Abstract

ABSTRACT

Background: Oral submucous fibrosis (OSF) is a chronic progressive premalignant condition of the oral cavity associated with significant morbidity. Wide range of investigations have been carried out in this condition to identify the causation and pathogenesis. Biochemical investigations have been the earliest form of intervention to localize the parameters that predispose to the development of the condition and prognosticate on its malignant transformation potential. Only few studies have been done to estimate homocysteine level before treatment in oral submucous fibrosis. Hence the present study was conducted to evaluate the serum homocysteine level in oral submucous fibrosis in various stages before and after medical intervention and to compare and assess the serum homocysteine level as a prognostic marker in oral submucous fibrosis.

Aim: To evaluate the serum homocysteine level as prognostic marker in oral submucous fibrosis.

Objective: To estimate serum homocysteine in patients with oral submucous fibrosis in various stages before and after treatment. To compare the serum homocysteine level before and after treatment and assess the value of serum homocysteine level as a prognostic marker.

Methods: A total of 37 study participants comprising of 30 OSF patients and 7 healthy controls were included in the study. OSF patients were graded clinically into 4 grades. All the participants were subjected to homocysteine evaluation. OSF patients were treated with intralesional steroid and supplemental medication for 6 weeks and evaluated for improvement in burning sensation, mouth opening and post treatment Homocysteine. All the values were statistically analysed and the results were drawn.
Abstract

**Results:** The average age of study participants was 31.59±7.588 years. Majority of OSF patients were males. The mean serum homocysteine level in male and female are 19.82µmol/L and 8.86µmol/L. The mean serum homocysteine level in control group (8.40±1.74µmol/L) and OSF group (20.67±11.26µmol/L) showed statistically significant difference. With progression of disease from Grade I (10.69±2.26µmol/L) to Grade IV (35.17±13.90µmol/L), a statistically significant increase in mean serum homocysteine level was observed. The post treatment mean serum homocysteine levels in OSF patients was 14.76±6.45µmol/L. There was significant reduction in mean serum homocysteine level in OSF patient after treatment was noted (p=0.003). On comparison of mean pre treatment and post treatment serum homocysteine showed statistically significant difference. Statistically significant correlation between reduction in serum homocysteine and improvement in mouth opening was noted.

**Conclusion:** Hence, Serum Homocysteine level may be contributory as a potential prognostic marker in treatment of Oral submucous fibrosis.

**Key words:** Oral submucous fibrosis, Homocysteine, Inflammation, Potentially malignant disorder, Premalignant condition