Case Report

Management of Severe Trismus with Bilateral Recurrent Pericoronitis alongwith Chronic Oral Submucous Fibrosis - A Case Report

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ABSTRACT

A 37 years, old male patient reported with the chief complaint of inability to open mouth since 10-11 months and recently pain and swelling resulting from wisdom teeth of both sides limited the mouth opening severely (<9mm, less than one finger opening) that he could not take solid food properly. After partial relief and mouth opening (12mm) with antibiotic therapy patient was examined and diagnosed as oral submucous fibrosis (osmf) along with impacted molars in both sides. Treatment was planned with conservative approach consisted of pharmacotherapy and physiotherapy for osmf and surgical removal of impacted third molars of both sides. Mouth opening was improved gradually (>15mm after 3 weeks, >22mm after 6 weeks,>27 mm after 9 weeks).

Key words: *Oral submucous fibrosis (OSMF), Trismus, Impacted third molar, Fibrous bands*

Oral submucous fibrosis (OSMF) is a potentially malignant disorder caused by chewing of betel quid, gutkha and khaini. It results in progressive inability to open the mouth and gradually decreases the elasticity of oral mucosa. With a reported prevalence ranging up to 0.4% in Indian populations, several million individuals are estimated to suffer from this malady. It has a malignant transformation rates as high as 7.6% and a relative risk of 397.3 for oral cancer development compared to individuals with tobacco habits but without any precancerous lesion or condition [1,2].

OSMF affects mostly the buccal mucosa, lips, retro molar areas and soft palate. It is a chronic condition characterized by mucosal rigidity of varying intensity due to fibro-elastic transformation of the juxta-epithelial layer. This leads to restricted oral opening; when the tongue is involved, its protrusion and associated movements may be impaired. Early lesion present as a blanching of buccal mucosa, imparting a marble-like appearance but later lesions reveal palpable fibrous bands rendering the mucosa as white, thick and stiff. This leads to progressive inability to open the mouth, burning sensation to spicy food, pain, dysphagia and progressive hearing loss. [3]

CASE PRESENTATION

Patient gave a history of burning sensation on having spicy food and he had to fragment the bolus of food while eating because of the inability to place the food into mouth in total. History of khaini chewing since 10 years with a frequency of 9-10times/day was present. Patient had sunken cheeks with reduced cheek blowing capacity and tongue protrusion and restricted mouth opening.

He was suffering from recurrent pericoronitis since 3 years. Flaring of pericoronitis in both sides worsened the condition and severely jeopardized his mouth opening that he was taking soft diet for couple of days.

On examination, it was revealed pale blanched appearance of both buccal mucosa extending from the retrocommisural area up to the retro molar area anterior posteriorly and superior inferiorly from approximately few mm above and below the line of occlusion. His mouth opening was less than one finger insertion (<9mm) [Fig 1] accompanied with burning sensation (VAS score 5 mm).On radiographic examination revealed vertically impacted right third molar (difficulty index 6, according to Pederson) and distoangular impacted left third molar (difficulty index 6) [Fig 2]

Fig 1:- Initial presentation of the patient with themouth opening <9mm

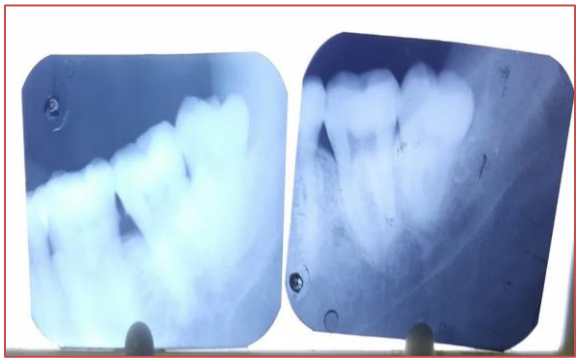

Fig 2:- IOPA X-ray of right and left impacted third molar

The patient was prescribed anti-inflammatory medication along with antibiotics [Tablet Cefodoxime proxetil 100mg every 12 hrs for 7 days along with Metronidazole 400 mg every 8 hrs for 7 days and Chymotripsin-Trypsin 100,000 AU every 8 hrs for 5 days]. After 10 days follow up the mouth opening was >12mm. He was instructed to exercise for two finger opening. **Fergusson-Auckland** mouth gag 8.25" (**Mexiplus**) was used weekly to gradual opening of the mouth [Fig 3, 4].

Fig 3 - Fergusson-Auckland mouth gag 8.25" (Mexiplus)

Fig 4- Mouth opening with Fergusson mouth gag

Medication for the management of OSMF was started along with physiotherapy. Combination of Alpha lipoic acid, Beta-carotene, Elemental copper and Selenium, Lycopene5000 mcg, Zinc sulfate (**SM Fibro**) and Leutin 6.4 mg+ l-glutathione 5 mg+ lysine 50 mg (**Carovit**) were used. Vitamin B complex capsule 500 mg once a day that contains Pantothenic acid 50 mg, Thiamine 50 mg, Pyridoxine 50 mg, Riboflavin 50 mg, Niacin 50 mg, Cobalamine 50 µg, Biotin 50 µg, Folic acid 400 µg was used for supra-added beneficial effect.

Later Vitamin 2000 µg, Vitamin C 100mg, Vitamin E 8mg were used to boost up the nutritional status of the patient. [4]. Next was planned for surgical removal of both sided impacted molar. Left third molar was removed after 2 weeks which was followed by removal of left 3rd molar using **Cotisen 'M'**mouth prop [Flap design and elevation were really troublesome because of the loss of the resiliency and elasticity of the oral mucosa and fibrosed pericoronal tissue] [Fig 5]. Mouth opening was definitely improved after 4 weeks (>20 mm).

Patient was instructed to continue jaw opening exercise four times daily with tongue blades. Wooden tongue blades of thickness 1.27mm were used in a pack for

gradual opening. Initially 14 tongue blades he could accommodate at a time (1.27 x 14 = 17.78mm) and he was advised to increase one blade gradually [Fig 6].

Fig 5- Surgical removal of impacted third molar

Fig 6-Mouth opening Exercise with wooden tongue blade

Fig 7- Exercise with Heister mouth gag

After 6 weeks he could accommodate 18 blades (18 x 1.27 approx 23 mm). He was given **Heister** mouth gag (Forgesy) for active exercise after demonstration for manual personal use. [Fig 7] After 9-10 weeks mouth opening was improved to 27.3 mm and on 13 week it reached to 28.8 mm. VAS score for burning sensation was reduced to 1mm and fading of white fibrous bands was observed [Fig 8]

Fig 8- Mouth opening increased to >28mm

DISCUSSION

OSMF is preceded by symptoms such as burning sensation of the oral mucosa, ulceration and pain. The characteristic features of OSMF are loss of pigmentation of oral mucosa, leathery texture and blanching of oral mucosa, depapillation and reduced movement of tongue, progressive reduction of mouth opening and sunken cheeks and uvula. Most recently More *et al*. proposed new classification in 2012 for OSMF:-[5]

Stage 1: (S1) - Stomatitis and/or blanching of oral mucosa
Stage 2: (S2) - Presence of palpable fibrous bands in buccal mucosa and/or oropharynx, with/without stomatitis
Stage 3: (S3) - Presence of palpable fibrous bands in buccal mucosa and/or oropharynx and in any other parts of oral cavity, with/without stomatitis
Stage 4: (S4) - (A) Any one of the above stage, along with other potentially malignant disorders, e.g. oral leukoplakia, oral erythroplakia, etc., (B) Any one of the above stage along with oral carcinoma.

Functional staging

M1: Inter-incisal mouth opening up to or >35 mm
M2: Inter-incisal mouth opening between 25 and 35 mm
M3: Inter-incisal mouth opening between 15 and 25 mm
M4: Inter-incisal mouth opening <15 mm

According to the classification patient was diagnosed as Stage 3 Oral Sub mucous fibrosis. There is a need for careful observation and regular follow up in every case in order to retard the disease process. The treatment depends on degree of involvement, proper and timely diagnosis.

Patients with OSMF need treatment for trismus correction, reconstructive surgery for any simultaneous oral malignancy. [6] In the case report surgical removal of bilateral impacted molars provided relief and improved mouth opening along with medications and physiotherapy. Submucosal steroid injection was avoided because the patient had been suffering from Peptic Ulcer Disease since 2 years. Topical application of 0.1% triamcinolone acetonide was suggested in some studies. Cryotherapy and Submucosal resection of fibrotic bands and replacement with a partial thickness skin or mucosal graft have seen beneficial effect also treating the chronic medication resistant OSMF [7].

CONCLUSION

OSMF is a potentially malignant disorder, which requires close monitoring and follows up. Areca nut has been imposed as one of the initiating factors for the disease causation. [8, 9]Various treatment modalities are present and are used as per the stage of disease. Trismus can be happened in different causes, so taking patient history and differential diagnosis along with proper treatment strategy is the prime need to achieve most favourable outcome.[10] Along with medication and physiotherapy patient counseling, nutritional status, rising of consciousness about precancerous lesions and assurance claim equal importance.

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