Clinico-epidemiological study of Lichen Planus and its association with Hepatitis C

Rima Shrestha[1], Samir Shrestha[2]
[1]KIST Medical College
[2]Patan Academy of Health Sciences

ABSTRACT

Introduction: The relationship between lichen planus and hepatitis C virus (HCV) remains controversial. The aim of this study is to find out the incidence of lichen planus in different age and sex groups, occupation, seasonal variation and familial association. And to correlate any association between lichen planus and hepatitis C virus.

Methods: This case control study was conducted at National Academy of Medical Sciences, Bir hospital and Shree Birendra army hospital from July 2006 to Oct 2007. The study included 100 patients with typical feature of lichen planus of skin and mucous membrane.

Results: Out of hundred patients with lichen planus 51% were male and 49% were female, Koebner phenomenon was found in 69%. LP was more commonly found in the extremeties 81.9% in leg, 86.7% in forearms, 51.8% in thigh; followed by dorsa of hands 36.7%, arm 25%, and dorsa of feet 18.1%, Face & scalp were less involved with 15% & 4% only. Most of the LP were encountered during months may to august. Oral lichen planus (OLP) was seen in 7 cases. None of the patient with LP had concomittant HCV infection association.

Conclusion:Lichen planus is one of the common skin disorder encountered in the dermatological practice without association with hepatitis C virus infection in this part of the world.

Key Words: Hepatitis C virus, lichen planus,

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CORRESPONDENCE
Dr. Rima Shrestha
Lecturer, Department of Dermatology
KIST Medical College
Email: rimashrestha00@yahoo.com

INTRODUCTION

Lichen planus is a chronic inflammatory dermatosis with characteristic clinical and histopathological features. However its etiology and pathogenesis remain obscure. Some hypothesis have been suggested regarding association with viral origin because inclusion bodies were found at electron microscopy. Other causes suggested were genetic predisposition, psychogenic, immunological and neurological disorder.[1]

Chronic HCV hepatitis is asymptomatic or oligosymptomatic in most cases. Generally clinical manifestation occurs in the later phases of the disease. Hence the diagnosis is often made by chance when blood tests are requested for other purposes. HCV is the major etiologic agent of non-A non-B chronic hepatitis and it is mainly transmitted parenterally. Vertical transmission is rare when compared to that of hepatitis B.[2]

Several authors have performed epidemiological studies with different population groups to clarify the existence of relationship between lichen planus and hepatitis C virus infection. However the reported association in between these two entities varied with both ways in different studies.

METHODS

This case control study was conducted at National Academy of Medical Sciences, Bir hospital and Shree Birendra army hospital from July 2006 to Oct 2007. Approval of the study was obtained from Institutional Review Board (IRB). The study included 100 patients with typical feature of lichen planus of skin and mucous membrane.While those patients with LP of nails and hair bearing areas, lichenoid drug eruption, atypical presentations and those who refused to undergo necessary laboratory investigations were excluded. The demographic data viz; age, gender, duration of illness, type of illness, site of involvement were collected and analysed. A written informed consent was taken. Biopsy of the skin lesion was sent for histopathological examination whenever possible or if any confusion arose in clinical diagnosis. Patients who showed positive anti HCV test were sent to Liver unit for further management. Variables were filled up in proforma and entered into computer using standard statistical software SPSS 11.5. Independant “t” test and Chi square test were used for statistical analysis. The ‘p’ value of less than 0.05 was regarded as significant with confidence interval of 95%.

RESULTS

Out of the hundred patients with LP, 51% were male(mean age 33.69 years with standard deviation 17.561) whereas 49% were female(mean age 39.69 with standard deviation 16.345). Koebner phenomenon was found in 69% of case, of which 73.6% was associated with classical type.

Table 1: Morphological Variation & Koebner Phenomenon

	Absent		Present		Total	
	N	%	N	%	N	%
Classical papule & plaque	14	26.4%	39	73.6%	53	100%
Hypertrophic	7	31.8%	15	68.2%	22	100%
Actinic	3	75.0%	1	25%	4	100%
Eruptive	7	35.0%	13	65%	20	100%
Annular	0	0%	1	100%	1	100%
TOTAL	31	31%	69	69%	100	100%

LP was more commonly found in the extremities 81.9% in leg, 86.7% in forearms, 51.8% in thigh; followed by dorsa of hands 36.7%, arms 25% and dorsa of feet 18.1%. Face and scalp were less involved with 15% & 4% only. Skin alone was affected in 82%, skin and mucous membrane in 15% and mucous membrane alone in 3%. Most of the patient with LP visited during the months of May to August. There was summer exacerabtion in 8% of cases. In our study, mild pruritus was the most common symptoms(74%) and asymptomatic in 5%. Classical type of LP was most common 53%, followed by hypertrophic 22%, eruptive 20%, actinic 4%. Familial LP was seen in 7 cases. Oral mucosa was involved in 18% with most cases affected with reticular type 66.7% and erosive 33.3% and common site was on the buccal mucosa. OLP was symptomatic in 7 cases.

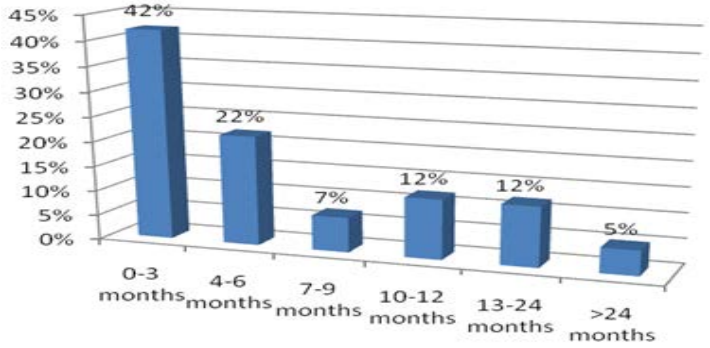

Figure. 2 Bar diagram showing the relation between no of patients and duration

Genitalia were involved in 3%. Nail involvement were absent. Relating to occupation, LP was most commonly seen in housewife 55.1% and 37.3% in students. In systemic illness, 3% had hypertension, 2% had diabetes and 3% had peptic ulcer disease. Regarding the risk factor for HCV, intravenous drug user were 3% and blood transfusion in 1%, history of operation and jaundice in 14% each. LP was more common in blood group O positive (51%) and A positive (32%).

DISCUSSION

Lichen planus has no strong predisposition for either sex. Several authorities have found female to be affected in 60% of cases[3] whereas others have found opposite ratio or equal involvement of both sexes.[4] Lodi et al[5] in their study found LP to be common in age group of 20 to 40 years. In our study male and female involvement were seen with mean age of 33.69 and 39.69 years respectively. The papules of LP tends to involve flexural areas preferentially the wrist, lumbar region and around ankles. In our study LP was common in exremeties; 81.9% in leg, 86.7% in forearms, 51.8% in thigh followed by dorsa of hands 36.7%, 25% in arms and 18.1% in dorsa of feet. OP et al[6] found skin alone was affected in 70%, skin and mucous membrane in 23% and mucous membrane alone in 6%. In our study the result was similar with skin involvement in 82%, skin and mucous membrane in 15% and mucous membrane alone in 3%.

Koebner phenomenon is fairly common occurence in LP[7], which was found in 69% of our cases. Regarding seasonal occurence, studies[8] have reported LP to be common during December and january or from january to july, but we found it to be common in May to august, probably owing to our geographical variations.

Anber TE et al9 found different presentation of LP; actinic in 36%, classic in 30%, hypertrophic in 12%, guttate in 6%, atrophic in 4%, follicular in 4% and isolated oral LP in 8%. Similarly we found classical type being more common in 53% followed by hypertrophic in 22%, eruptive in 20% and actinic in 4%. Familial LP has been been reported with incidence of 1-11%[10], which was similar to our findings of 7%.

LP can involve mucous membrane of oral cavity(OLP). In India, the reported rates of the prevalance of OLP varied from 4-12%.[11] Similarly in our study we found OLP in 18%. Neumann JB et al[12] found the plaque type of LP more prevalant in tobacco smoker. Saraswati TR et al[13] also found LP being commonly associated with smoking, chewing tobacco and alcohol intake. But we do not found significant association between alcohol and tobacco use with LP. Lowe NJ et al[14], in their study found 2.4% of LP had hypertension, which was similar to our study, where hypertension was seen in 3%.

We do not found any association of HCV with LP, though there are reports of the association in between. In countries with low prevalance of hepatitis C, lichen planus appears not be associated with it.[15] In the study[16] conducted in Great Britain and in the Netherland, where prevalance of HCV is lower (0.088- 0.55% and 7% respectively), did not show a significant association. In India, study conducted in New Delhi have failed to demonstrate statistical significance between HCV and LP.[17] In face of such contrasting international reports, the coexistence of HCV infection in LP remains a mystery. The differing geographic endemic levels of HCV do not provide an adequate explanation of these conflicting results because the prevalance of HCV antibodies is reasonably constant, ranging from 0.3 to 15%. It is likely that other host related factors may be important. Such factors might include host immune dysregulation or concommitant immunomodulatory infections.

CONCLUSION

Lichen planus is one of the common skin disorder encountered in the dermatological practice with vivid presentation. It demographics and seasonal presentation differs owing to geographical variation in diffferent parts of the world. Till date, still no proven explanation has come up with, to correlate any association between LP and HCV infection. The reason behind this disparity is yet to be clarified.

REFERENCES

1. Sampaio SPA, Rivitti EA. Dermatologia. Sao Paulo: Artes Medicas; 2001.
2. Brasil Ministerio da Saude. Secretaria de Politicas de Saude. Programa Nacional de Hepatites Virais. Hepatites Virais. O Brasil esta atento. Brasilia(DF); 2003.
3. Altman J, Perry JO:Variation and course of Lichen planus. Arch Dermatol 1961; 84:179.
4. Schimdt H: Frequency, duration and localization of Lichen planus. Study based on 181 patient; Acta Derm Venerol 1961; 41: 164.
5. Lodi et al. Lichen planus and hepatitis C virus: a multicentre study of patients with oral lesions and a systematic review: Br J Dermatol 2000; 151(6): 1172-1180.
6. Singh OP, Kanwar AJ. Lichen planus in India. An appraisal of 441 cases. Int J Dermatol 1976; 15: 752-6.
7. Anon. National Institute of Health consensus Development Conference statement. Management of hepatitis C 2000. Hepatology 2002; 36 supp 5: S3-20.
8. Sugiyama T et al. Clinical evaluation in oral lichen planus with chronic hepatitis C: the role of interferon treatment. Nippon Shokakibyo Gakkai Zasshi. 2000; 97: 568-74.
9. Anbar TE, Barakat M, Ghannam SF. A clinical and epidemiological study of lichen planus among Egyptians of al Minya province Dermatol online J 2005; 11(2): 4.
10. Lewis FM. Vulval lichen planus. Br J Dermatol 1998; 138: 569-75.
11. Issa MCA, Gaspar AP, Gaspar NK. Lichen plano e hepatite C. An Bras Dermatol. 1999;75:459-63.
12. Neuman Jenson B, Holmstrup P, Pindborg JJ. Smoking habits of 611 patients with oral lichen planus. Oral Surg Oral Pathol 1977; 43: 410-15.
13. Saraswati TR, Ranganathan K, Shanmugam S, Sowmya R, Narshimhan Prem Deepa, Gunaseelan R. Prevalance of oral lesion in relation to habits: Cross-sectional study in South India. Int J Dent Research 2006; 17(3): 121-5.
14. Lowe NJ, Cudworth AG, Clough SA, Bullen MF. Carbohydrate metabolism in lichen planus. Br J Dermatol 1976; 95:9.
15. Tucker SC, Coulson IH. Lichen planus is not associated with hepatitis C virus infection in patients from North West England. Acta Derma Venereol 1999; 79(5): 378-379.
16. Herrine S. Approach to the patient with Chronic hepatitis C virus infection. An Intern Med. 2002; 136:47.
17. Irshad M, Achary SK, Joshi YK. Prevalance of hepatitis C virus antibodies in general population and in selected groups of patient in Delhi. Indian J Med Res 1995; 102: 162-64.