

Estimation and Comparison of Superoxide Dismutase level in patients with Oral Submucous Fibrosis



Methodology

Study was conducted on patients selected from the outpatient department of Oral Medicine & Radiology after taking informed consent. The study population includes patients between the ages of 18– 65 yrs.

Detailed history and examination done

Patients fulfilling inclusion criteria are enrolled. 30 patients with OSMF and 30 subjects were included as controls in this study. Incisional biopsy done and histopathologically confirmed OSMF cases were considered

Blood was collected and centrifuged to separate the serum

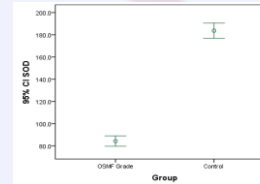
Estimation of SOD was determined by Ransod antioxidant enzyme kit provided by RANDOX Laboratories Ltd (Antrim, Northern Ireland, United Kingdom).

The samples were processed on Perkin Elmer U V/visible double beam spectrophotometer



Results

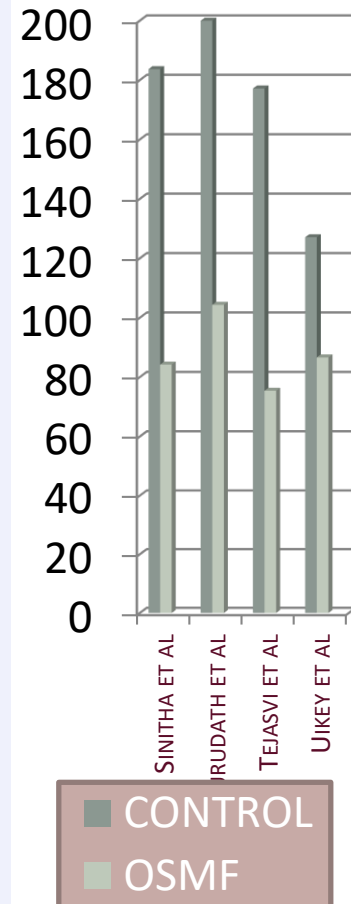
There is significant difference in mean value of SOD among controls and OSMF grade patients with the (p-value 0.000). The mean SOD is higher in control group patients than OSMF patients. There is significant difference in mean SOD among the four different grades of OSMF. The mean value of SOD is highest in grade I, followed by grade II, grade IV and grade III. (p-value 0.019).



Independent sample t-test is used for the analysis. Error bars are also plotted to visually understand the difference. Both suggests that there is significant difference in mean value of SOD among controls and OSMF patients.

Conclusion

The level of SOD is inversely proportional to chances of developing malignancy. The superoxide dismutase can be a potential biochemical index for evaluating carcinogenic potential of OSMF.



Background

Oral submucous fibrosis (OSMF) is a premalignant condition mainly associated with chewing arecanut, a habit common among South Asian people. Superoxide dismutase is a key antioxidant enzyme in aerobic cell. Forms the first line of defense against oxidative stress and its effects

Aim :

To evaluate and compare the levels of antioxidant enzyme SOD in blood samples of patients diagnosed with OSMF and their age and sex matched controls

Objectives :

To evaluate and compare SOD level in patients with different stages of OSMF and controls and within the study group between patients with stage I, stage II, stage III, stage IV OSMF