



Mini Review Article

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Severity and prevalence of oral submucous fibrosis among habitual chewers and management of the disease through surgical approaches

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Abstract

Oral submucosal fibrosis (OSMF) is the commonly occurring premalignant conditions in India which is easily diagnosed but hard to manage. Presently it is considered as incurable disease. It has also been referred to as an epidemic in India. Oral submucous fibrosis (OSMF) is a chronic progressive disease known as a precancerous condition. The suggested aetiological factor is the practice of habits of the South East Asian population. The fact remains evident that tobacco use is strongly associated with the progression of the disease. When this disease progresses, the oral mucosa becomes hard because of the formation of fibrotic bands in the cheeks which ultimately leads to decreased mouth opening. At the early stage the disease is treated by medicines, however, at the later stage it needs surgical excision. Due to this excision the deformities and facial defects are formed which need to be repaired by various techniques such as tongue flaps, buccal fat pad graft and temporalis muscle flap graft etc. This review discusses and describes the surgical techniques that are reliable for the treatment of oral submucous fibrosis. The results suggest that surgery is a logical, convenient, and suitable treatment for the management of oral submucous fibrosis.

Keywords: Surgery, Oral Submucous fibrosis, Pre-oral cancer management.

INTRODUCTION

OSMF is a chronic, progressive, scarring precancerous condition of the oral cavity. In order to give relief to the patients and improve their Quality of life the maxillofacial surgeons are involved in performing various surgical treatments. The pedicled buccal fat pad has been generally used for repairing such oral defects. A new process of applying this flap is reported for treating trismus. During this the surgical incision of fibrotic bands is done in order to cure the buccal defect. This process is convenient and trustworthy for both doctors and patients.

A hospital-based case-control study was done, 220 patients with OSMF were selected and compared with matched controls in respect to tobacco use, lifestyle and daily diet consumption. Relative risk was calculated using an odds ratio and logistic regression analysis to understand the association of tobacco use, dietary factors and progression and development of the disease.(1-3)

It was found that the relative risk of progression of the disease was highest with chewable tobacco users specially gutkha users (relative risk, 1,142.4), it was significant ($P < .01$) at 95% confidence interval. The second highest relative risk for progression of the disease was noticed with other chewing product users. The relative risk of progression of disease increased with the frequency of tobacco consumption. Logistic regression and discriminative analysis show that chewing tobacco strongly influences the risk of disease.

Another epidemiological study has been done in Patna, Bihar. Total 157 cases of OSMF and 135 control subjects were included. The Male: Female ratio was noticed as 2.7:1. In this study maximum numbers of cases were illiterate and of low socio economic class with a age group of 21-40 years. The cases were found consuming more spicy food as compared to their controls. Cases mostly consumed chewing form like areca nut, gutkha and 80% of the controls were not indulged in any habit. The OSMF cases were consuming gutkha, areca nut since 2-4 years or more. The users mostly chewed and swallowed gutkha any many times they kept it for long time in the buccal vestibule. It was observed that

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the disease developed on the side of the mouth where they kept gutka for long time and other region of the mouth was normal.

One more case control study was conducted in Bhavnagar, Gujarat. Sixty oral submucous fibrosis patients visiting a dental clinic were selected as cases and sixty matched controls were taken. Among cases it was found that 98% chewed areca nut regularly and in controls 35% chewed areca nut, giving an overall relative risk of 109.6. The relative risks increased with increase in the chewing habits. The results confirm areca nut as the root cause of development of oral submucous fibrosis. These studies have shown a strong association between tobacco consumption and progression of Oral submucous fibrosis.

One another study was conducted which included 150 patients. The patients were further divided into two groups. In one group the patients were treated by oral administration of drugs, submucosal injections of dexamethasone and hyaluronidase and other group was treated by surgical therapies. The surgery was performed and the defect was repaired by the buccal fat pad grafts. Treatment was given according to the stage of disease in order to gain maximal interincisal distance (ID). Proper follow up was done for minimum of 2 years.

In serious patients surgical therapy was found to showing more satisfactory results as compared to medicinal treatment. Together with an end of the chewing habit before and after therapy, these treatment and daily mouth opening exercises were found essential to manage this disease.

A study was conducted in which 60 patients were studied from 1979 through 2000. There were 42 men and 18 women with an age group between 13 to 60 years. The inclusion criteria of patients included OSMF involving the cheeks, the soft palate, pillars, tonsils, and pharynx. The inter-incisor space is measured in every case before and after surgery, which is the parameter for the assessment of the surgical result. The white fibrosis are observed in the cheeks, tongue, tonsils and the pharynx. The tongue appears pink and many patients complain of burning sensation while eating food. For such cases, surgery is performed. Some patients have trismus, who cannot open the mouth which is a pathetic and painful. They look feeble and anemic. In a study of such patients, it has been proved that such patients can also enjoy their life and recover. The study has proved that in majority of cases the tobacco play an aggressive role in the etiopathogenesis of the disease (4-13).

Surgical highlights

Firstly the patients are evaluated for complete fitness for giving anaesthesia. The endotracheal intubations is difficult in patients with marked trismus endotracheal intubations. For such patients tracheotomy is neglected. In patients having mild trismus, the dentist extracts the last molars to prevent the tongue flap getting in the way of occlusion preoperatively because it may result in heavy bleeding during mastication. A nasogastric tube is passed and the patient is placed in with the head elevated to 30° with the mouth wide open with a Doyen's gag. The patients tongue is placed down with a 00 silk suture at the tip. For good inter dental working space, the incision of anterior pillar and retromolar fibrotic bands are done. On the dorsolateral aspect of tongue, a mark is made starting half of an inch from the anterior pillar of the palate. The marking is taken down to the sublingual surface up to the last molar, including the lateral margin of the tongue. Another elliptical marking is made on the cheek starting from the palate glossal fold behind the angle of the mouth. The tongue is infiltrated with saline. In order to establish complete haemostatics Bleeding points are coagulated with diathermy. The incision in the tongue is closed with a suture. A deep suture is placed in the base of the flap. The same procedure is repeated on the contralateral side. The oral cavity is cleaned with betadine and metrogyl. Post-operatively a course of antibiotics, intra-venous fluids, anti-inflammatory drugs and

cold sponging is advised for the next 48 hours. The patient is discharged on the fourth day and advised to take non spicy food and liquids initially and then semi-solids gradually. Physiotherapy is advised. In the long-term treatment patient is advised antioxidants for 6 months and over. About 50 of our patients were put on long-term antioxidants therapy postoperatively (14-15). Two patients had their flaps severed, which required resuturing (16.) Patients were completely satisfied they experienced no difficulty and their quality of life also improved. All patients who had a 5-year long-term follow up showed relief and were feeling better with no further development of the disease. The widespread habit of tobacco consumption specially in chewing form is a major risk factor for development of OSMF.

CONCLUSION

It is evident that with increase in the duration and frequency of the habit the severity of the disease increased. In a country like ours, where the incidence of OSMF is high due to habitual chewing of betel nut and tobacco with lime, such a well-formulated surgical treatments as followed by maxillofacial surgeons is of great benefit. It would improve the Quality of life which may lead to regression of the disease and provide relief to the patients.

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