



Relevance Of Coronoideotomy Over Fibrotomy And Muscle Myotomy With Interpositional Collagen Membrane And BFP Grafts In Oral Submucous Fibrosis. A Rare Case Report And Review Of Available Treatment Options

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Abstract

Oral submucous fibrosis (OSMF) is an insidious chronic disease affecting oral cavity with significant malignant potential. It is globally being accepted as Indian disease with prevalence of 6.42%. Numerous treatment options for symptomatic relief of OSMF have been described in literature, ranging from medical management to surgical intervention and selection of treatment modality is dependent on the stage of disease and patient factor. In this paper, a case of oral submucous fibrosis occurring in a 24-year-old female patient is discussed with emphasis effectiveness of coronoideotomy as an adjunctive procedure to fibrotomy and interpositional grafts like BFP and collagen membrane.

Keywords: Oral submucous fibrosis (OSMF); Coronoideotomy; Fibrotomy; Interpositional grafts like BFP and Collagen membrane.

Introduction

Oral submucous fibrosis is a chronic debilitating disease characterized by gradual increase of fibrosis in oral cavity and pharynx, mainly buccal mucosa resulting in trismus. This condition was first described by Schwartz in 1952.¹ It is primarily, a collagen related disorder associated with areca nut / tobacco with areca nut chewing and results in progressive hyalinization of the submucosa. Oral submucous fibrosis predominantly occurs in India and South East Asia. It carries a high risk of malignant transformation². This paper discusses a case of Grade IVA OSMF with a mouth opening of 12mm.

Case Report:

A 24 year old female patient reported to the Department Oral and Maxillofacial Surgery of Chandra Dental College and Hospital, Barabanki, India with the chief complaint of reduced mouth opening. The patient had the history of Gutkha, pan masala, Khaini (Areca, tobacco, etc.) chewing since last 7 years after which she noticed gradual decrease in mouth opening since two years. Patient also reported burning sensation when she took spicy foods. No gross asymmetry detected. Patient had sunken cheeks with reduced cheek blowing capacity and tongue protrusion and restricted mouth opening. Inspectory findings revealed pale blanched appearance of right buccal mucosa extending from the retrocommisural area up to the retro molar area anterior posteriorly and superior inferiorly from approximately 5 mm above and below the line of

occlusion. Marble stone appearance of mucosa was seen. Pale blanched appearance of soft palate, faucial pillars was also observed. Bud shaped uvula was present. On palpation all inspector findings were confirmed. Interincisal opening was limited to 12mm. Vertical fibrotic bands were palpable in the buccal

mucosa with respect to right posterior molar region on right side and the retro molar area. Circular band were palpable with respect to the mandibular labial mucosa. Based on the clinical findings a provisional diagnosis of Oral Sub mucous Fibrosis Stage IVA was made.

Figure 1: Preoperative profile



Figure 2: involvement of uvula and faucial bands



Figure3: Preoperative mouth opening 12mm



Surgical Procedure:

Patient was laid supine on O.T. table, vitals were recorded normal. Extraoral and intraoral part preparation was done and patient was draped properly. Anesthesia was achieved and endotracheal intubation was done. Incision was given using 15 no. Bard Parker blade starting from the commissure of mouth, releasing the bands, extending posteriorly above the retromolar area in occlusal plane bilaterally was given. Care was taken not to damage the Stenson's duct. Blunt dissection with application of force was done. Removal of bands with finger and artery was done. To further improve mouth opening all third molars were extracted. To further enhance

mouth opening unilateral right side coronoidectomy was done. Gradual force application using heister mouth opener (FERGUSON MOUTH GAG) was done and mouth opening recorded was 35mm. Temporalis fibers, masseter fibers and deep fibers were relieved. BFP and collagen membrane was placed in buccal area from retromolar area to commissure and secured with interrupted sutures achieving closure bilaterally. Dressing was placed in grafted area. The patient was extubated uneventfully with RYLE'S tube in place for RT feed. Oral physiotherapy was started after 48hours. Patient was motivated to actively continue the same to maintain the achieved mouth opening.

Figure 4: Coronoideotomy being performed



Figure 5: Intraoperative mouth opening achieved



Figure 6: Pre-operative OPG



Figure 7: Post-operative OPG



| PREOPERATIVE INTERINCISAL DISTANCE | INTRAOPERATIVE INTERINCISAL DISTANCE | POST OPERATIVE INTERINCISAL DISTANCE |
|------------------------------------|--------------------------------------|--------------------------------------|
| 12mm | 35mm | 30mm |

Figure 8: Post-operative mouth opening 30mm



Discussion:

Jens J. Pindborg in 1966, defined Oral submucous fibrosis as “an insidious, chronic disease that affects any part of oral cavity and sometimes pharynx. It is associated with a juxtaepithelial inflammatory reaction which is followed by fibroelastic change of lamina propria and epithelial atrophy leading to stiffness of oral mucosa, causing trismus and difficulty in food intake. Other features include reduced movement and depapillation of tongue, blanching and leathery texture of oral mucosa, progressive reduction of mouth opening and shrunken uvula.

Treatment modality is dependent on clinical presentation, staging and patient factors. Kamath V³ published a systematic review comparing the surgical approaches to manage OSMF and concluded that lasers, tongue flap, palatal flap, buccal pad of fat, nasolabial flap, thigh flaps, split skin grafts, collagen membrane, artificial dermis, human placenta grafts, coronoidectomies, muscle myotomies and oral stents all show significant improvement in symptoms of OSMF.

In the present case since, the intraoperative mouth opening recorded was only 25mm after resection of bilateral fibrous bands and prophylactic extraction of third molars therefore, we decided to do unilateral coronoidectomy and temporalis muscle fibrotomy to further enhance the mouth opening.

It was seen that coronoidectomy plays an important role in enhancing the mouth opening to maximum. In

the present case with coronoidectomy and fibrotomy we could further achieve mouth opening increased to 35mm. furthermore, covering the surgical defects with BFP along with collagen aided in significant healing and suppleness of buccal mucosa.

Conclusion:

OSMF is a devastating and debilitating state of mouth which jeopardizes the physical well-being of the patient’s day to day life. Its chronicity, optional muscle degradation and fibrosis have a deleterious effect on the well-being of the patient’s mental and social health.

BFP and collagen membrane are well documented grafts being used successfully since ages. The adherence of the collagen membrane might be an after effect of fibrin collagen connection yet is doubtlessly a consequence of fibrovascular development into collagen membrane.⁴ It takes 5-10 days for adherence.^{4,5} The role of coronoidectomy as an adjunctive procedure is definitely an added advantage to the mouth opening post operatively.

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