A SIMPLIFIED APPROACH FOR REHABILITATION OF AN EDENTULOUS PATIENT WITH ORAL SUBMUCOUS FIBROSIS – A CLINICAL REPORT

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ABSTRACT: Oral sub mucous fibrosis is an insidious chronic disease and a precancerous condition, affecting any part of the oral cavity and sometimes the pharynx. Management of patient with oral sub mucous fibrosis presents difficulties at all stages, from the preliminary impressions to fabrication of prostheses. This article will present simplified approach for management of a 61year old male edentulous patient with oral sub mucous fibrosis. So that final outcome may be achieved.

KEYWORDS: oral sub mucous fibrosis, putty impression material, completely edentulous

INTRODUCTION

Oral submucous fibrosis (OSMF) is a chronic, progressive, scarring disease that predominantly affects people of South-East Asian origin. This condition was described first by Schwartz(1952) while examining five Indian woman from Kenya, to which he ascribed the descriptive term “atrophia idiopathica (tropica) mucosae oris.” Later in 1953, Joshi from Bombay re-designated the condition as oral submucous fibrosis. The onset is insidious, over two to five years. Early OSMF includes a burning sensation in the mouth when consuming spicy food, appearance of blisters especially on the palate, ulcerations or recurrent generalized inflammation of the oral mucosa, excessive salivation, defective gustatory sensation and dryness of the mouth. In advanced OSMF, oral mucosa becomes blanched and slightly opaque and white fibrous bands appear involving the buccal mucosa, lips, soft palate, faucial pillars and tongue. With progressive fibrosis, the stiffening of certain areas of the mucosa occurs difficulty in opening the mouth, inability to whistle or blow out a candle and difficulty in swallowing. There is compelling evidence to implicate the habitual chewing of areca (betel) nut with the development of OSMF. It occurs predominantly in the Indian subcontinent where the habit is more prevalent.1

Oral submucous fibrosis is a preventable, common disease process seen in the Indian Subcontinent. The condition is found in 41,000 adults in rural India and as many as 5 million young Indians are suffering from this precancerous condition as a result of the increased popularity of the habit of chewing pan masala. Pan masala is a mixture of spices including, betel nuts, catechu, menthol, cardamom, lime and others. It has a mild stimulating effect and is often eaten at the end of the meal to help digest food and as a breath mint.2

The reduction or even elimination of the habit of areca nut chewing is an important preventive measure. This condition may be improved by nutritional support, immunomodulatory drugs, physiotherapy, local drug delivery, combined therapy and surgery.

Here, an edentulous patient with OSMF was rehabilitated using simplified approach with some modification in conventional method of complete denture fabrication.

Case Report

A 61-year old male patient reported to the department of prosthodontics referred from department of Oral Medicine and Radiology, with chief complains of inability to chew food and reduced mouth opening. The patient gave history of tobacco chewing since 35 years and completely edentulous since five months. (Fig.1)

On intraoral examination, oral mucosa, tongue and palate were found to be pale. Buccal and labial mucosa became stiff due to thickening of fibrous bands. Elasticity of mucosa was lost. But mouth opening was...
approximately 30 mm approximately. Both maxillary and mandibular ridges were found to be severely resorbed, with fibres extending from buccal mucosa to the ridge resulting in shallow buccal vestibule and insufficient depth of lingual vestibule. (Fig.2). Based on, all relevant clinical findings and consultation with department of Oral Medicine and Radiology, the patient was diagnosed as a case of OSMF with complete edentulism. He was advised physiotherapy (opening and closing of mouth wide with maximum effort for 15 to 20 minutes 4 times a day). Local topical corticosteroid application, multi-vitamin capsules along with chlorhexidine mouth wash was prescribed.

After preliminary treatment, the definitive prosthetic treatment was started. Small size stock trays were selected. Maxillary and mandibular preliminary impressions were made with impression compound. Custom trays were fabricated. Maxillary secondary impression was made with conventional manner.

Mandibular preliminary impression was repeated again with irreversible hydrocolloid (Neocolloid; Zermack) using mandibular custom tray (Fig.3) in order to get more accurate details. Custom tray was fabricated on the cast obtained from alginate impression. Border moulding was done with putty vinyl polysiloxone (Aquasil; Dentsply) (Fig.4). Secondary impression was made with monophase vinyl polysiloxone (Aquasil; Dentsply) impression material (Fig.5). Face bow transfer, centric relation was recorded and casts were mounted on semiadjustable articulator.
(Hanau wide Vue). Teeth were arranged in class 1 relation, try-in was done and denture was processed, finished, polished in a conventional manner (Fig.6 and Fig.7). Denture inserted, all Occlusal adjustment were corrected (Fig.8 and Fig.9).

Discussion

Many treatment protocols for oral sub mucous fibrosis have been proposed to alleviate the signs and symptoms of the disorder. OSMF is a chronic mucosal inflammatory disease (persistent stomatitis and glossitis), control of the inflammation or the factors influencing the inflammatory process should form the basis of definitive management. There are few if any controlled studies evaluating the effectiveness of treatment protocols. In severe cases, surgical intervention is the only treatment modality, but relapse is a major problem. Treatments for this disease are as follows:

- Patient is asked to stop the pan masala /beetle nut /smoking/tobacco chewing/ alcohol and spicy food
- Local injection of placental extract 2ml (market preparation manufactured from 0.1gm of fresh human placenta) given at multiple sites at soft palate and anterior to anterior pillars (as shown in the figure with red marking) every week for 10 weeks.
- Lycopene (10%) 2000mcg orally.
- Methylcobalmin injection (1500mcg) given intramuscularly every week.
- Jaw dilators exercises explained to the patients to be taken every day.
- Advanced cases of trismus are treated by jaw dilation under general anesthesia with incision of fibrous bands.2

R Rajendran et al as shown that pentoxifylline as an adjunct therapy in the routine management of oral submucous fibrosis. Pentoxifylline is a tri-substituted methylxanthine derivative, the biologic activities of which are numerous. This includes increasing red cell deformability, leukocyte chemotaxis, antithrombin and anti-plasmin activities, and more importantly to the present context, its fibrinolytic activity3. Pentoxifylline decreases red cell and platelet aggregation, granulocyte adhesion, fibrinogen levels, and whole blood viscosity4. Because this drug has proved effective in treating intermittent claudication caused by chronic peripheral arterial occlusion, we surmised that it might also be effective in treating OSMF, having a putative association with mucosal ischemia and resultant epithelial atrophy. The sub mucosal fibrosis, which is the hallmark of the disorder, is envisaged to be the result of a defective inflammatory reparative response culminating in fibrotic healing.

Fig.6. Both dentures (polished surface)

Fig.7. Both dentures (tissue surface)

Fig.8. Dentures in occlusion
In spite of common occurrence of OSMF in India, there is lack of literature available regarding management of such cases. Such patients usually present with limited mouth opening and thick fibrous bands in Buccal mucosa, which makes every step of prosthetic rehabilitation difficult. Therefore techniques are modified for primary and secondary impressions. In this case, conventional procedure was followed except for lower impression which was done with irreversible hydrocolloid, putty used for border molding and monophase addition silicone impression material because it was very difficult or impossible with impression compound and green stick impression compound. This technique was similar to previous reported technique except few modifications [6]. Permanent soft liner was not used here because there was no burning sensation and salivary deficiency. There are many disadvantages regarding use of soft liner. Retention and stability were satisfactory at the time of insertion of complete denture.

CONCLUSION

Rehabilitation of an edentulous patient with oral sub mucous fibrosis is a challenging task. Therefore, modification in conventional denture technique is advisable. Silicone impression material (putty consistency) is good for border molding in such cases. By simple modification in conventional method, successful results were achieved. Patient was happy with this prosthesis and wearing denture regularly without any complaint.

References


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