IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 16, Issue 10 Ver. II (Oct. 2017), PP 29-31
www.iosrjournals.org

Association Between Serum Lipid Profile And Oral Lichen Planus

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Abstract
Background:. *Oral lichen planus is an immunologically based, chronic, inflammatory mucocutaneous disorder of undetermined etiology. The overall prevalence of lichen planus in the general population is about 0.1-4%.*
Materials and method:. *The present cross-sectional study was performed in the Department of Oral Pathology, SVS Dental College, Mahaboobnagar, Telangana State. 30 cases of lichen planus were included in the study and 30 healthy subjects were taken as controls. A total of 3 mL of blood sample was taken from each subject and the serum levels of cholesterol, triglycerides, HDL and LDL were determined. The mean outcomes of each group were compared with each other and analyzed two by two tables.*
Results: *The results of statistical analyses showed no significant differences in mean HDL and LDL serum levels between the two groups.*
Conclusion: *Triglyceride can be considered to have a critical role in the incidence of lichen planus and in its manifestations as predisposing factors.*

Date of Submission: 25-08-2017 Date of acceptance: 05-10-2017

I. Introduction

Oral lichen planus is an immunologically based, chronic, inflammatory mucocutaneous disorder of undetermined etiology. The overall prevalence of lichen planus in the general population is about 0.1-4%. It generally occurs more commonly in females at a ratio of 3:2, and most cases are diagnosed between the ages of 30 and 60, but it can occur at any age [(1)]. OLP is a T-cell mediated autoimmune disease in which the auto-cytotoxic CD8 + T cells trigger apoptosis of the basal cells of the oral epithelium [(2)]. Recently, a case-control study found that lichen planus was associated with dyslipidemia in a large series of patients [(3)].

This disease occurs most commonly in South East Asia but cases have been reported worldwide in countries like Kenya, China, UK, Saudi Arabia and other parts of the world. Cholesterol is an amphipathic lipid and it is an essential structural component of all cell membranes and of the outer layer of plasma lipoproteins. It is present either as free cholesterol or combined with a long-chain fatty acid, as cholesterylesterin tissues and in plasma lipoprotein [(4)]. Fundamentally the development of a malignancy requires the uncontrolled and excessive proliferation of cells [(5)].

The objective of the present study was to evaluate the serum lipid profile in patients with oral lichen planus. The study is included the following parameters:

(i) Total cholesterol,
(ii) LDL cholesterol (LDLC)
(iii) HDL cholesterol (HDLC)
(iv) Triglycerides

II. Materials And Methods

The present cross-sectional study was performed in the Department of Oral Pathology, SVS Dental College, Mahaboobnagar, Telangana State. 30 cases of lichen planus were included in the study and 30 healthy subjects were taken as controls. A total of 3 mL of blood sample was taken from each subject and the serum levels of cholesterol, triglycerides, HDL and LDL were determined. The mean outcomes of each group were compared with each other and analyzed two by two tables. The subjects in both the test and control groups were matched in relation to age (an age range of 20-60 years; mean ± standard deviation = 35.7±8.5 years) and sex (36 males, 24 females). The subjects were selected serially.

Ethical Considerations
Both the test and control subjects participated in the study voluntarily by signing an informed consent form.

III. Results

The mean serum cholesterol levels in subjects with oral lichen planus and in healthy subjects were 199 and 174.3 mg/dL, respectively. The mean HDL serum levels in subjects with oral lichen planus and in healthy subjects were 47.1 and 52.1 mg/dL, respectively. The mean LDL serum levels in subjects with oral lichen planus and in healthy subjects were 107.9 and 102 mg/dL, respectively. The mean triglyceride serum levels in subjects with oral lichen planus and in healthy subjects were 133.3 and 84.5 mg/dL, respectively.

Table 1: Age distribution of patients

Age group in years	Group 1	Group 2
<30	2	2
30-40	15	15
40-50	11	11
>50	2	2
Total	30	30

Table 2: Gender distribution of patients

Group	Male	Female	Total
1	16	14	30
2	16	14	30

Table 3: Showing Intergroup Comparison for Serum Cholesterol Level between OLP and Control Group

GROUPS	N	Mean (mg/dL)
Group I	30	199
Group II	30	174.3

Table 4: Showing Intergroup Comparison for mean HDL serum levels between OLP and Control Group

GROUPS	N	Mean(mg/dL)
Group I	30	47.1
Group II	30	52.1

Table 5: Showing Intergroup Comparison for mean LDL serum levels between OLP and Control Group

GROUPS	N	Mean(mg/dl)
Group I	30	107.9
Group II	30	102

Table 6: Showing Intergroup Comparison for mean triglyceride serum levels between OLP and Control Group

GROUPS	N	Mean(mg/dl)
Group I	30	133.3
Group II	30	84.5

IV. Discussion

30 cases of lichen planus were included in the study and 30 healthy subjects were taken as controls. The mean serum cholesterol levels in subjects with oral lichen planus and in healthy subjects were 199 and 174.3 mg/dL, respectively. The mean HDL serum levels in subjects with oral lichen planus and in healthy subjects were 47.1 and 52.1 mg/dL, respectively. The mean LDL serum levels in subjects with oral lichen planus and in healthy subjects were 107.9 and 102 mg/dL, respectively. The mean triglyceride serum levels in subjects with oral lichen planus and in healthy subjects were 133.3 and 84.5 mg/dL, respectively.

Several prospective and retrospective studies have shown an inverse association between blood lipid profiles and different cancers. Similar findings were reported by Patel et al [(6)] and Schatzkin et al [(6)] have observed an inverse trend between lower serum cholesterol and head neck as well as esophageal cancer [(6)]. Similarly there was a significant decrease in TC, and HDL in OPL as compared with control according to Vidya et al [(7)].

A significant decrease in levels of HDL was also observed in this study. This was in accordance with previous reports which reported that lower HDL is an additional predictor of oral potentially malignant disorders, as reported by Melhrotra et al [8] which might be a consequence of the disease that is mediated by utilization of cholesterol by membrane biogenesis. Schatzkin et al also observed an inverse relationship between serum cholesterol and oral premalignant condition [9]. Mamatha et al also observed an inverse relationship between serum HDL and OLP [10].

Mehdipour et al showed that in patients with erosive lichen planus the lipid profile, including triglyceride and total cholesterol levels, were high, with no significant differences between patients with erosive and non-erosive lichen planus [1]. Results are consistent with the results of a study by Dreiher et al [11] in which only the serum levels of cholesterol and triglyceride were evaluated and significant differences were observed between patients with lichen planus and the healthy controls.

V. Conclusion

Triglyceride can be considered to have a critical role in the incidence of lichen planus and in its manifestations as predisposing factors.

Thankful for all the authors and websites for using their articles as references.

References

[1]. Mehdipour M, Taghavi Zenouz A, Davoodi F, et al. Evaluation of the Relationship between Serum Lipid Profile andOral Lichen Planus. Journal of Dental Research, Dental Clinics, Dental Prospects. 2015;9(4):261-266. doi:10.15171/joddd.2015.046.
[2]. Eversole LR. Immunopathogenesis of oral lichen planus and recurrent aphthous stomatitis. Semin Cutan Med Surg 1997; 16:284-94.
[3]. Dreiher J, Shapiro J, Cohen AD. Lichen planus and dyslipidaemia: a case-control study. Br J Dermatol. 2009 Sep; 161(3):626-9.
[4]. R Mehrotra, S Pandya, AK Chaudhary, HP Singh, RK Jaiswal, M Singh, SC Gupta, M Singh. Lipid profile in oral submucous fibrosis. Lipids Health Dis. 2009;8(29):2–7. [PMC free article] [PubMed]
[5]. S Gupta, S Gupta. Alterations in serum lipid profile patterns in oral cancer and oral precancerous lesions and conditions-a clinical study. Indian J Dent. 2011;2(2):1–7.
[6]. Mehrotra R, Shruti P, Chaudhary AK, Singh HP, Jaiswal RK, Singh M. Lipid profile in oral submucous fibrosis. Lipids in Health and Disease 2009;8:29.
[7]. Lohe VK, Degwekar SS, Bhowate RR, Kadu RP, Suwarna B, Dangore SB. Evaluation of correlation of serum lipid profile in patients with oral cancer and precancer and its association with tobacco abuse. J Oral Pathol Med 2010;39:141-8.
[8]. Chalko AF, Singh RS, Farooq R. A study on alterations in plasma lipid profile pattern in OSMF patients. J Indian Acad Oral Med Radiol 2011;23:36-8.
[9]. Patel PS, Shah MH, Jha FP, Raval GN, Rawal RM, Patel MM, et al. Alterations in plasma lipid profile patterns in head and neck cancer and oral precancerous conditions. Indian J Cancer 2004;41:25-31.
[10]. Boringi M, Bontha SC, Chavva S, Badam R, Waghray S, Milanjeeth. Lipid profile in patients with oral submucous fibrosis, lichen planus, and leukoplakia. J Indian Acad Oral Med Radiol 2016;28:375-80.
[11]. Dreiher J, Shapiro JCohen AD. Lichen planus and dyslipidaemia: a case–control study. Br J Dermatol. 2009;161:626–9. doi: 10.1111/j.1365-2133.2009.09235.x.

*G. Shailaja. "Association Between Serum Lipid Profile And Oral Lichen Planus." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) 16.10 (2017): 29-31