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A prospective care with tobacco counselling and medication in a patient with oral submucous fibrosis – A Case report

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Abstract

Oral Submucous Fibrosis (OSMF) is one of the most prevalent potentially malignant disorders seen in South east population since ages. The prevalence of Oral Submucous Fibrosis in India is 6.42%. Oral submucous fibrosis is defined as an insidious, chronic disease affecting any part of oral cavity and sometimes the pharynx. It is always associated with fibroelastic changes of Lamina Propria, with epithelial atrophy, leading to stiffness of oral mucosa and causing trismus and inability to eat. Contributing factors includes consumption of spicy food, Gutkha, pan masala, nutritional deficiencies, tobacco chewing and areca nut chewing habits. Despite the extensive amount of research held in this field, its treatment still remains a challenge. In this study, we present our experience in successfully managing OSMF with intralesional injections of dexamethasone 1.5 ml, 1500 IU hyaluronidase and 0.5 ml local anaesthesia on a patient diagnosed with oral submucous fibrosis diagnosed with grade ii OSMF who had a habit of gutkha and tobacco chewing. With proper habit and behaviour counselling, patient was also prescribed medications with capsule S.M. Fibro BID and ointment kena cort TID which was followed by intra-lesional injections once in a week. The remarkable results were seen with increase in mouth opening and symptomatic relief without any side effects.

Keywords: Dexamethasone, Habit counselling, Hyaluronidase, Oral submucous fibrosis, Tobacco.

Introduction

Oral submucous fibrosis (OSMF) is a precancerous condition due by inflammatory reaction and progressive fibrosis of the submucosa, seen predominantly in Southeast Asia and Indian subcontinent[1]. It was first described as 'Vidari' by Sushruta in 600 BC which involved progressive contraction of oral cavity, depigmentation of oral tissue and discomfort while consuming food[2]. In 1952, it was termed as 'Atrophica Idiopathica Mucosae Oris' by Schwartz and word 'Submucous Fibrosis of Palate and Pillars' was coined by Joshi in 19533. In India this condition was first described as diffuse oral submucous fibrosis (Lal 1953) and as submucous fibrosis of the palate & pillars (Joshi 1953)[4]. In 1966, Pind borg defined OSMF as "an insidious chronic disease affecting any part of oral cavity and sometimes pharynx. Although occasionally preceded by and/or associated with vesicle formation, it is always associated with juxta-epithelial inflammatory reaction followed by fibroelastic changes in lamina propria, with epithelial atrophy leading to stiffness of oral mucosa causing trismus and difficulty in eating[5]. Malignant potential rate of OSMF was first estimated to be 7–13% in 1956 by Paymaster[6].

The prevalence of OSMF in India ranges from 0.2–2.3% in males and 1.2–4.6% in females, with age range from 11 to 60 years7,8,9. A marked increase in incidence is observed after widespread marketing of commercial tobacco and areca nut products, known as Gutkha[10.] Although the etiopathogenesis is multifactorial, areca nut-chewing in any formulation is considered main causative agent. Contributory risk factors suggested includes chewing of smokeless tobacco, high intake of chilies, toxic levels of copper in foodstuffs and masticatories, vitamin deficiencies, and malnutrition resulting in low levels of serum proteins, anaemia and genetic predisposition[11].

The management of OSMF has been discussed previously by several authors[12,13,14.] The first and foremost treatment plan in OSMF is strict discontinuance of habit with motivation and intense counselling session for educating and creating awareness about the disease and its malignant potential[15]. Hyaluronidase acts by breaking down hyaluronic acid which lowers the viscosity of intercellular cement substance. Better results were observed with respect to trismus and fibrosis[16.] Several glucocorticoids are used for treatment of OSMF such as short-acting (hydrocortisone), intermediate acting (triamcinolone), and long-acting glucocorticoids (betamethasone and dexamethasone). They act by their anti-inflammatory activity by inhibiting the generation of inflammatory factors and increasing apoptosis of inflammatory cells. Thereby partially relieving patients of their symptoms at an early stage of OSMF [17.]

Case Report

A 33-years old male patient driver by profession reported to outpatient department with chief complaint of dirty teeth in upper and lower front region followed by bad breath and difficulty in opening mouth since seven to eight months. Patient had habit of gutka chewing since five years with consumption of 2-4 packets in a day and tobacco chewing since 18 years with consumption of 7-8 times a day. History of cigarette smoking, 1-2 cigarettes per day and habit was stopped 10 years back. On intra-oral examination generalised dental stains were present as shown in Figure 1. Burning sensation was present all over the mouth since six-seven month with the score of 7 on visual analogue scale. On inspection mucosa appears to be pale and blanching was seen on right and left buccal

mucosa, floor of the mouth & retromolar area extending from the commissural area up to the pterygomandibular raphe as shown in Figure 2. All findings of inspection confirmed on palpation. Mouth opening was reduced to 27 mm and tongue protrusion reduced to 36 mm and cheek flexibility reduced by 0.5 mm as shown in Figure 3. Fibrous bands were palpated both on right and left buccal mucosa extending from commissural area up to pterygomandibular raphe. Stiffness of buccal mucosa in affected area. Surface was rough and leathery. Considering combination of clinical findings and habit of gutka chewing along with tobacco, a provisional diagnosis of stage II OSMF was given. (Acc. To Nagesh and Bailoor classification). Looking at clinical signs and symptoms of disease, differential diagnosis was given as iron deficiency anaemia, trismus, fibrous ankylosis, Plummer Vinson's disease, scleroderma. A required investigatory method was performed in which complete blood investigation was done and tobacco dependence was measured using fagerstrom nicotine dependence scale both for smoking and smokeless tobacco which had lower level of dependence for smoking form of tobacco with score of 0 and moderate level of dependence for smokeless form of tobacco with score of 5. Relevant dental indices were also recorded: Gingival Index by Loe H and Sillness J (1963), Plaque Index by Loe H (1967), Russel Periodontal Index (1956), Modified Lobene stain index (1968). After all investigations final diagnosis was given as stage II OSMF. A comprehensive treatment plan was made, based on concept of conservative management for oral submucous fibrosis. The first step was motivating and counselling patient, so that he quits his habit. During intense counselling session with patient, carcinogenic potential of chewing tobacco and areca nut was explained. The threat of conversion of premalignant condition into malignancy was explained and importance of immediate quitting of habit was emphasised as shown in Figure 4. The tobacco counselling initially was started with 5A's (Ask, Assess, Assist, Advice and Arrange). At 15th day patient was explained regarding 5R's of tobacco chewing (Relevance, Risks, Rewards, Roadblocks and Repeatitions) and patient was advised to start with 4 D's (Delay, Drink, Deep breath and Do something). Patient was asked to contact us anytime in case if he feels any discomfort or suffers from withdrawl symptoms. Medications like capsule SM fibro (twice a day for 1 month), kenacort ointment (thrice a day for 1 month) and triamcinolone acetonide 0.1% w/w. were initially prescribed for one month. The patient was recommended to perform mouth ballooning, hot water gargles, and muscular stretching exercises. Required dental procedures like oral prophylaxis, restoration of carious teeth and extraction of indicated tooth was performed under local anaesthesia with epinephrine. Patient did not suffer from any with drawl symptoms. After a month, patient returned for follow-up appointment, and mouth opening had increased by 1 mm, on account of the tissue remodelling achieved by combination of medical therapy and oral physiotherapy that included vitamin B complex capsules, antioxidants and iron supplements. There was also reduction in the burning sensation; though clinically no changes were observed in the status of the diffuse leucoplakic lesion on the left buccal mucosa. For improvement in mouth opening, patient was started on Intralesional injections on 30th day for every once in 7 days. Intralesional injection (Dexamethasone – 1.5 ml Hyaluronidase- 1500 IU with 0.5ml of lignocaine HCL injection) was given on right and left buccal mucosa, retromolar area, floor of mouth and soft palate as shown in Figure 5. After intralesional injection, first follow-up on 37th day shows

increase in mouth opening by 30 mm, tongue protrusion by 37 mm and cheek flexibility was same as before as shown in Figure 6. On visual analogue scale the score reduced to 3. On 45th day, second follow-up showed a 1 mm (I.e., 31 mm) improvement in mouth opening and 41mm increase in tongue protrusion as shown in Figure 7. As cheek flexibility and VAS remains same. We intended to follow-up the patient at every 15 days interval for two months after treatment but the patient did not show up thereafter.

Figure 1: visible stains on intraoral examination.

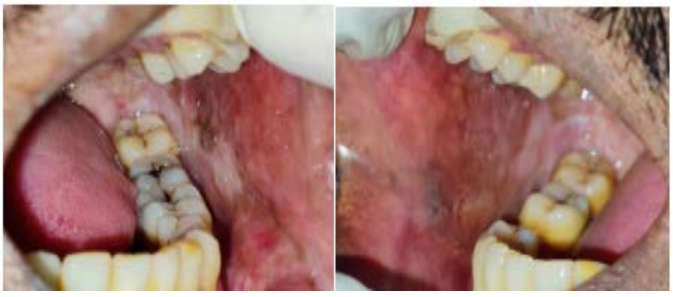

Figure 2: palpable fibrous bands present on left and right buccal mucosa extending from commissure to pterygomandibular area.

Figure 3: showing reduced mouth opening of 27mm and tongue protrusion of 36 mm.

Figure 4: patient was explained regarding various risks and consequences of continuous tobacco chewing.

Figure 5: Administration of Intralesional injections (Dexamethasone – 1.5 ml Hyaluronidase- 1500 IU with 0.5ml of lignocaine HCL injection) on fibrous bands.

Figure 6: First follow up after administering intralesional injection with an improvement in mouth opening about 30 mm and 37 mm tongue protrusion.

Figure 7: Second follow up after administering intralesional injection with an improvement in mouth opening about 31 mm and 41 mm tongue protrusion.

Discussion

Oral submucous fibrosis, a precancerous condition, reports reveal that it is in existence since time of Sushruta reported by Schwartz in 1962 and by Joshi in 1953 who described its singleton among Indians[3]. Many trials were conducted but no definitive treatment is available[18.] As exact causative factor for OSMF is a matter of conflict, failure to achieve proper treatment for it may be reason for its incomplete regression. Stoppage of areca nut chewing is foremost important measure to treat OSMF. Various drugs alone or in combination are used to treat this crippling disease. However, improvement can be obtained passably by intralesional injection of hyaluronidase19. It was observed that patients receiving hyaluronidase alone showed a quicker improvement in the burning sensation and painful ulceration, although combination of dexamethasone and hyaluronidase gave better long-term results than other regimens. OSMF is a disease with a high degree of incidence. It also carries a significant morbidity rate from oral cancer. The treatment of patients with oral submucous fibrosis 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 oral submucous fibrosis present with moderate-to-severe disease. Severe oral submucous fibrosis is irreversible. Current modern day medical treatments can make the mouth opening to normal minimum levels of 30 mm mouth opening with proper treatment[20]. The treatment of OSMF is still not satisfactory. Therefore, further clinical trials with newer modalities and combinations are required to manage this potentially malignant disorder and to prevent its malignant transformation.

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