A STUDY ON GENETIC POLYMORPHISM IN MATRIX METALLOPROTEINASES-3 IN ORAL SUBMUCOUS FIBROSIS PATIENTS AND IN HEALTHY INDIVIDUALS.

By

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ABSTRACT

OSF is a potentially malignant condition affecting the oral cavity and oropharynx.

MMP-3 also known as Stromelysin -I is a key member of the MMP family which is responsible for degradation of collagen type II,IV,V,IX and X, proteoglycans, gelatins, fibronectin, laminin and elastin. It plays an important role in activation of pro MMP-1 into the active form of MMP-1 in malignant tissues. MMP-3 expression is low in normal tissues but it is altered during tumour formation, where remodeling of ECM is required.

The aim of the study was to assess the association of single-nucleotide polymorphisms, Adenosine (Insertion/Deletion) in -1171 5A>6A in the MMP-3 promoter regions of patients with oral submucous fibrosis and in healthy individuals (controls).

30 cases of OSF were categorized according to Khanna et al classification into 4 groups and 20 age and sex matched controls were included in the study. Blood samples were collected in EDTA coated vacutainers and PCR restriction analysis was done. A statistical analysis was done using Chi-square test and Fisher's exact test to assess the frequency and association of the alleles in the case-control group. The result showed a statistical significance difference between the duration of habit and disease severity with polymorphisms. The result also showed a higher frequency of the 5A allele in the study group as compared to the controls.

KEYWORDS: Areca nut; MMP-3; oral submucous fibrosis; genetic polymorphism