



EFFECT OF NUTRITIONAL SUPPLEMENTS ON ORAL SUB MUCOUS FIBROSIS-A PILOT STUDY

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ABSTRACT

Oral sub mucous fibrosis (OSF) is a high risk precancerous condition, predominantly affecting Indian. Data from recent epidemiological studies provide overwhelming evidence that areca nut is the main etiological factor for OSF, although nutritional deficiencies and immunological processes may play an important role in the pathogenesis. In this study effect of nutritional supplements on OSF has been studied.

Keywords: Fibrosis, Precancerous, Immunological.

INTRODUCTION

Sub mucous fibrosis is an insidious, chronic disease affecting any part of the oral cavity and sometimes the pharynx ^[1]. Occasionally it is preceded by and/or associated with vesicle formation ^[2] and is always associated with a juxta-epithelial inflammatory reaction followed by progressive hyalinization of the lamina propria ^[3]. It is chronic insidious disabling disease involving

oropharynx and rarely the larynx. It is reported in Indian population characterized by blanching and stiffness of oral mucosa, trismus, burning sensation, hypomobility of the soft palate and tongue, loss of gustatory sensation and occasionally blockage of eustachian tube. Oral Sub mucous Fibrosis (OSF) has been well established in Indian Medical Literature since the time of Shusruta in the era of 2500-3000BC. It was first described by Scwartz in 1952,

Joshi first described this condition in India and suggested the name oral sub mucous fibrosis ^[4]. There are many etiological factors reported but strongest factor for OSF is chewing betel quid containing areca and pan masala chewing. In direct contact with liquid mixture with oral tissue results in their continuous irritation by various component, including biologically active alkaloid, arecoline, arecolidine, guvacoline, flavanoids, tannins and catedine and copper ^[5]. Its pathogenesis is not well established although number of possible mechanism has been suggested. Pathogenesis is believed to involve juxta epithelial inflammatory reaction and fibrosis in the oral mucosa probably due to increase cross linking of collagen through up-regulation of lysyl oxidase activity. Fibrosis or the build-up of collagen results from the effect of areca nut chewing. Thus

OSF is now considered as collagen metabolic disorder ^[6]. Iron deficiency anemia, vitamin B complex deficiency and malnutrition are promoting factors that derange the repair of the inflamed oral mucosa, leading to defective healing and resultant scarring (Aziz, 1997) ^[7].

MATERIALS AND METHODS

Twenty clinically diagnosed patients of sub mucous fibrosis were included in this study (Fig 1). History, examination and symptoms were recorded on set pattern of proforma. All the patients were advised to quit habit of pan masala chewing and tobacco chewing. Same multivitamin capsules with antioxidants were given twice daily for three months and patients were called after 15 days for checkup. Mouth opening, tongue protrusion, burning sensation, tolerance to hot and spicy food, ulceration, recurrent stomatitis were recorded at 15 days interval.

RESULTS

Table: 1

Symptoms	After 1 month	After 3 months
Burning sensation	Improved	Improved
Recurrent stomatitis	Improved	Improved
Blanching of mucosa	No improvement	No improvement
Fibrous bands	No improvement	No improvement
Mouth opening	No improvement	Slight improvement
Cheek fullness	No improvement	No improvement
Tongue protrusion	No improvement	No improvement
Ulceration	Slight improvement	Slight improvement

The male female ratio was 16/4. All patients had history of pan masala chewing for more than one year, their chief complaint was gradual reduction in mouth opening and intolerance to hot and spicy food and burning sensation. Blanching of mucosa, fibrous band were palpated in all the patients. In all the patients, burning sensation and tolerance to hot and spicy food was improved after one month (Fig 2). Stomatitis was also

improved after 1 month. In five patients mouth opening was slightly improved, but there was no change in the fibrous band, blanching, slight improvement in ulceration in terms of inflammation and burning sensation was observed. The patients with grade 3 and 4 OSF were advised for surgical management that is resection of fibrous band and reconstruction with buccal pad of fat, along with antioxidant therapy (Fig 3).



Fig 1: Pretreatment clinical picture of OSF



Fig 2: Post-treatment picture

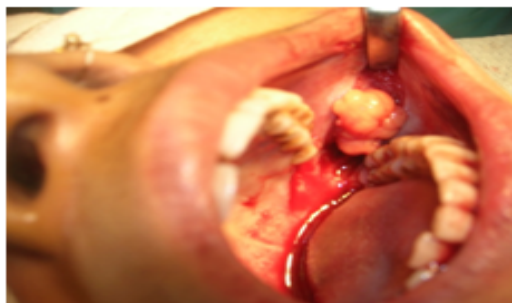


Fig3: Surgical management with BFP interposition

DISCUSSION

The treatment of patients with OSF depends on the degree of clinical involvement. If the disease is detected at a very early stage, cessation of the habit is sufficient. Most patients with OSMF present with moderate to severe staging. Moderate-to-severe staging of OSF is irreversible. Medical treatment is symptomatic and aimed at improving mouth movements. Intra-lesional steroid injections in the fibrotic band and

Hyluaronidase injection^[8], plcentrex injection^[9] which is aqueous extract of human placenta that contains nucleotides, enzymes, vitamins, aminoacids, and steroids are used in treatment of OSF. Its action is essentially biogenic stimulation. It is suggested that it stimulates the pituitary and the adrenal cortex and regulates the metabolism of tissues. They showed some improvement but not the complete resolution of symptoms reported^[10]. Other

treatment modalities are extensive and include use of micronutrients and minerals, carbon dioxide LASER, lycopene and turmeric. As fibrosis cannot be reversed when mouth opening is severely limited, surgical intervention such as myotomy, coronoidectomy, and excision of fibrous band are required. Reconstruction using BFP, skin flap and other flaps are recommended [5, 10]. In most of the cases depending upon the stages of the diseases and extent of oral involvement, therapy consisting of the drugs, and surgical modalities might be useful. OSF does not regress spontaneously or on cessation of areca nut chewing, once the disease is present, it either persists or become more severe with involvement of additional areas of oral mucosa. It is strongly associated with a risk of oral cancer although the biology underlying this association is still unresolved. OSF may cause atrophy of the epithelium, increasing carcinogens penetration. Studies suggest that dysplasia is seen in about 25% of biopsied OSF cases and the rate of transformation to malignancies varies from 3% to 19% [5, 6].

CONCLUSION

Natural supplements viz. multivitamins, antioxidants have limited role in the management of oral sub mucous fibrosis that too in the early stages of OSF. It is true that “prevention is better than cure” is very true for the oral sub mucous fibrosis because there is no cure for this disease.

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