Journal of Cardiovascular Disease Research

ISSN: 0975-3583,0976-2833 VOL11, ISSUE 11, 2020

Serum Lipid Profile, its comparison & analysis in patients with Oral Cancer & Potentially Malignant Disorder – A Clinico Pathological Study

Dr. Saad Ahmad, Dr. Ravi Seth, Dr. Sunita Pathak

Reader, Dept. of Oral Pathology and Microbiology
Rama Dental College, Hospital & Research Centre, Rama University, Kanpur, Uttar Pradesh
E-mail ID: saadahmadop@gmail.com
Sr. Lecturer, Dept of Oral Pathology & Microbiology
Rama Dental College, Hospital & Research Centre, Rama University, Kanpur, Uttar Pradesh
E-mail ID: dr.raviseth@gmail.com
Sr. Lecturer, Dept of Oral Pathology & Microbiology
Rama Dental College, Hospital & Research Centre, Rama University, Kanpur, Uttar Pradesh
E-mail ID: drsunita74@gmail.com

Corresponding Author:Dr. Saad Ahmad, MDS

Reader, Dept. of Oral Pathology and Microbiology
Rama Dental College, Hospital & Research Centre, Rama University, Kanpur, Uttar Pradesh
E-mail ID: saadahmadop@gmail.com

Abstract

Oral cancer (OC) is the leading cause of morbidity and mortality due to cancer in India and is most commonly preceded by clinically definable premalignant lesions and conditions. The present study analyzed the serum lipid profile in oral PMDs and OC to determine if detectable changes occur in these with respect to the normal levels and whether these changes could be utilized as diagnostic markers in such cases.

Keywords

Oral cancer, lipid profile**,** OPMD (oral potentially malignant disorders)

Introduction

Oral cancer (OC) is the leading cause of morbidity and mortality due to cancer in India and is most commonly preceded by clinically definable premalignant lesions and conditions. The present study analyzed the serum lipid profile in oral PMDs and OC to determine if detectable changes occur in these with respect to the normal levels and whether these changes could be utilized as diagnostic markers in such cases.

ISSN: 0975-3583,0976-2833 VOL11, ISSUE 11, 2020

Early detection of these lesions can dramatically improve the treatment outcome and prognosis in such patients. Carcinoma development is a complex mechanism comprising of proliferation, apoptosis and differentiation and the interplay between these intricate processes decides tumor development and progression. Thus, the development of newer diagnostic and predictive approaches that are safe and economical with possibility to repeat sampling is imperative. Blood-based/serum-based tests offer the aforementioned advantages.

Fundamentally, the newly proliferating tumor cells would need many basic components well above the normal limits, used in physiological process. One such component is lipids which form major cell membrane components essential for various biological functions including cell division and growth of normal and malignant tissues. The increased requirement of lipids to fulfill the need of these new cells would be expected to diminish the existing lipid stores. Altered lipid levels have been consistently associated with coronary heart disease and their relation to different cancers such as breast and colorectal have also been documented.

The search for safe and economical prognostic biomarker for the early detection and prognostic evaluation in oral cancer and potentially malignant disorder is going on since long time. Many biomarkers have been researched and evaluated but very few studies have been done on assessment of serum lipid profile in oral cancer and potentially malignant disorders. So this study emphasizes that lipid profile can be used as a safe & potent hematological diagnostic marker in oral cancer and potentially malignant disorders.

Materials and Methods

5ml of Blood was collected from 50 cases each of oral cancer, oral PMDs and control sample with none of the otherwise mentioned disorders. The collected sample was mixed with EDTA and centrifuged at 3000rpm for 10 minutes which gave us the serum sample for the subject.

1. Intraoral clinical examination of normal, oral PMD & cancer patients

ISSN: 0975-3583,0976-2833 VOL11, ISSUE 11, 2020

2. Staging was done for the OPMD & Cancer patients
3. 5 ml. overnight fasting blood sample was taken from patients in test tubes and carried in Centrifuge machine.
4. Serum lipid profile test was analyzed in Semi auto-analyzer machine

The results obtained were tabulated and analyzed using SPSS software. Chi-squared test and ANOVA was used to establish the variance and/or correlation between the parameters assessed.

Results

The average HDL, LDL and VLDL levels for Oral PMD patients was comparable to that of the control group. The total cholesterol levels increased in the PMD group as compared to the control group; this was however not statistically significant.

In the oral cancer group, the levels of HDL rose significantly higher when compared to the control group. These levels were also significantly higher in comparison to the OPMD group. The total cholesterol level however went down drastically in the oral cancer group and this was more seen with the more advanced stages of oral cancer.

Discussion and Conclusion

Serum lipid profile could be used as a diagnostic and prognostic marker in oral cancer and precancer. Particular attention should be paid to the HDL and total cholesterol levels and regular monitoring of the same in PMD cases might be an avenue to monitor the behavior of these lesions.

References

1. Major tumor markers versus Lipid profiling. IJDS vol 14 21 Jan - march 2022
2. Fixed drug eruptions with intra oral presentation: A case report Indian Journal of Dentistry June 2015 | Vol 6 | Issue 2,103-106.
3. Unicystic Ameloblastoma- A Clinicopathological distinct entity of mandible - Case report .University J Dent Scie 2015; I(I):54-56.

ISSN: 0975-3583,0976-2833 VOL11, ISSUE 11, 2020

4. Tumor Markers – Its advantages and limitations in diagnosis of Oral Cancer. University J Dent Scie 2015; I(2):42-45.
5. Effect of Areca Nut on oral epithelium – A Review. University J Dent Scie 2015; I(2):1-2.
6. Serum Lipid profile in oral cancer. University J Dent Scie 2015;1(1)8-12.
7. Vascular enlargement of lower lip –a case report. University J Dent Scie 2015;1(2)80-82.