Section: Dermatology

Original Research Article

CLINICOPATHOLOGICAL STUDY OF LICHEN PLANUS IN A TERTIARY CARE CENTRE, SOUTH INDIA

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ABSTRACT

Background: The Lichen planus is a chronic inflammatory and immune mediated disease. It generally affects skin, nails, hair, mucous membrane and appendages. It has many morphological presentations. It is usually affects the flexor surfaces of extremities. The aim is to study the clinicopathological study of Lichen Planus in tertiary care centre.

Materials and Methods: This was a hospital based cross sectional study, conducted at the Department of Dermatology, Venereology and Leprosy in Dhanalakshmi Srinivasan Medical College and Hospital, Siruvachur, Perambalur, Tamil Nadu. The study was conducted from 1st May 2023 to 30th April 2024. Based on the inclusion and exclusion criteria the study participants were included and the final sample size was 40. Baseline characteristics like name, age were documented. Skin biopsy were taken. The data were entered in SPSS 23. P value <0.05 is considered statistically significant.

Results: 21-30 years of the study participants 13 (32.5%) were most common. Male preponderance was observed 21(52.5%).The most common site involved is Lower Limb 22(55%). Classical LP 27(67.5%) was the most common variant found. Baseline characteristics were found to be not significant. Whereas Common sites of presentation and histopathology was were found to be statistically significant with age group.

Conclusion: We may conclude that lower limb is the common site of LP. Classical LP is the most common variant. The most common histological finding is Hypergranulosis and Hyperkeratosis.

Keywords: Lichen planus, hyperkeratosis, hypergranulosis, Chronic inflammatory, immune mediated.

INTRODUCTION

Lichen Planus is an immune mediated papulo-squamous disorder which is common affecting mucous membrane, skin, nails and hair. Worldwide the prevalence of Lichen planus was found to be 1-2%.In India the prevalence was found to be ranging between 0.1-1.5%.[1] It commonly affects the middle aged persons 30-60 years.[2] It less commonly present in extremes of age. Females are affected more than males.[3,4] In India of all the Lichen Planus cases 11%-19% is constituted by Children. The Characterization of the Lichen Planus is the presence of polygonal, violaceous, pruritic flat topped papules particularly in the extremities along the flexor aspects of the legs and wrists. The lesions are symmetrical and bilateral. It commonly occurs on Limbs and dorsal aspect of the trunk.[5,6] Wichkam's striae and positive kobner's phenoemenon was observed in the lesions.[7] Major role is played by Cell Mediated immunity in Lichan Planus. Humoral immunity plays a secondary role. LP specific antigen recognition by CD4+ T Cells and NK Cells, Cytotoxic lymphocyte activation and keratinocyte apoptosis. The aim is to study the clinicopathological study of Lichen Planus in tertiary care centre.

MATERIALS AND METHODS

Place of Study: The study was done in the Department of Dermatology, Dhanalakshmi Srinivasan Medical College and Hospital, Siruvachur, Perambalur, Tamil Nadu.

Duration of Study: One year from 1st May 2023 - 30th April 2024.

Type of Study: Hospital based Cross- sectional study.

Study Population: All the study participants attending the OPD of Department of Dermatology

Sample Size: The study participants included based on the inclusion and exclusion criteria the study participants were recruited throughout the study period.

Inclusion Criteria

- All study participants with Lichen Planus who had underwent biopsy for histopathology were recruited.

Exclusion Criteria

- Patients who are not undergoing skin biopsy
- Patients who have inconclusive skin biopsies
- Consent not given by parents for inclusion in the study.

Methodology: Institutional Ethical Committee approval was obtained and Informed written consent was obtained from the Parents who were willing to participate in the study. The proforma containing the Baseline characteristics like name, age, duration of lesion, distribution of lesions were filled up. Skin biopsies were taken from the ideal site using punch biopsy needles after giving local anesthesia.10% neutral buffered formalin was used to fix the skin biopsies. Histological techniques were used for Tissue processing, paraffin embedding, hematoxylin and eosin staining.

Statistical Analysis: The acquired data were entered into a Windows 10 MS Excel spread sheet. With the aid of SPSS 23, statistical analysis was completed. The mean and standard deviation were used to describe continuous data. Numbers and percentages were used to express categorical data. The Chi square test was the test of association for categorical data. 'Sensitivity, specificity, Positive predictive value, negative predictive value, diagnostic accuracy and ROC' were obtained. A statistically significant p-value was defined as that less than 0.05.

RESULTS

Table 1: Baseline characteristics

Variables	Number (N)	Percentages
Age		
11-20 years	**3**	**7.5**
21-30 years	**13**	**32.5**
31-40 years	**11**	**27.5**
41-50 years	**9**	**22.5**
>50 years	**4**	**10**
Sex		
Male	**21**	
Female	**19**	**52.5**
		47.5
Smokers	**1**	**5**
Alcoholic	**1**	**5**
Comorbidities		
DM	**15**	**37.5**
HT	**12**	**30**
Hypothyroidism	**4**	**4**

Majority of the study participants were in the age group of 21-30 years 13(32.5%). The mean age of the study participants is 35±16.2.Male preponderance was observed 21(52.5%).5% were Smokers. Diabetes Mellitus was present in 15(37.5%) of the study participants.

Table 2: Duration of the disease

Variables	Number (N)	Percentages
<2 years	2	5
2-4 years	2	5
4-6 years	30	75
>6 years	6	15

The mean duration of disease 4.01±2.6. Most of the study participants had lichen planus for more than 4 years 36 (80%).

Table 3: Common site of involvement

Variables	Number (N)	Percentages
Lower limb	22	55
Upper limb	13	32.5
Face and Neck	3	7.5
Genitalia	1	2.5
Trunk	1	2.5

The most common site involved is Lower Limb 22(55%).This is followed by Upper Limb 13(2.5%).

Table 4: Variants of Lichen Planus

Variables	Number (N)	Percentages
Classical LP	27	67.5
Hypertrophic LP	6	15
Oral LP	3	7.5
Guttate LP	3	7.5
Genital LP	1	2.5

Majority of the study participants has Classical LP 27(67.5%). The second variant is Hypertrophic LP 6(15%).

Table 5: Histopathology results

Variables	Number (N)	Percentages
Hypergranulosis	14	35
Hyperkeratosis	14	35
Basal cell infiltrate	10	25
Saw tooth rete ridges	2	5

The most common histopathological finding observed in our study is Hypergranulosis and Hyperkeratosis 14(35%).The second common histopathological finding is Basal cell infiltrate 10(25%).

Table 6: Association of baseline characteristics with age group

	≤40 year (N=28)	>40 year (N=12)	P value
Sex Male Female	 **15** **13**	 **6** **6**	**0.83**
DM	**11**	**4**	**0.36**
HT	**9**	**3**	**0.32**
Hypothyroidism	**3**	**1**	**0.40**
Duration of disease ≤4 >4	 **3** **25**	 **1** **11**	**0.40**

Baseline characteristics were not significant.

Table 7: Association of LP characteristics with age group

	≤40 year (N=28)	>40 year (N=12)	P value
1.Common sites Lower limb	20	2	**0.002***
Upper limb	8	5	
Face and Neck	0	3	
Genitalia	0	1	
Truck	0	1	
2.Variants Classical LP	20	7	**0.76**
Hypertrophic LP	3	3	
Oral LP	2	1	
Guttate LP	2	1	
Genital LP	1	0	
3.Histopathology Hypergranulosis	10	4	**0.005***
Hyperkeratosis	10	4	
Basal cell infiltrate	7	3	
Saw tooth rete ridges	1	1	

Common sites and histopathology was were statistically significant.

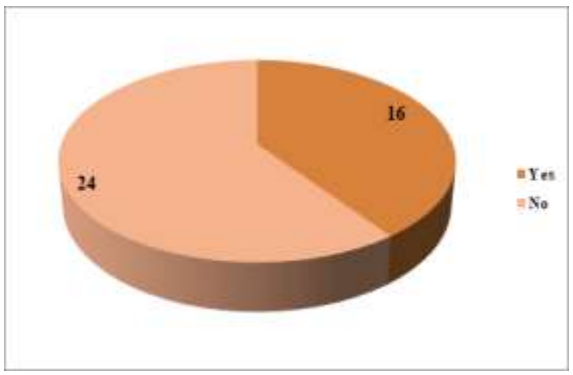

Figure 1: Koebner's phenomenon

Koebner's Phenomenon is present in 16(40%) of the study participants.

DISCUSSION

The mean age of the study participants is 35±16.2. Similarly in Sneha et al,[8] study the mean age was 34.23 years and in Srivani et al,[9] study mean age was found to be 37.1 years. Majority of the study participants were in the age group of 21-30 years 13 (32.5%). Similar results was also found in sneha et al study (55.7%) and Bangaru H et al,[10] study.

Male preponderance was observed 21(52.5%). Our results were similar to Sneha et al,[8] Bangaru H et al,[10] Deepti S et al,[11] Rahavendra BN et al,[12] and Ticcu U et al,[13] where male preponderance was observed. The mean duration of disease 4.01±2.6. Similar results was also found in Ireddy et al study,[14] whereas in Shaliza et al study,[15] the mean duration was found to be 7.82 which is more than our results. The most common symptom that persist in Pruritis (87%). Similar results observed in Ireddy et al where it is 76%.

The most common site involved is Lower Limb 22(55%). This is followed by Upper Limb 13(2.5%). Similarly lower limb was the most common site to be affected in LP: was shown in results of studies done by Bhutani LK et al16 and Abdallat SA et al.[17] Majority of the study participants has Classical LP 27(67.5%)in our study. The second variant is Hypertrophic LP 6(15%). Similar results was also found in Shaliza et al,[15] study where30% classic LP followed by 28% Hypertrophic LP.Similar results was also found in Maisnam et al,[18] and Palakurthi et al,[19] study. The variations in the studies may be due to the genetic factors, climate and the differences in the geographical presentation.

The most common histopathological finding observed in our study is Hypergranulosis and Hyperkeratosis 14 (35%). The second common histopathological finding is Basal cell infiltrate 10(25%). In Shaliza et al,[15] study hyperkeratosis was observed in all the patients (100%) followed by Hypergranulosis (96%). Baseline characteristics were not significant. Common sites and histopathology was were statistically significant in the age group less than or equal to 40 years.

Limitations of The Study

The limitations of the study were the study design - a cross–sectional study, a smaller sample size, and a single-centre study. So the results cannot be generalised.

CONCLUSION

We may conclude that lower limb is the common site of LP.Classical LP is the most common variant. The most common histological finding is Hypergranulosis and Hyperkeratosis. 21-40 years is the most common age group affected. Male preponderance observed.

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REFERENCES

1. Sneha PS, Seetharamanjaneyulu K, Ramana GV,Saya S.A Cross sectional of lichen planus:It's epidemiological,clino-histopathological and serological perspective.Indian J Clin Exp Dermatol.2020;6(1):57-61
2. Gujjar P,Zingade J,Patil S,Hallur J.Recent Update on Treatment Modalities of Oral Lichen Planus-A Review .IJSS Case Rep Rev.2015;2(4):40-44
3. Boyd AS,NeldnerKH. Lichen Planus.J Am Acad Dermatol.1991;25(4):593-619
4. Mignogna MD,Muzio LL,Russo LL,Fedele S,Ruoppo E.Oral lichen planus:different clinical features in HCV positive and HCV negative patients.Int J Dermatol.2000;39(2):134-139
5. Breathnach SM,Cox NH,Griffiths CEM.Lichen Planus and lichenoid disorders.In:Burns T,Breathnach SM,editors.Cox Neil.Rooks Textbook of Dermatology.8th ed.West Sussex:Blackwell Publishing;2010.307-24
6. Rivers JK,Jackson R,Orizaga M.Who was Wickham and what are his striae?Int J Dermatol.1986;25:611-3
7. Sacchidanand S, Oberai C,Inamdar AC.IADVL Textbook of Dermatology .Vol.1.Bhalani publications;2015:1090-1109
8. Sneha PS,Seetharamanjaneyulu K,Ramana GV,Saya S.A Cross sectional study of lichen planus:Its epidemiological, clinic-histopathological and serological perspective .IP Indian J Clin Exp Dermatol.2020;6(1):57-61
9. Srivani N,Bvn ,Sravani ,Shyamala ,Srujana.A Study of clinical and histopathological correlation of lichen planus.Int Arch Int Med.2017;4(9):136-144
10. Bangaru H,Karibasappa NA.Clinical and Histopathological study of 50 cases of Lichen Planus.Indian J Clin Exp Dermatol.2016;2(1):36-39
11. Deepti S,Milind P,Rahule AS,Sarang W.Clinical and Histopathological study of Lichen Planus.J Cont Med A Dent.2017;5:24-27
12. Raghavendra BN,Baasha J,Clinico SKEA.Histopathological features of Lichen Planus –An appraisal.Perspect Med Res.2016;4(2):34-38
13. Tickoo U,Bubna A,Subramanyam S,Veeraraghavan M,Rangarajan S.A Clinicopathological study of lichen planus at a tertiary health care centre in South India.Pigment Int.2016;3(2):96
14. Ireddy SG,Udbalkar SG.Epidemiological study of lichen planus.BMR Med.2014;1:1-9
15. Shailaza,Amarjeet Singh Verma,Jyoti Singh Rajput.Clinicopathological study of Lichen Planus in a

Tertiary Care Centre of North India.International Journal of Pharmaceutical and Clinical Research.2024;16(1):411-414
16. Bhutani LK,Bedi TR,Pandhi RK,Nayak NC.Lichen Planus pigmentous.Dermatol.1974;149(1):43-50
17. Abdallat SA,Maaita TJ.Epidemiological and clinical features of lichen planus in Jordanian patients.Pak J Med Sci.2007;23:92-96
18. Maisanam J,Kumar N.Lichen Planus-A clinical and histopathological correlation.Trop J Pathol Microbiol.2018;30:408-14
19. Palakurthi SS,Seetharamajaneyulu Ramana GV,Saya S.A Cross sectional study of lichen planus:Its epidemiological,clinichistopathological and serological perspective IP Indian J Clin Exp Dermatol.2020;6:57-61.