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Case Report

CROSS SECTIONAL STUDY OF ORAL SUB MUCOUS FIBROSIS IN WESTERN INDIA AND THE EFFECT OF LOCAL TRIAMCINOLONE THERAPY

Author (s) Sunil Borisa[a], Chirag Vaghela[b], Ankit PrakashchandraShah[c]

ABSTRACT - Oral Submucous Fibrisis (OSMF) a chronic progressive and irreversible disease is widely prevalent in many parts of India. A group of 98 patients visiting our regular OPD were observed for their reduced mouth opening and improvements were observed over a duration of 6 months after the treatment of intralesional triamcinolone and physiotherapy exercise for mouth opening.

Key words: Oral Submucous Fibrosis, Triamcinolone therapy

Introduction

Oral submucous fibrosis (OSMF) is a chronic progressive and irreversible disease affecting the oral, oropharyngeal and sometimes the esophageal mucosa. OSMF is a disease that causes changes similar to those of systemic sclerosis (scleroderma) but limited to oral tissues. The disease is seen in those from Indian subcontinent and from many parts of South-East Asia.

The etiology of OSMF is unknown but is probably multifactorial. Main contributing factor is thought to be betel nut (areca nut) as proposed by Mathew P et al.[1] The Alkaloids, flavonoids and trace elements like copper from areca nut plays important role in the pathogenesis of OSMF.[1] The use of pan which typically consists of areca nut, tobacco and crude lime wrapped in betel leaf Is the most used recipe. Experimentally, an alkaloid component of the areca nut, "Arecoline" can induce fibroblast proliferation and collagen synthesis and decreased collagen degeneration.[2] Tobacco chewing and smoking are not considered to play a role in the development of this disease. In this study we tried to analyze various clinico pathological aspect of the oral submucous fibrosis including the natural course of the disease and the effect of treatment with local triamcinolone injections.

Materials and Methods:

The present study was conducted over a period of 6 months. Study included 98 patients of OSMF, attending ENT Department of ESIC Model Hospital, Bapunagar, Gujarat in India. Patients' complaints were noted, history of chewing pan, pan masala, gutkha and arecanut with frequency

[a]Head of Department ENT, [b]Senior Resident, [c]Incharge Medical Officer
Correspondence - Dr. Chirag Vaghela 10, Shivkunj Society, Nr. Radhaswami Satsang Road, Ranip, Ahmedabad – 382480, Gujarat, INDIA, Mobile – 09909904544,
Email chirag.vaghela.ent@gmail.com

Figure – 1 **Figure – 2**

Figure 1 Shows restricted mouth opening due to Oral Submucous Fibrosis and **Figure 2** shows the involvement of Oral mucosa in the same patient.

and duration of use obtained. Thorough ENT checkups were done, with special attention being paid to ulceration of mucosa, white fibrotic bands and extent of lesion causing difficulty in opening mouth as well as in protrusion of tongue. The diagnosis of Oral Submucous Fibrosis was made based on the clinical features and no biopsy was taken as any insult to oral mucosa was found to enhance fibrosis.

All patients were asked to quit tobacco chewing and were managed with local injections of triamcinolone acetate, which was given at weekly intervals at the dose of 10 mg at a time, on Retromolar region in the oral cavity using insulin syringe for a period of 5 weeks.[2] Patients were followed up and results of treatment noted based on the increase in mouth opening objectively and the improvement of other symptoms subjectively. Hyaluronidase which is commonly used for treatment of oral submucous fibrosis was not used in our study. Triamcinolone acetonide 10mg/ml combined with 1500 IU of hyaluronidase is most advantageous combination when given intralesionally particularly in retromolar trigone area half dose each side at 15 days interval for a total of 11 injections in 22weeks.[3,4]

The patients were given Injectable Triamcinolone as mentioned previously. They were also advised to take physiotherapy as mouth opening exercise to aid in the mouth opening results. The patients were followed up for a period of 6 months.

Age	Male	Female	Total
<20	2	0	2
21-30	23	1	24
31-40	35	7	42
41-50	22	3	25
50-60	5	0	5
>60	0	0	0
Total	87	11	98

Table 1: Age and sex wise distribution

Discussion:

The age and sex wise distribution of the study is as follows.

Mostly the patients belonged to 3rd and 4thdecade. This can be accredited to the time taken for the changes to develop in the habits of chewing of pan, betel nut and pan masala (gutkha) in this age group. The results of this study shows that chronic irritation caused by chewing of pan, betel nut, pan masala, tobacco and other habits like smoking, excessive use of

chillies/spices can lead to fibrotic changes in oral mucosa similar to the observations.[1] Dayal PK et al. had found male predominance (M:F = 4.2:1) in their study. This is consistent with this present study, which showed, a very strong male predilection 8:1.[7] Earlier there was definite female predilection as reported by Pindborg et al.[5] But recently there is a paradigm shift in this aspect. Considering the fact that the availability of processed areca nut and the wide spread acceptance of its use may be the reason why there is a male predominance.[1]

Table 2

Education	Subjects
1-7	27
8-12	67
>12	4
Total	98

The education of an individual plays great role in awareness to such harmful habits and in taking precautions and manage development of such premalignant conditions.

Table 3

Consumption since (years)	Subjects
upto 2	13
3-5	24
6-15	46
16-25	13
>25	2
Total	98

Also, the Duration that lead to these OSMF changes was considered. patients who complied throughout the treatment and got following improvements.

All the patients in the present study had a common complaint of trismus (difficulty in opening the mouth) and burning sensation in the mouth. Some of the other less common complaints were retrosternal burning pain, pain in throat, change of taste, difficulty in swallowing etc.

All of the patients in the present study group were having trismus. Mostly the patients were having mouth opening of one and half to two finger mouth opening that was improved to two to three finger mouth opening after the treatment in course of 5 weeks. Blanching of oral mucosa with areas of fibrosis is diagnostic of submucous fibrosis as described by all other previous workers.

Table 4

Mouth opening (fingers)	No of Patients
>= one and half	2
>= two	7
>= two and half	5
>= three	1
>= three and half	1

Borle R.M. and Borle S.R. treated 326 OSMF patients; one subgroup of patients received systemic antioxidants and another subgroup received submucosal triamcinolone injections.[6] They noted that the subgroup of patients treated with antioxidants showed better overall improvement and the number of patients having relapse was lower than those treated with triamcinolone injections. A majority of group one patients had symptomatic relief within 1 week of treatment initiation. No improvement of trismus was noted. The disease became reactivated within

3–4 months. Group 2 patients had symptomatic relief after a 2 weeks period. A relapse to eruptive phase was seen in 4–6 months, but lesser number of patients had relapse when compared to group one patients.

Lipid peroxidation product, malonaldehyde (MDA and antioxidants were estimated in plasma and erythrocytes in a case study of 34 patients of OSMF by Gupta S. et al. they observed increased MDA level in most of the cases with OSMF that was associated with tissue injury. Improvements was observed in 6 of their cases who were given vitamin E and Beta Carotene supplements "antoxid" 1 tablet thrice daily for 6 weeks.[8] Similarly in this study, all the patients stopped their habit of chewing from the beginning of treatment and following treatment we found improvement in trismus, recurrent ulcerations, burning sensation in oral cavity, and also in blanching of oral mucosa.

Conclusion

The present study shows that there is significant effect of triamcinolone in the treatment of oral submucous fibrosis and its effect depends on the stage of presentation and on the frequency of the chewing habits of the patients and not on the duration of the habits.

In our study we observed improvements in 16 number of patients who were regular in our treatment and follow up and further taking physiotherapy after the triamcinolone injection that helped in reinforcing the effect of injectable intralesional steroids.

Therefore, it has been concluded that most important measure is prevention, and that the use of pan/ gutkha / pan-masala should be forbidden in patients. The increased prevalence of OSMF in the last two decades or so corresponds with the increased processing and commercialization of areca nut products.

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