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Original Article

Outcome Associated with two Different Treatment Regimens for OSMF

Kuldeep Pal M.D.S.

Oral & Maxillofacial Surgeon, Facecure Dental and Orofacial Clinic, Consultant Maxillofacial Surgeon, Sagarshree Hospital, Sagar, Madhya Pradesh, India.

ABSTRACT

Aim: The aim of the present study was to determine the effect of two different modalities on the management of oral submucous fibrosis. **Materials and methods**: The present study was conducted in the department of dentistry of the institute during a period of 6 months. All the subjects were followed for a period of 12 weeks and interincisal opening was measured. All the data was arranged in a tabulated form and analyzed using SPSS software. **Results:** The present study enrolled 100 subjects, out of which 50 were present in group 1 and 50 in group 2. There were majority of males in the study i.e. 60 were males and rest females. The mean age of the subjects was 36.59+/- 5.24 years. There were 56% (n=28) subjects in group I and 84% (n=42) subjects in Group 2 with grade III OSMF. There were 16% subjects in group 1 and 4% subjects in group 2 with 10-14 mm opening. There were 24% subjects in group 1 and 16% subjects in group 2 with 15-19 mm opening. **Conclusion:** In our study, the use of colchicine bought improvement in the patient's clinical conditions and more studies should be undertaken to determine the exact usefulness of colchicine.

Key words: Colchicine, Fibrosis, Hematoxylin.

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Corresponding Author: Dr. Kuldeep Pal M.D.S., Oral & Maxillofacial Surgeon, Facecure Dental and Orofacial Clinic, Consultant Maxillofacial Surgeon, Sagarshree Hospital, Sagar, Madhya Pradesh, India.

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INTRODUCTION

Oral submucous fibrosis is a challenging clinical situation that is associated with different devastating effects. As itprogresses, patient experiences both severe physical and mental complaints[1,2]. It further leads to restricted mouth opening and hence difficulty in maintain in oral hygiene.According to our clinical experience OSMF leads to various other problems like difficulty to perform any dental procedure. Due to improper visualization inside the mouth by the patient any ulcer or any lesion can undergo further advancement of the disease. Difficulty in performing intraoral biopsy, endoscopy and laryngoscopy. Oral intubation in such patients is another challenge. Oral Submucous Fibrosis is a chronic disorder that exclusively occurs amongst Indians and to a fewer extent amongst the Asiatic people.[3] However, with increased immigration of people from the Indian nation, dental professionals of various developed nations have thought encounter this condition in the future.[4] A wide range of management protocols that includes drug therapy, surgical management, and physiotherapy have been used till date, with varying degrees of success rate, but none of them have been able to completely cure this disease.[5] This is chiefly because of the fact that the etiology of the condition is not completely understood and the condition is progressive in nature.[6] The need of the era is instead of continuing the available types of therapies, the idiopathic nature of this disorder should be unrevealed and newer management strategies should be opted for.[7]Colchicine obtained from plant, *Colchicum Autumnale*[8]has action at subcellular level therefore is attracting many physicians in using this as management standard. It influences leukocyte and monocyte chemotaxis due to which it exerts an anti-inflammatory effect. The aim of the present study was to determine the effect of two different modalities on the management of oral submucous fibrosis.

MATERIALS AND METHODS

The present study was conducted in the department of dentistry of the institute during a period of 6 months. Prior

to initiation of the study, ethical committee clearance was obtained from the Institute's ethical board and all the subjects were informed about the study and a written consent was obtained from all in their vernacular language. A detailed and complete case history was obtained from the subjects with special concern about the chewing habits. A complete clinical examination of all the subjects was performed and recorded in a standard proforma. World health organization criteria was used to classify the subjects of oral submucous fibrosis. All the subjects between 15-50 years of age with confirmed diagnosis of OSMF were included in the study. Subjects were randomly divided into two groups. Group 1 patients received injection of Hyaluronidase 1,500 IU like group 1 and 0.5 ml of injection Hydrocortisone acetate (25 mg/ml)in buccal mucosa once every week alternatively. Group 2 patients received 0.5 mg of colchicine tablet orally two times a day. 1500 IU of hyaluronidase mixed with 1 ml of lidocaine was also injected in buccal mucosa.Subjects were asked to discontinue all betel nut chewing habits in both the groups during the entire study period. All the subjects were followed for a period of 12 weeks and interincisal opening was measured. All the data was arranged in a tabulated form and analyzed using SPSS software.

RESULTS

The present study enrolled 100 subjects, out of which 50 were present in group 1 and50 in group 2. There were majority of males in the study i.e. 60 were males and rest females. The mean age of the subjects was 36.59+/- 5.24 years.

Table 1 and graph 1 demonstrates the distribution of subjects per grades of OSMF. There were 56% (n=28) subjects in group I and 84% (n=42) subjects in Group 2 with grade III OSMF. There were 24% (n=12) subjects in group I and 14% (n=7) subjects in Group 2 with grade IV OSMF. There were 20% (n=10) subjects in group I and 2% (n=1) subjects in Group 2 with grade V OSMF. A total of 70% subjects had grade III OSMF, 19% had grade IV OSMF and 11% had grade V OSMF.

Table 2 shows the distribution of subjects based on the postoperative interincisal opening. There were 16% subjects in group 1 and 4% subjects in group 2 with 10-14 mm opening. There were 24% subjects in group 1 and 16% subjects in group 2 with 15-19 mm opening. There were 24% subjects in group 1 and 36% subjects in group 2 with 20-24 mm opening. There were 24% subjects in group 1 and 16% subjects in group 2 with 25-29 mm opening. There were 2% subjects in group 1 and 20% subjects in group 2 with 30-34 mm opening. There were 2% subjects in group 1 and 8% subjects in group 2 with 35-39 mm opening.

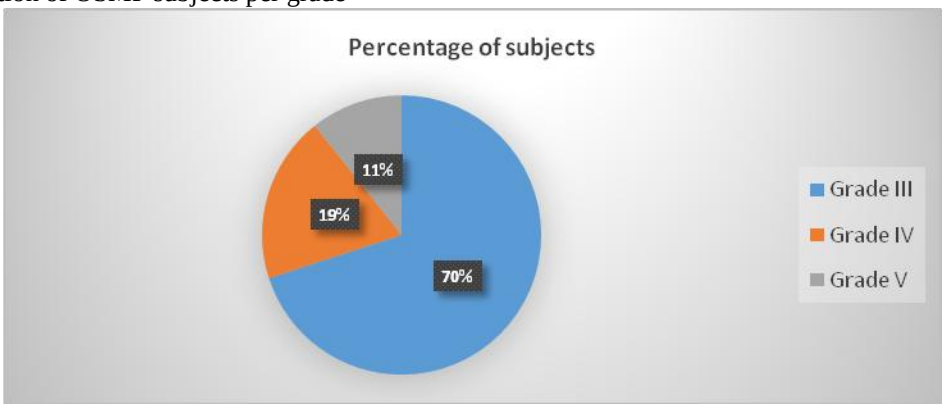
Table 1: Classification of subjects per grade of OSMF

GRADE	GROUP 1	GROUP 2	TOTAL
III	28(56%)	42(84%)	70
IV	12(24%)	7(14%)	19
V	10(20%)	1(2%)	11
Total	50(100%)	50(100%)	100

Table 2: Distribution of subjects based on postoperative interincisal opening.

INTERINCISAL OPENING	GROUP 1	GROUP 2
10-14	8(16%)	2(4%)
15-19	12(24%)	8(16%)
20-24	12(24%)	18(36%)
25-29	12(24%)	8(16%)
30-34	1(2%)	10(20%)
35-39	1(2%)	4(8%)

Graph 1: Distribution of OSMF subjects per grade



DISCUSSION

A variety of treatment options are available to manage the symptoms and treat the abnormal fibrotic bands that occurs during the progression of OSMF .[9] But there is no clear understanding of the pathogenesis of the disease such that no single management regime that can be entirely satisfactory[9,10]; Characteristically, OSMF subjects have a chief complaint of two main issues i.e. inability to open mouth and a burning sensation of the oral mucosa making them intolerant to spicy foods [(1,9).] Management of OSMF is based on severity of the disease and focuses on alleviating the signs and symptoms, controlling the disease progression and minimizing the chances of malignant transformation [(1).] If the condition is diagnosed before formation of fibrous bands then cessation of areca nut chewing will resolve the signs and symptoms.3 However once the patient has trismus, treatments should be dictated by both clinical presentation and functional severity of the disease. [1, 10] In our study, there were 56% (n=28) subjects in group I and 84% (n=42) subjects in Group 2 with grade III OSMF. There were 24% (n=12) subjects in group I and 14% (n=7) subjects in Group 2 with grade IV OSMF. There were 20% (n=10) subjects in group I and 2% (n=1) subjects in Group 2 with grade V OSMF. A total of 70% subjects had grade III OSMF, 19% had grade IV OSMF and 11% had grade V OSMF.In a study conducted by Haque*et al* in 2001, they successfully managed 29 patients of OSMF with recombinant interferon gamma and concluded thatinterferon may reverse oral submucous fibrosis. They also found that systemic interferon improves the mouth opening, musculoskeletal, and pulmonary efficacy in subjects with scleroderma.[11]Collagen fibrils seen in patients of oral submucous fibrosis are more embryonic in nature and have a defective maturation just like thoseof scleroderma[12]According to Canniff*et al.,* OSMF and scleroderma were similar and both had increased frequency of HLA — proteins.[13] Colchicine has been found to be useful in the management of diseases associated with fibrosis amongst animals and human.[14]Interferon gamma is an anti-fibrotic cytokine, that enhances collagenase synthesis in the oral epithelium and the lamina propria and it also downregulates the proliferation of fibroblast.[15]Intralesional injection of interferon gamma has demonstrated a great therapeutic effect in patients of OSMF.[16,17] In our study, there were 16% subjects in group 1 and 4% subjects in group 2 with 10-14 mm opening. There were 24% subjects in group 1 and 16% subjects in group 2 with 15-19 mm opening. There were 24% subjects in group 1 and 36% subjects in group 2 with 20-24 mm opening. There were 24% subjects in group 1 and 16% subjects in group 2 with 25-29 mm opening. There were 1.7% subjects in group 1 and 20% subjects in group 2 with 30-34 mm opening. There were 1.3% subjects in group 1 and 8% subjects in group 2 with 35-39 mm opening.

CONCLUSION

Management of oral submucous fibrosis is a challenging task and since the etiopathogenesis is not known so the determination of treatment modalities becomes difficult. The subjects should be made to discontinue the habit of tobacco chewing and encouraged about good oral hygiene practices. In our study, the use of colchicine bought improvement in the patient's clinical conditions and more studies should be undertaken to determine the exact usefulness of colchicine.

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