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Original Research

Evaluation of Ocular Findings in Patients with Lichen Planus

[1]Dr . Aditya Negi, [2]Dr. Seema Negi

[1]MO Ophthalmology, Civil Hospital, Rohru, HP, adinegi09@gmail.com
[2]JR Dermatology, PGI, Chandigarh, negiseema577@gmail.com

Abstract
Background: This study was conducted to assess Ocular Findings in Patients with Lichen Planus.
Material and methods: This study comprised of 25 subjects who had lichen planus. The aim of this study was to assess the ocular findings in these subjects. The subjects had been explained about the procedure and were asked for consent. All the subjects gave consent and were included in this study. The demographic details, the incidence of ocular findings and the type of ocular manifestation had been investigated and the results were tabulated. Statistical analysis had been performed using SPSS software.
Results: In this study, out of 25 subjects with lichen planus, 15 subjects showed ocular manifestations.Among the 15 subjects with ocular manifestations, 9 were males and 6 were females. The most common ocular finding in subjects with lichen planus was conjunctivitis accounting for 5 cases. Other findings were blepharitis, accounting for 3 cases; blurred vision, accounting for 2 instances; dry eyes accounting for 1 case and lacrimal duct stenosis, accounting for 4 cases.
Conclusion: From the findings of this study, it can be concluded that out of 25 cases with lichen planus, 15 subjects showed ocular manifestations, of which the most common finding was conjunctivitis. Other findings included blurred vision, dry eyes, lacrimal duct stenosis and blepharitis.
Keywords: Ocular, Lichen Planus, Incidence

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Corresponding author: Dr. Seema Negi, JR Dermatology, PGI, Chandigarh**,** **negiseema577@gmail.com**

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Introduction

The designation lichen planus (LP) is derived from the Greek term 'leichen,' meaning 'tree moss,' and the Latin term 'planus,' which translates to 'flat,' accurately reflecting the appearance of the cutaneous lesions.[1]

LP encompasses a collection of chronic inflammatory disorders that impact stratified squamous epithelia. Recent perspectives classify LP as a T cell-mediated autoimmune condition, characterized by the infiltration of cytotoxic CD8+ T-cells into the skin, resulting in an interface dermatitis.[2-4]

Various factors, including viruses, pharmaceuticals, and contact allergens, have been implicated in the potential onset of LP (9–19). Clinically, LP is distinguished by its unique lesions, which can affect the skin, hair, nails, and/or mucous membranes. The typical cutaneous manifestations include pruritic, purple, polygonal, flat-topped (planar) papules adorned with fine white striae, while erosive lesions may occur on mucous membranes, often accompanied by pain and/or a burning sensation in the oral cavity.[3-5] This study was conducted to assess Ocular Findings in Patients with Lichen Planus.

Material and methods

This study comprised of 25 subjects who had lichen planus. The aim of this study was to assess the ocular findings in these subjects. The subjects had been explained about the procedure and were asked for consent. All the subjects gave consent and were included in this study. The demographic details, the incidence of ocular findings and the type of ocular manifestation had been investigated and the results were tabulated. Statistical analysis had been performed using SPSS software.

Results

Table 1: Prevalence of ocular findings in patients with Lichen Planus

Prevalence	Number of cases	Percentage
Absent	10	40
Present	15	60
Total	25	100

In this study, out of 25 subjects with lichen planus, 15 subjects showed ocular manifestations.

Table 2: Gender-wise distribution of subjects with ocular manifestations

Gender	Number of cases	Percentage
Males	09	60
Females	06	40
Total	15	100

Among the 15 subjects with ocular manifestations, 9 were males and 6 were females.

Table 3: Type of ocular manifestation

Type of ocular manifestation	Number of cases	Percentage
Blepharitis	03	20
Blurred vision	02	13.34
Dry eye	01	6.67
Conjunctivitis	05	33.33
Lacrimal duct stenosis	04	26.66
Total	15	100

The most common ocular finding in subjects with lichen planus was conjunctivitis accounting for 5 cases. Other findings were blepharitis, accounting for 3 cases; blurred vision, accounting for 2 instances; dry eyes accounting for 1 case and lacrimal duct stenosis, accounting for 4 cases.

Discussion

Ocular LP is a rarely reported entity, with conjunctival LP reported in 1928 and LP of the eyelids in 1938.[6,7] It may occur in the form of pruritic violaceous papules of the eyelids, irritation of the eye lids, blepharitis, and eventually, keratitis. A review of the literature revealed 22 previously reported cases of ocular LP, with this case bringing the total to 23. Of the reported cases, 19 out of 23 (83%) affected individuals of the female gender, and 6 out of 23 (26%) had only ocular involvement of their LP.[8,9]

The occurrence of Lichen Planus (LP) is estimated at 0.89% within the general population and 0.98% among individuals seeking dermatological treatment, as indicated by a recent meta-analysis encompassing 46 studies.[10] The prevalence of cutaneous LP has been documented to vary from 0.2% to 1.0% in the adult demographic, with oral LP being more prevalent in most research cohorts.[11,12]

The incidence of LP remains inadequately defined and exhibits significant geographical variation, reported to be between 14 and 250 cases per 100,000 person-years.[11] This discrepancy is likely attributable to methodological differences in the populations studied rather than an inherent ethnic predisposition. Furthermore, the studies referenced employed diverse eligibility criteria and combined patients with both oral and cutaneous LP.[12]

While oral LP is more commonly observed in females compared to males, cutaneous LP does not show a significant gender bias.[13,14] The onset of cutaneous LP typically occurs during the fifth and sixth decades of life, with nearly two-thirds of patients diagnosed between the ages of 30 and 60 years.[14] In contrast, oral LP generally appears approximately a decade later than cutaneous LP.

This study was conducted to assess Ocular Findings in Patients with Lichen Planus.

In this study, out of 25 subjects with lichen planus, 15 subjects showed ocular manifestations.Among the 15 subjects with ocular manifestations, 9 were males and 6 were females. The most common ocular finding in subjects with lichen planus was conjunctivitis accounting for 5 cases. Other findings were blepharitis, accounting for 3 cases; blurred vision, accounting for 2 instances; dry eyes accounting for 1 case and lacrimal duct stenosis, accounting for 4 cases.

Ozlu E et al[15]evaluated the tear functions and the retinal and choroidal thickness (CT) in patients with LP.In total, 33 patients and 30 healthy controls were enrolled. All participants were evaluated using the Ocular Surface Disease Index (OSDI) questionnaire, Schirmer 1 test (with anesthesia), tear break-up time (TBUT) test, intraocular pressure (IOP), axial length (AL), and central corneal thickness (CCT). The measurements of retinal thickness (RT) and CT were obtained by spectral domain optical coherence tomography.No significant difference was observed between the groups in IOP, AL, CCT, or RT ($p > 0.05$ in each group). There was a significant difference in the Schirmer 1 test, TBUT, and OSDI questionnaire ($p < 0.05$ in each group). Choroidal thickness in LP patients was thinner than that in the controls ($p =$

0.001 in each location). There was a moderate negative correlation between the disease duration and Schirmer 1 test, TBUT, and subfoveal CT (r = -0.426, r = -0.555, r = -0.637; p = 0.001, p = 0.001, p = 0.001, respectively). There was a moderate negative correlation between the oral mucosal involvement and Schirmer 1 test, TBUT, and subfoveal CT (r = -0.345, r = -0.392, r = -0.467; p = 0.006, p = 0.001, p = 0.001, respectively). There was a positive correlation between disease duration, oral mucosal involvement and OSDI score (r = 0.717, r = 0.345; p = 0.001, p = 0.006, respectively).Lichen planus may influence tear function tests and may cause dry eye. Patients with LP had lower CT values than healthy controls. Further studies are needed to clarify the effect of LP on the eyes.

Conclusion

From the findings of this study, it can be concluded that out of 25 cases with lichen planus, 15 subjects showed ocular manifestations, of which the most common finding was conjunctivitis. Other findings included blurred vision, dry eyes, lacrimal duct stenosis and blepharitis.

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