A DISEASE WITH PREMALIGNANT POTENTIAL: ORAL SUB MUCOUS FIBROSIS

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ABSTRACT:
Over past four decades, many theories linking oral submucous fibrosis (OSMF) to various risk factors have been proposed. Spicy, pungent foods and irritants such as areca nut, paan (betel leaves), tobacco (through chewing or smoking)-the common Asian habits of chewing the aforementioned agents-have all been incriminated as causative agents. Hence; in the present review, we highlight the pathogenetic aspect of OSMF.

Key Words: Areca nut, Oral sub mucous fibrosis, Premalignant.

INTRODUCTION
Oral Submucous fibrosis is an insidious, chronic disease affecting any part of the oral cavity and sometimes the pharynx. Oral submucous fibrosis (OSMF) has also been previously described as idiopathic scleroderma of mouth, idiopathic palatal fibrosis, sclerosing stomatitis and juxta-epithelial fibrosis. The hallmark of the disease is submucosal fibrosis that affects most parts of the oral cavity, progressive trismus due to rigid lips, cheeks, pharynx and upper third of the esophagus leading to dysphagia. The disease is mainly seen in Asian countries and the prevalence is more in India. OSMF was first reported by Schwartz in 1952 while examining five Indian women from Kenya, which he called as “atrophia idiopathica (tropica) mucosae oris”. Later in 1953, Joshi from Mumbai re-designated the condition as OSMF, implying predominantly its histological nature. Its precancerous potential was first reported by Paymaster in 1956. Rao in 1962 suggested that OSMF is a localized condition of collagen disease.

ETIOPATHOGENESIS
The most evident changes happen in the extracellular framework of the submucous tissue layer. Fibrosis is related with quantitative and subjective changes of collagen affidavit inside the subepithelial layer of the oral mucosa. This is mostly because of stamped lacks in collagen and fibronectin phagocytosis by fibroblasts caused by betel nut alkaloids (arecoline, arecaidine). Then again, tannins from areca nuts increment collagen fiber imperviousness to collagenase. In vitro, areca nut extricate stifles the combination of [3H]proline and the development and connection to collagen of oral fibroblasts in a dosage subordinate way. Pretreatment of oral mucosa fibroblasts with other areca nut mixes, for example, buthionine sulfoximine or diethyl maleate potentiates the cytotoxic impacts. Overexpression of stress protein colligin was found in 70% of OSMF patients. It has been proposed that colligin may add to the expanded testimony of collagen I and subsequently to fibrosis advancement in oral submucosa. CD34 – a marker of mucosal vascular endothelium – and essential fibroblast development factor are both expanded in OSMF and show a relationship to the phase of fibrosis.

Copper is involved in the pathogenesis of fibrotic issue since it invigorates collagen union in oral fibroblasts. Hoisted serum copper levels are related with span of betel nut biting and seriousness of OSMF. Areca nuts contain high copper focuses contrasted with different nuts, and copper ends up noticeably freed amid biting. Mass ingestion spectrometry of buccal mucosa distinguished a mean tissue copper level of 5.5±2.9 μg/g in patients with OSMF contrasted and 4±1.9 μg/g in controls. Copper has been recognized in the epithelium and the connective tissue of the OSMF examples. Copper levels are altogether higher in business areca nut items contrasted and crude areca nut. Betel quid influences the resistant framework. The levels of changing development factor (TGF)-β and interferon (IFN)-γ are bring down in mononuclear cells from OSMF patients than from controls. All the more as of late, the articulation profiles of qualities in OSMF and ordinary oral mucosa have been considered all the more seriously. In a far reaching investigation of water-solvent and ethanol-dissolvable areca nut constituents, it was shown that both alkaloid and polyphenol parts incited TGF-β motioning in human keratinocytes. Included qualities included TGF-β2, SMAD-3, framework metalloproteinase (MMP)1, MMP2, and MMP9, and others. Conversely, no TGF flagging was initiated in fibroblasts.

TREATMENT
The fundamental issues tormenting the patients with OSMF are the consuming sensation and dynamic trismus which hinders typical capacity. The treatment should go for reducing the manifestations and in addition attempt to stop the movement of fibrosis. The treatment modalities
which are presently being utilized can be extensively separated into three primary classifications, viz.: Medical treatment, surgical treatment and physiotherapy. Be that as it may, whatever the treatment strategy might be, the initial step of preventive measure ought to be in cessation of propensity, which can be supported through instruction, directing and advocacy. Corticosteroids are immunosuppressive specialists, they repress activity of incendiary items discharged by sharpened lymphocytes. They might have the capacity to halfway alleviate patients of their manifestations, at a beginning time, yet less helpful in turning around the strange affidavit of fibrotic tissues and recuperating the suppleness of the mucosa.

Vitamins, cancer prevention agents and minerals: Lycopene is a such capable cell reinforcement got from tomatoes, which given at a measurements of 16 mg twice every day for 2 months demonstrated noteworthy improvement.

Placental concentrate were found to have against oxidant antagonistic impacts included straightforward cerebral pain, influenza like side effects and myalgia. Surgical treatment goes for mitigating extreme trismus by etching the stringy groups, which has prompted advance fibrosis before. Enhanced systems have been attempted by putting either skin unites or other alloplast films. LASER-CO2 laser surgery offers advantage in easing the practical limitation. Cryosurgery indicates better treatment brings about late days. Physiotherapy goes for conveying the oral tissues to its regular congruity. Muscle extending practices like swirling of mouth, mighty mouth opening utilizing braces and sticks have been attempted in the past as a strong treatment post-surgically.

CONCLUSION
OSMF is one of the deliberating diseases of the oral cavity with pre-malignant potential and characterized clinically by reduced mouth opening and burning sensation. Despite of recent advancements, there is still controversy in the literature regarding its pathogenesis. Therefore future researches are directed exploring various treatment options for it.

REFERENCES

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