagnosis was confirmed by biopsy and histopathology. All the findings were recorded, compiled and analyzed.

Results Sixty three patients, 39 males (62%) and 24 females (38%), aged 10 upto 60 yrs were studied. Maximum number of patients (68%) was aged 20-40 yrs. Limbs (47%) were the most common site involved. Following diseases were observed to be associated with lichen planus: HCV 4 (6.3%), diabetes mellitus 4 (6.3%), alopecia areata 3 (4.7%), systemic lupus erythematosus 2 (3%), vitiligo 2 (3%), HBV vaccination 2 (3%), morphea 1 (1.5%), lichen sclerosus et atrophicus 1 (1.5%), chronic active hepatitis 1 (1.5%), dermatomyositis 1 (1.5%) and thyroid disorders 1(1.5%).

Conclusion Lichen planus, an autoimmune disorder has a frequent association with other autoimmune diseases.

Key words

Lichen planus, associations, HCV

Introduction

Lichen planus (LP) is a common inflammatory disease of the skin presenting with characteristic violaceous, polygonal, pruritic papules. The disease may also affect

mucosa, hair and nails. LP occurs worldwide with no racial predilection. Although the etiology is unknown, immunopathological mechanisms are implicated in the pathogenesis of this disease.

Multiple autoimmune disorders occur with increased frequency in patients with a previous history of another autoimmune disease.¹ Some disorders are associated with LP more frequently than is expected by chance. The disease was found to be more

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common in patients with hepatic dysfunction. With the discovery of hepatitis C virus, a single stranded RNA virus in 1989, and with the availability of tests for anti HCV antibodies in 1991, an increased prevalence of the disease, was found in people with HCV infection.² LP has also been found to coexist with HBV and chronic active hepatitis. It is now recommended that liver function tests should be routinely checked in all patients with LP. Vitiligo and LP are two immune-related diseases reported in association with processes mediated by altered immunoregulation or with disorders of autoimmune origin.³⁻⁵ Frequent association between alopecia areata and immune-mediated cutaneous disorders have been reported.⁶ Being common skin disorders, lichen planus and alopecia areata may coexist. Lichen sclerosus, morphea, thymoma, myasthenia gravis, ulcerative colitis, primary biliary cirrhosis, diabetes mellitus and dermatomyositis have also been reported to be associated with lichen planus.

The study was aimed to determine the frequency of autoimmune disorders associated with lichen planus and to compare our results with international literature.

Patients and methods

The current study was conducted in the outpatient department of dermatology, Ziauddin Medical University, KDLB Campus, Karachi. Suspected cases of lichen planus belonging to both sexes and all age groups presenting during the calendar year 2005 were studied. A clinical diagnosis of lichen planus was made which was

confirmed by biopsy and histopathology. Only patients suffering from lichen planus vulgaris were enrolled. Patients having lichenoid drug eruption were excluded while patients suffering from other subtypes of lichen planus were ruled out. Similarly, patients receiving therapy for any medical or surgical illness were excluded as well.

Patients were also categorized age wise. After a detailed history, complete general, cutaneous and systemic examination was carried out. In addition to routine investigations, any relevant investigations when required were also carried out. All the findings were recorded, compiled, tabulated and analyzed.

Results

A total of 63 patients were enrolled in the study. There were 39 males (62%) and 24 females (38%). Minimum age of presentation was 10 yrs and maximum 60, the mean age being 39.8 yrs. **Table 1** shows the age distribution of these patients. Maximum number of patients was aged between 20 and 40 yrs (68%). Majority of the patients had typical lesions. Only 10% of the patients were suffering from disseminated disease. Oral lesions were a feature in 21%. Limbs (93.6%) were most commonly involved in these patients followed by oral cavity, hands, feet, trunk and nails (**Table 2**).

Different diseases were found to coexist with lichen planus as shown in (**Table 3**). The most frequently associated disorders were diabetes mellitus (6.3%), HCV (6.3%), and alopecia areata (4.7%). Other associated disorders were less frequent.

Table 1 Age distribution n=63

Age (yrs)	n (%)
10-20	4 (6.3)
21-30	21 (33)
31-40	22 (35)
41-50	11 (17.4)
51-60	5 (7.9)

Table 2 Sites of involvement (n=63)

Sites	n (%)
Upper limbs	30 (47.6)
Lower limbs	29 (46)
Oral cavity	13 (20.6)
Feet	9 (14.2)
Hands	7 (11.1)
Trunk	5 (7.9)
Nails	4 (6.3)
Scalp	4 (6.3)

Table 3 Associations (n=63)

Disease	n (%)
Hepatitis C	4 (6.3)
Diabetes mellitus	4 (6.3)
Alopecia areata	3 (4.7)
Systemic lupus erythematosus	2 (3)
Vitiligo	2 (3)
HBV vaccination	2 (3)
Morphea	1 (1.5)
Lichen sclerosus atrophicus	1 (1.5)
Chronic active hepatitis	1 (1.5)
Dermatomyositis	1 (1.5)
Thyroid disorders	1 (1.5)

Discussion

Lichen planus (LP) occurs worldwide with no racial predilection. Although the etiology is unknown, immunopathological mechanisms are implicated in its pathogenesis.¹ Some disorders are associated with LP more frequently than is expected by chance.²

In our study, the frequency of HCV in association with lichen planus was 6.3%. There have been reports worldwide regarding this association with variable frequencies. Reports from Lahore presented a frequency of 34.5% between the two

conditions.⁷ Prabhu *et al.*⁸ reported that none of their 65 patients was HCV positive. However, there are wide geographical variations in the reported prevalence of HCV infection in patients with lichen planus.⁹

So far, many case controlled studies have been undertaken implicating or refuting the association of HCV with LP. Most of the positive studies are from Japan, Spain and Italy.¹⁰⁻¹³ The studies from Northern UK have persistently failed to establish an association between hepatitis C infection and lichen planus.^{14,15} Despite this contradiction, the finding in our study is in agreement with other studies in our part of the world.⁷ Diabetes mellitus has been reported to be associated with lichen planus in literature.¹⁶ The frequency of diabetes mellitus in our study in association with lichen planus was 6.3%. All the patients with diabetes mellitus also had oral lesions. Being a common skin disorders, lichen planus and alopecia areata may rarely coexist. Three patients with lichen planus in our study had alopecia areata concomitantly (4.7%). Kar¹⁷ and Madris *et al.*¹⁸ have also reported this association.

In the current study, two patients (3%) of lichen planus had concomitant SLE. Ahmed *et al.*¹⁹ have reported 3 of their patients with lichen planus to be suffering from SLE. The coexistence of vitiligo and LP is also described with or without the presence of other autoimmune diseases.^{20,21} We also found 2 such patients. However, studies of large series of patients have not yet provided any evidence of an association between lichen planus and vitiligo.^{22,23}

The association of LP with liver disease is now well-established. Recent reports suggest that hepatitis viruses may play a central role in this association.²⁴ Agarwal *et al.*²⁴ reported the development of lichen planus following HBV vaccination.

In the current study, other associated diseases were morphea 1 (1.5%), lichen sclerosus et atrophicus 1 (1.5%), chronic active hepatitis 1 (1.5%), dermatomyositis 1 (1.5%) and thyroid disorders 1 (1.5%). Thomas *et al.*²⁵ have also reported morphea to be associated with lichen planus. Lichen sclerosus et atrophicus has also been mentioned in the literature as an associated disorder of lichen planus.²⁵ An association between autoimmune thyroid disorders and lichen planus has been reported in literature.²⁵

Despite all these reports and the current study, large scale studies are required to determine the frequency of autoimmune diseases associated with lichen planus.

Conclusion

Lichen planus, an autoimmune disorder has a frequent association with other autoimmune diseases. HCV, diabetes mellitus and alopecia areata are the most common entities while systemic lupus erythematosus, vitiligo, HBV vaccination, morphea, lichen sclerosus et atrophicus, chronic active hepatitis, dermatomyositis and thyroid disorders are seen less frequently. Therefore, the presence of lichen planus should alert the physician to watch for other autoimmune disorders.

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