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Assessment of lipid profile status in oral sub mucosa fibrosis patients

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ABSTRACT

Oral submucous pathology (OSMF) may be an illness defined by juxta animal tissue pathology of the oral fissure. It's related to formation of vesicles, followed by fibro elastic amendment of the plate propria associated animal tissue atrophy that results in stiffness of the oral mucous membrane and causes truisms and an inability to eat. 30 OSMF patients and 30 healthy people from the OP of Saveetha Dental school. liquid body substance samples were analyzed for the parameters standing by victimization kit technique in autoanalyzer. There's a major decrease in total cholesterolin ($p < 0.05$), triglycerides ($p < 0.07$), high density lipoproteins ($p < 0.05$), low density lipoproteins ($p < 0.05$) and very low density lipoproteins ($p < 0.09$) by the influence of OSMF on food intake. Our findings suggest that prolonged or highly affected OSMF patients can cause hypolipidemia and other problems related to nutritional imbalance.

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INTRODUCTION

Oral sub mucous fibrosis is a chronic, complex, irreversible, highly potent pre-cancerous condition characterized by juxta epithelial inflammatory reaction and progressive fibrosis of the submucosal tissues such as lamina propira and deeper connective tissues (Priyadharshni., 2014). Oral q pathology (OSMF) could be a chronic, debilitating sickness characterized by juxta epithelial pathology of the oral fissure (O Reddy *et al.*, 2011), though often preceded by, or related to, formation of vesicles, it's continually related to a juxta epithelial inflammatory reaction followed by fibro elastic amendment of the plate propria associated animal tissue atrophy that ends up in stiffness of the oral mucous membrane and causes cramp and an inability to

eat (Pindborg JJ *et al.*, 1966). Oral submucous pathology will be seen at any age aside from young kids. The predominant age bracket affected is 20-40 years compared to ancient betel pepper quid, gutkha change of state tends to start at a younger age and incorporates a shorter time to the event of sickness, therefore cases of oral submucous pathology are seen as young as eleven years archaic (Tilakaratne WM *et al.*, 2006).

The pathological process of the sickness isn't well established however the reason for OSMF is believed to be complex (Murti PR *et al.*, 1985). Factors include areca nut change of state, body process of chillies, genetic and medical specialty processes, organic process deficiencies, and different factors. Iron deficiency anemia, B complex water-soluble vitamin} complex deficiency, and deficiency disease square measure promoting factors that derange the repair of the inflamed oral mucous membrane, resulting in defective healing and resultant scarring (Venkata chalopathy., 2010). Betel pepper quid change of state is seen nearly exclusively within the Indian landmass, South East Asia and western Pacific and where these populations have migrated.

Tillakaratne et al according that betel nut is that the main etiological issue for OSMF (Manoharan S *et al.*, 2005). Excessive use of betel nut might cause pathology due to accrued synthesis of albuminoid,

and induce the assembly of free radicals and reactive chemical element species, that are chargeable for high rate of oxidation/peroxidation of unsaturated fatty acids that have an effect on essential constituents of cytomembrane and should involve in tumorogenesis (Rose G *et al.*, 1980). Attributable to the macromolecule peroxidation, there's a larger utilization of lipids for brand spanking new membrane biogenesis. Cells fulfil these needs either from circulation, by synthesis through the metabolism or from degradation of major conjugated protein fractions like VLDL, LDL or HDL (Sirsat SM *et al.*, 1967). Researchers have according association of plasma/serum lipids and lipoproteins with totally different cancers, as sterol is crucial for maintenance of structural integrity of all biological membranes (Kritchevsky SB., 2009).

The present study was planned to judge the plasma macromolecule profile in OSMF patients because the amendment in macromolecule levels might have a diagnostic and prognostic role within the probably malignant lesions.

MATERIALS AND METHODS

Patients were selected from those attending the outpatient department of Saveetha Dental College, and hospitals and divided into two groups as follows

Group I - Normal healthy individuals - 20 individuals

Group II - Patients with OSMF - 20 individuals

Inclusion Criteria

Individuals with the age group of thirty five to Sixty years OSMF Patients

Exclusion Criteria

Individuals with other systemic illness like cardiovascular disease, Renal failure, Stroke, endocrine illness. Immunocompromised individuals.

Sample collection and Procedure

Informed consent was obtained from the patient before sample collection. 5ml of fasting venous blood was collected and distributed in plain collection tubes and centrifuged in 3000rpm for 10 minutes. Then serum was separated and then it is analysed for serum cholesterol by Cholesterol es-

terase-Oxidase method, Serum triglycerides by colorimetric enzymatic method, HDL-c by Phosphotungstic ACID method, LDL-c and VLDL-c were calculated by Friedwald's formula.

RESULTS AND DISCUSSION

The TC levels of OSMF 113.8 ± 16.29 were significantly high when compared with health individuals 156.3 ± 29.39 the significant value is $p < 0.05$, the levels of insulin. The TGL levels of OSMF 96.1 ± 16.29 were significantly high when compared with health individuals 99.3 ± 38.82 the significant value is $p < 0.07$, the levels of insulin. The HDL levels of OSMF 25.61 ± 5.34 were significantly high when compared with health individuals 37.95 ± 8.35 the significant value is $p < 0.05$, the levels of insulin. The LDL levels of OSMF 68.98 ± 15.3 were significantly high when compared with health individuals 99.15 ± 24.88 the significant value is $p < 0.05$, the levels of insulin. The LDL levels of OSMF 19.22 ± 3.66 were significantly high when compared with health individuals 19.85 ± 7.78 significant value is $p < 0.09$, the levels of insulin.

In this study, the change in lipid profile patterns is analyzed in OSMF patients. Most of the OSMF cases are in the second decades of men's significance. This is the most important addictive factor of multifactorial etiology. Cholesterol is an essential component of lipoprotein fractions, such as LDL, HDL and VLDL. Approximately 75% of plasma cholesterol is transmitted into LDLC.

LDL receptor's high activity is low in serum cholesterol levels. Individuals with an error or defective LDL receptor are less likely to remove the plasma LDLC and significantly increase the level. In the current study, significant reductions in serum cholesterol and LDLCs in OSMF patients have been observed. In this study, TC, TGL, HDL, LDL, VLDL we are significantly lower in OSMF patients. Compared to controls, OSMF patients showed significant reduction in TG and VLDL values between OSMF and control group while TC, HDL and LDL levels showed significant reduction. In the current study, serum lipid profile in OSMF patients is comparable to clinical staging and the results of our study have shown a statistically significant decrease in the clinical phase of OSMF progress in TCM and HDL level 7ls.

Table 1: Mean, SD and Significance value of TC, TGL, HDL, LL and VLDL in two group

Parameters	Controls	OSMF patients	p-Value
TC	156.3 ± 29.39	113.8 ± 16.29	<0.05
TGL	99.3 ± 38.82	96.1 ± 18.32	<0.07
HDL	37.95 ± 8.35	25.61 ± 5.34	<0.05
LDL	99.15 ± 24.88	68.98 ± 15.3	<0.05
VLDL	19.85 ± 7.78	19.22 ± 3.66	<0.09

Cholesterol is an essential component of lipoprotein fractions like LDL and HDL. Approximately 75% of cholesterol is transported into LDL. Human body cells restore cholesterol from LDL fraction of lipoproteins. LDL levels require LDL receptors for metabolism and circulation. High functionality of LDL receptors can be used to reduce lead cholesterol levels. Chalco and others have studied (Pandya S *et al*, 2009), a significant reduction in serum cholesterol and LDLs in patients with OSMF in comparison with the results of our study. On the contrary, they also saw significant TG levels in the OSMF that were noticed in their studies. Mehrotra *et al*. By studying, plasma found a substantial reduction in TC, found that LDL levels are currently reduced in the study, however, without substantial change in levels of LDL and TGs compared to HDL controls (Braakhuis BJ *et al*, 2004). The study of Sharma and others, Cholesterol, has observed a significant reduction in LDL in OSDF patients, which is similar to the current study. In contrast to this study, they also observed the HDL level, which is reduced in our study (Goyal S *et al*, 2013). Gupta and Gupta observed a significant reduction in plasma TC and HDL in patients with chronic injuries and conditions compared to our study. In contrast to the current study, they have also found substantial reductions in TGL (Lohe VK *et al*, 2010).

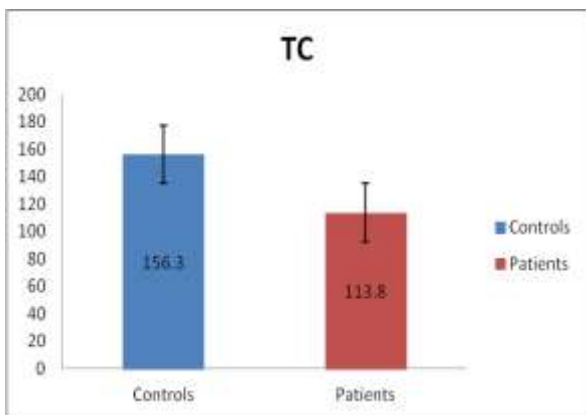


Figure 1: Comparison of TC level, patient and healthy controls

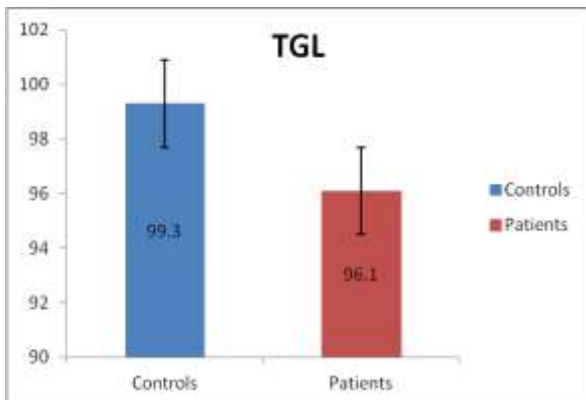


Figure 2: Comparison of TGL levels between OSMF

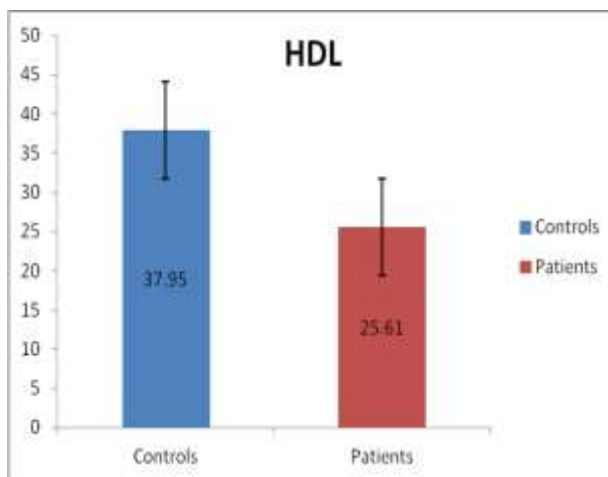


Figure 3: Comparison of HDL levels between OSMF patients and healthy controls

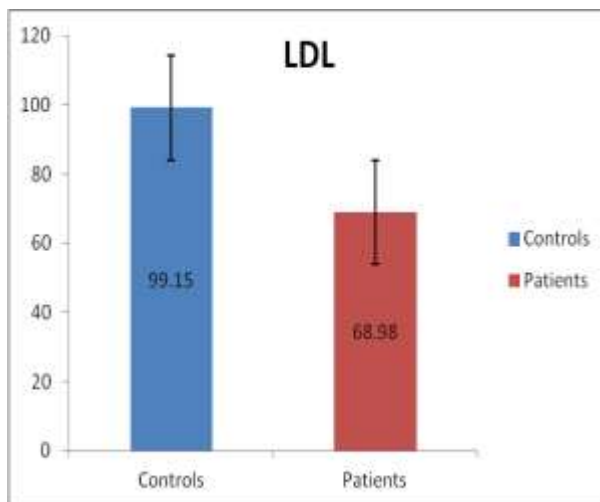


Figure 4: Comparison of LDL levels OSMF patients and healthy controls

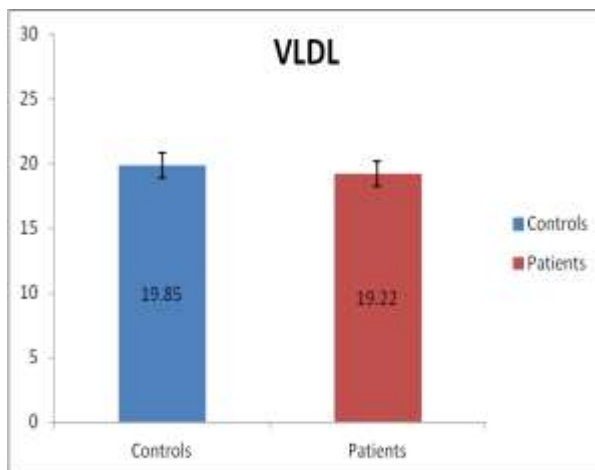


Figure 5: Comparison of VLDL levels between OSMF patients and healthy patients

CONCLUSION

Our findings suggest that prolonged or highly affected OSMF patients can cause hypolipidemia, dyslipidemia and other problems related to nutritional imbalance. It may also cause the alterations in other metabolisms by down regulating cholesterol dependent metabolisms.

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