Frequency of Hepatitis C Seropositivity in Patients having Generalized Lichen Planus

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ABSTRACT

Background: Lichen planus (LP) is a chronic common inflammatory condition having characteristic 5p's i.e. polygonal pruritic purple papules and plaques. Mucocutaneous involvement is there along with hair and nails involvement. Drugs infections and genetics play its role to cause the disease. Its worldwide prevalence is 1.4% and its prevalence in India is 0.74%, while in Pakistan it is 2.2 to 14%. Though controversial but research has shown a significant positive relationship between Hepatitis C seropositivity and LP.

Objectives: To measure the frequency of hepatitis C (HCV) in patients of lichen planus (LP) visiting Saidu Group of Teaching Hospitals (SGTH).

Material & Methods: Cross sectional observational study was performed at skin out door Saidu Group of Teaching Hospitals (SGTH) Saidu Sharif Swat KPK. Total of 100 patients, fulfilling inclusion and exclusion criteria were enrolled. Duration of study was six months. After informed consent, history, examination and biochemical measurements recorded. Hep C as an outcome variable was measured using third generation ELISA. All data was analyzed with SPSS 24.0.

Results: Of the total 100 patients 53 were male and 47 were female. 11 were seropositive for Hep C and 89 were Hep C negative. Patients of age 20 and below were 25%, and 2 of them were positive for Hep C serology. In the remaining 75% of patients having age more than 20 years, 9 patients were seropositive for Hep C.

Conclusion: To detect the undiagnosed cases of hepatitis C virus all patients of LP must be screened for HCV seropositivity due to the considerable relationship between HCV and LP.

Keywords: *Hep C, Lichen Planus, ELISA.*

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INTRODUCTION

Lichen Planus is an immunologically mediated dermatosis involving skin and/or mucous membranes, characterized by flat-topped pink to violaceous, shiny, pruritic polygonal papules on the skin and milky white reticulated papules in the mouth.[1] Prevalence of LP is 0.5% of population. Prevalence of Hep C in Pakistan is 2.2 to 14 %.[2] Association between LP and HCV remains controversial. In some reports the association is more positive as 22% in Brazil, 62% Japan while in Great Britain there is no association reported.[12] HCV seropositivity associated with LP suggest its role in pathogenesis.[3,4] Some studies also suggest that the relationship getting higher with time.[2, 5, 6] The current study was thus conducted to measure the relationship between the two, in patients visiting SGTH hospital, Saidu Sharif Swat KPK.

MATERIALAND METHODS

In total of 6 months duration 100 patients having generalized LP, fulfilling inclusion and exclusion criteria visiting skin OPD of SGTH Saidu Sharif Swat were enrolled. Patients having generalized LP, of age 16 or more than 16, having no other dermatosis regardless of marital status and gender. Patients less than 16 years having lichenoid drug eruption and localized form of LP were excluded. HCV seropositivity was 11% (11/100).

After taking the informed consent, clinical examination was carried out. Serum was obtained and sent for anti HCV antibodies using second generation ELISA (Enzyme linked immunosorbent assay).[13]

RESULTS

Mean age of the total 100 patients was 31.47±11.55. The mean age of male was 30 years, while for females the mean age was 33 years. Male patients included in the study were 53%, whereas, females were 47%. Thus, the male patients outnumbered the female patients with 7%. Out of 100 patients 11 were HCV seropositive including a total of 9% male and 2% female (see Table I). Majority of patients who were positive with HCV were in the age of 21years and above. Those with duration of lichen planus 5 to 10 years were 89 with 9 seropositive. Those with duration of lichen planus more than 10years were only 9 and 2 of them were seropositive.

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Table I. Comparison of Hepatitis C positivity between male and female patients of

	Female n (%)	Male n (%)	Total n (%)
Hep C – Positive	2 (2%)	9 (9%)	11 (11%)
Hep C – Negative	45 (45%)	44 (44%)	89 (89%)
Total	45 (45%)	53 (53%)	100 (100%)

DISCUSSION

Hepatitis C remains a common infection having many cutaneous manifestations in which LP is one of these cutaneous manifestations. The relationship is still not completely established.[2] Literature review shows that oral erosive form of LP is more associated with Hep. C than any other variant.[2] In our study 11% of patients presenting with generalized LP were anti HCV positive. Different studies had different outcomes. Like study by Farzana *et al*. shows 14% seropositivity.[2] Several other studies have shown a positive relationship particularly in USA, Mediterranean and Japanese population.[5,6] While in Italy, Iran, Spain and Germany the relationship was insignificant.[7-12] The association was absent in France, India and England.[2] There is remarkable influence of geographic origin on study results.[16,17] As in study by Javed *et al*.[18], while in Great Britain and Netherland where HCV prevalence is very low 0.088-0.55 and 0.7%, respectively, did not show any association[14]. While in study by Frank, Christina, et al. in Egypt where HCV prevalence is 15 to 20 % in general population while the LP associated with HCV was 70%[15].

In comparison with the study conducted by Javed *et al.*[18] our study showed significant prevalence of HCV in patients having generalized form of LP. However, Javed *et al.*[18] found an insignificant prevalence between HCV and generalized LP, while a remarkable prevalence between mucosal LP and HCV.

Moreover, no association was found between HCV and LP with increased age in our study which was in line with the study conducted by Javed *et al.*[18] (*p value=0.095*). On the other hand, duration of illness was found to have no connection with HCV seropositivity in patient of LP which was against the study by Javed *et al.*[18] (*p value=0.002*) and Faiz *et al*[2].

ELISA has the chance to be false positive at times. More confirmatory test for detection of HCV seropositivity is PCR. In our study the HCV seropositivity of LP patients was high and those with lesser the duration of LP were more seropositive. LP patients of with duration of illness less than 10years were 81.1% positive for Hep C by ELISA. While those with duration more than 10 years were 18.9%. This observation was against the study of Javed *et al*[18]*.* and Faiz *et al*[2]. Such relationship that is the lesser the duration the more is the HCV seropositivity is not reported in literature yet.

CONCLUSION

To detect the undiagnosed cases of hepatitis C virus, all patients of LP must be screened for HCV seropositivity due to the considerable relationship between HCV and LP.

REFERENCES

1. Griffiths C, Barker J, Bleiker T, Chalmers R, Creamer D. Rook's Textbook of Dermatology, 4 Volume Set: John Wiley & Sons; 2016.
2. Faiz F, Saher NU, Inayat S, Siddique U, Khurshid K. HCV seropositivity in patients with lichen planus. Journal of Pakistan Association of Dermatologists. 2016;26(3):240-3.
3. Sánchez-Pérez J, De Castro M, Buezo GF, Herrera JF, Borque MJ, GarcÍA-Diez A. Lichen planus and hepatitis C virus: prevalence and clinical presentation of patients with lichen planus and hepatitis C virus infection. British Journal of Dermatology. 1996;134(4):715-9.
4. Rabiei M, Mohtasham A. Prevalence of lichen planus in HCV infected patients of Gilan province (Iran), 2002. J Thro Haem. 2007;5.
5. Alaizari N, Al-Maweri S, Al-Shamiri H, Tarakji B, Shugaa-Addin B. Hepatitis C virus infections in oral lichen planus: a systematic review and meta-analysis. Australian dental journal. 2016;61(3):282-7.
6. Hakkou F, Chbicheb S, Essaid E, El Wady W. Oral lichen planus and Hepatitis C virus infection: an epidemiological study of 149 cases. Int j odontostomatol(Print). 2012;6(2):163-8.
7. Lodi G, Pellicano R, M C. Hepatitis C virus infection and lichen planus: a systematic review with meta-analysis. Oral Dis. 2010;16(7):601-12.
8. Nagao Y, Sata M. A retrospective case-control study of hepatitis C virus infection and oral lichen planus in Japan: association study with mutations in the core and NS5A region of hepatitis C virus. BMC Gastroenterol. 2012;12:31.

9. T. Yamamoto, T. Nakane, Osaki T. The mechanism of mononuclear cell infiltration in oral lichen planus: the role of cytokines released from keratinocytes. J Clin Immunol. 2000;20(4):294-305.
10. Deguchi M, Aiba S, Ohtani H, Nagura H, Tagami H. Comparison of the distribution and numbers of antigen-presenting cells among T-lymphocyte-mediated dermatoses. Archives of dermatological research. 2002;294(7):297-302.
11. Musso T, Scutera S, Vermi W, Daniele R, Fornaro M, Castagnoli C, et al. Activin A induces Langerhans cell differentiation in vitro and in human skin explants. PLoS One. 2008;3(9):e3271.
12. Zhou XJ, Sugerman PB, Savage NW, Walsh LJ, Seymour GJ. Intra-epithelial CD8+ T cells and basement membrane disruption in oral lichen planus. Journal of oral pathology & medicine. 2002;31(1):23-7.
13. Zhou XJ, Sugerman PB, Savage NW, Walsh LJ. Matrix metalloproteinases and their inhibitors in oral lichen planus. Journal of cutaneous pathology. 2001;28(2):72-82.
14. Strak SK, Al-Hamdi KI, Alabbood MH. A study of lichen planus and its association with hepatitis C infection. Journal of Taibah University Medical Sciences. 2015;10(2):222-6.
15. Tucker SC, Coulson IH. Lichen planus is not associated with hepatitis C virus infection in patients from north west England. ACTA DERMATOVENEREOLOGICA-STOCKHOLM-. 1999;79:378-9.
16. Konidena A, Pavani B. Hepatitis C virus infection in patients with oral lichen planus. Nigerian journal of clinical practice. 2011;14(2):228-31.
17. Gupta S, Jawanda MK. Oral lichen planus: an update on etiology, pathogenesis, clinical presentation, diagnosis and management. Indian journal of dermatology. 2015;60(3):222.
18. Javed M, Ahmed MK, Tahir M, Anwar MI. Frequency of HCV seropositivity in lichen planus. Journal of Pakistan Association of Dermatology. 2017;27(1):67-71.
19. Ghodsi SZ, Daneshpazhooh M, Shahi M, Nikfarjam A. Lichen planus and Hepatitis C: a case-control study. BMC dermatology. 2004;4(1):6.
20. Frank C, Mohamed MK, Strickland GT, Lavanchy D, Arthur RR, Magder LS, et al. The role of parenteral antischistosomal therapy in the spread of hepatitis C virus in Egypt. The Lancet. 2000;355(9207):887-91.