



EFFECT OF DEXAMETHASONE AND PENTOXIFYLLINE IN SYMPTOMATIC MANAGEMENT OF OSMF

Dental Science

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ABSTRACT

Objective: A study was conducted to compare the effects of dexamethasone and pentoxifylline in reducing burning sensation in oral sub mucous fibrosis. **Materials and Method:** The study was done on 20 patients with stage I, stage II and stage III submucous fibrosis. The patients were divided into 2 groups, Group D and group P. The Group D patients were given intralesional dexamethasone biweekly and group P were given oral pentoxifylline tablet. The burning sensation, mouth opening and cheek flexibility were observed and the data was recorded and compared. The assessment of fibrous bands was also before and after the treatment. **Results:** The data collected after the follow up of 3 months concluded that dexamethasone was effective in reducing burning sensation in patients, but the effect on other parameters was not observed in both the groups. **Conclusion:** The study concluded that Oral Pentoxifylline did not have any statistical significance in reducing the symptoms of oral submucous fibrosis. Large scale studies are required to establish the effect of oral pentoxifylline in management of submucous fibrosis.

KEYWORDS

Oral submucous fibrosis, dexamethasone, pentoxifylline

Introduction

Oral Submucous fibrosis (OSMF) is a chronic pathology of oral mucosa which causes fibrosis in mucosa due to chronic inflammation with many etiological factors like areca nut chewing, genetic susceptibility, chilli consumption, nutritional deficiency, autoimmunity and collagen disorders. [1,2]

The term "oral submucous fibrosis" was first coined by Joshi and it was first diagnosed by Lal and Joshi in Indians in 1953. In 1988, according to Seedat HA, Van Wyk CW OSMF is irreversible and once the disease occurs due to betel nut chewing, the disease cannot be reversed even after quitting the habit. [2]

OSMF has a great prevalence in India and other Asian countries, and according to studies the prevalence of OSMF in India has increased from 0.03 % to 6.42 %. [3,4] As per predictions by WHO till 2020 the annual death by tobacco India will cross 1.5 million annually. [2] The requirement of tobacco cessation programmes and counselling of patient's is needed in a larger scale to prevent the rapid increment in the prevalence of the disease.

Materials and Method

The study was done in Saraswati Medical College, Unnao, Uttar Pradesh, in the Department of Dentistry. The patients reported to our OPD were included in the study after their informed consent was signed. The ethical clearance from the ethical committee was obtained and informed consent was signed by all the patients before participating in the study.

Total population of 20 patients were included in the study and was divided into 2 groups. Group D, where intralesional injection dexamethasone and injection hyaluronidase was injected biweekly for 6 weeks and Group P, where Tablet Pentoxifylline 400 mg was given thrice daily for 3 months. The patients were also counselled for tobacco cessation and quitting the habit. All the data was collected and comparison between both the groups was done.

The following clinical parameters were compared in each group:

- Mouth opening - measured using metallic scale for interincisal distance. (in millimetres)
- Burning Sensation – using VAS scale
- Tongue Protrusion - measurement from tip of tongue to incisal margin of upper central incisor when the tongue is protruded to the maximum (in millimetres)
- Presence of fibrous bands – the presence of fibrous bands are palpated and recorded with their anatomical area. The bands are assessed after 3 months of medical management and recorded again.

Inclusion criteria

- Grade I, II and III OSMF were included in the study (grading system by Khanna and Andrade classification, 1995).
- Age group 20 to 50 years

Exclusion criteria

- Patients suffering from any systemic disease like cardiovascular problems, endocrinal diseases or other diseases.
- Grade IV OSMF
- OSMF with oral cancer or any other lesion.

Results

Total 20 patients were included in the study and the data was collected after follow up of 3 months of each patient. There was male predilection in the study with average age was 28.4 years.

The mouth opening assessment in both the groups revealed that there was no significant difference in mouth opening after 3 months. Group D patient's average mouth opening before injections was 25.5 + 1.657 mm and after 3 months was 26.35 + 1.184 mm with the difference of 0.85 + 0.473 and group P patients showed average 27.2 + 1.248 mm mouth opening before medication and 27.4 + 1.39 mm after 3 months of medication and the difference was 0.2 + 0.142. In comparing both the groups there is not much significant difference in relation to mouth opening of the patients. Table 1

Table 1: Comparison of Mouth Opening (in mm) between Group D and Group P

	Group D	Group P	p value
Pre-treatment	25.5+1.657	27.2 + 1.284	0.0195
Post – treatment	26.35+1.184	27.4 + 1.39	0.0857

The study showed that there was significant reduction in burning sensation in group D patients. In group D before treatment the burning sensation on VAS was 6.1 ± 0.83 and after 3 months of treatment it was 4.1 ± 0.7 , whereas in group P VAS score before treatment was 5.6 ± 0.66 and after treatment it was 4.8 ± 0.6 . VAS scale scoring system was used to assess the effect of drug on burning sensation. The difference of VAS score before and after treatment in group D is 2.0 ± 0.13 and in group P is 0.8. Therefore, it is observed that burning sensation was significantly reduced in group D than in group P. Table 2

Table 2: Comparison of Burning Sensation between Group D and Group P

	Group D	Group P	p value
Pre-treatment	6.1+0.83	5.6 + 0.66	0.1533
Post – treatment	4.1 + 0.7	4.8+0.6	0.0274

Tongue protrusion was one of the clinical parameters assessed and revealed that there was not much significant difference in tongue protrusion in both the groups. The average tongue protrusion in group D was 27.3 ± 1.18 and after 3 months the tongue protrusion was 27.8 ± 0.97 , which shows statistically insignificant change in tongue protrusion. In group P the tongue protrusion before treatment was 27.5 ± 1.56 and after 3 months it was 28 ± 1.18 . This comparison of data shows that both the groups have not shown any significant changes in tongue protrusion after 3 months of treatment. Table 3

Table 3: Comparison of Protrusion between Group D and Group P

	Group D	Group P	p value
Pre-treatment	27.3+1.18	27.5+1.56	0.7502
Post – treatment	27.8+0.97	28+1.18	0.6837

Presence of fibrous bands was also assessed in all the patients in each group and it was observed that there was no reduction in fibrous bands in both the groups but there was no increase in fibrous bands also.

Discussion

The study done on 20 patients revealed that the drugs used in our study showed significant changes in burning sensation in group D patients whereas in other clinical parameters there was no significant change in both the groups therefore it was observed that these drugs are useful for reducing burning sensation but still larger scale study is required to confirm the analysis.

The reduction in mouth opening was one of the most common problems with patients suffering from OSMF. The management of OSMF was based on primarily decreasing the symptoms of OSMF as it is an irreversible condition, therefore complete normal condition is not possible to achieve. There are many methods and drugs used to increase the mouth opening in OSMF patients but very successful methods are yet not present. The studies in literature suggested that there is increase in mouth opening after conservative management of such patients but in our study, the data did not showed any significant change in mouth opening in both the study groups.[1,3,6]

OSMF patients also commonly report burning sensation of oral mucosa while eating hot and chilli food. The literature reports good results with intralesional dexamethasone and pentoxifylline too but in our study there was good results obtained in group D as compared to group P. Group D patients showed better reduction of burning sensation than group P. In group P patients the reduction of burning sensation was statically not significant. [1,3,6]

The studies published on management of OSMF suggest that the effect of dexamethasone and pentoxifylline is not much in increasing the tongue protrusion after the treatment.[1,7] Similarly in our study also we did not noticed any significant increase in tongue protrusion after 3 months of follow.

The followup period was for 3 months and not much significant results were obtained after the study, though larger sample size and much longer followup period is required to conclude the effects of the drugs used in the study.

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