



Comparison of Management of OSMF Patients

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Abstract

Background: To compare colchicine with hydrocortisone and hyaluronidase in cases of OSMF. **Methods:** 60 patients of OSMF (grade II and above) were classified into 2 groups. In group 1, patients were administered 0.5 ml intralesional injection Hyaluronidase 1,500 IU and 0.5 ml intralesional injection hydrocortisone acetate 25 mg/ml and in group 2, patients were administered tablet colchicine orally, 0.5 mg twice daily and 0.5 ml intralesional injection Hyaluronidase 1,500 IU into each buccal mucosa once a week. Parameters such as mouth opening (inter- incisor distance in mm) was recorded and burning sensation (VAS) was recorded at 2nd, 3rd and 4th weeks of treatment and compared in both groups. **Results:** At 2nd week, 20 patients in group 1 and 28 in group 2 showed reduction in burning sensation, at 3rd week, 7 in group 1 and 6 in group 2 and at 4th week, 8 in group 1 and 4 in group 2 showed reduction. It was seen that none patient in group 1 and 2 patients in group 2 had >35 mm opening. 4 in group 1 and 6 in group 2 had 30-35 mm opening whereas 12 in group 1 and 10 in group 2 had 25-30 mm opening. **Conclusions:** Colchicine found to be effective in management of cases of OSMF as compared to other treatment modalities.

Keywords:- Colchicine, Oral submucous fibrosis, Mouth opening, Hydrocortisone.

INTRODUCTION

Oral submucous fibrosis (OSMF) is a chronic, complex, irreversible precancerous condition characterised by juxta-epithelial inflammatory reaction and progressive fibrosis of the submucosal tissue i.e. lamina propria and deeper connective tissue.^[1] Oral submucous fibrosis is a chronic disease affecting the oral mucosa, as well as the pharynx and the upper two-thirds of the esophagus. There is substantial evidence that lends support to a

critical role of areca nuts in the etiology behind oral submucous fibrosis.^[2]

The first complete description of disease was defined by Schwartz (1952) as "Atrophia Idiopathica (tropica) Mucosae Oris" on five Indian women in Kenya.^[3] However, the existence of such a disease and its presentation in oral cavity was also evident in ancient Indians, which was documented by Sushruta who described it as "VIDARI," a disease of mouth and throat in which progressive

narrowing of mouth opening, depigmentation of oral mucosa and pain on taking food were noted.[4]

Different treatment modalities have been proposed in management of OSMF. Treatment includes intralesional injections of placental extract, corticosteroid such as hydrocortisone and injection hyaluronidase.[5] The pharmacodynamics of colchicine as an anti-fibrotic agent is well-established by various in vitro and in vivo studies warranting its use in the treatment of various diseases associated with fibrosis.[6] The long held view that colchicine's anti-inflammatory actions are specific for gout is no longer tenable. Many studies have demonstrated effectiveness of colchicine therapy for a surprisingly broad array of diseases including recurrent aphthous stomatitis, Behcet's disease, familial Mediterranean fever, polymyositis, and scleroderma.[7,8] A significant reduction in burning sensation has been observed. Considering this, this study compared colchicine with hydrocortisone and hyaluronidase in cases of OSMF.

MATERIAL AND METHODS

The study was approved from institutional review and ethical committee and followed declaration of Helsinki. A total of 60 patients of OSMF (grade II and above) were selected irrespective of sex.

Demographics of each participant was recorded. Patients were classified into 2 group and each group had 30 patients. In group 1, patients were administered 0.5 ml intralesional

injection Hyaluronidase 1,500 IU and 0.5 ml intralesional injection hydrocortisone acetate 25 mg/ml in each buccal mucosa once a week alternatively and in group 2, patients were administered tablet colchicine orally, 0.5 mg twice daily and 0.5 ml intralesional injection Hyaluronidase 1,500 IU into each buccal mucosa once a week. Parameters such as mouth opening (inter- incisor distance in mm) was recorded and burning sensation (VAS) was recorded at 2nd, 3rd and 4th weeks of treatment and compared in both groups. Results of the present study was entered in MS excel sheet for comparison. Level of significance was set below 0.05.

RESULTS

Group I comprised of 16 grade II and 24 grade III patients and group 2 had 13 grade II and 27 grade III patients. A non- significance difference was observed ($P > 0.05$) [Table 1, Figure 1].

At 2nd week, 20 patient sin group 1 and 28 in group 2 showed reduction in burning sensation, at 3rd week, 7 in group 1 and 6 in group 2 and at 4th week, 8 in group 1 and 4 in group 2 showed reduction. A significant difference was observed ($P < 0.05$) [Table 2, Figure 2].

It was seen that none patient in group 1 and 2 patients in group 2 had >35 mm opening. 4 in group 1 and 6 in group 2 had 30-35 mm opening whereas 12 in group 1 and 10 in group 2 had 25-30 mm opening. A significant difference was observed ($P < 0.05$) [Table 3].

Table 1: Distribution of patients based on grading.

Grade	Group 1	Group 2	P value
II	16	13	>0.05
III	24	27	

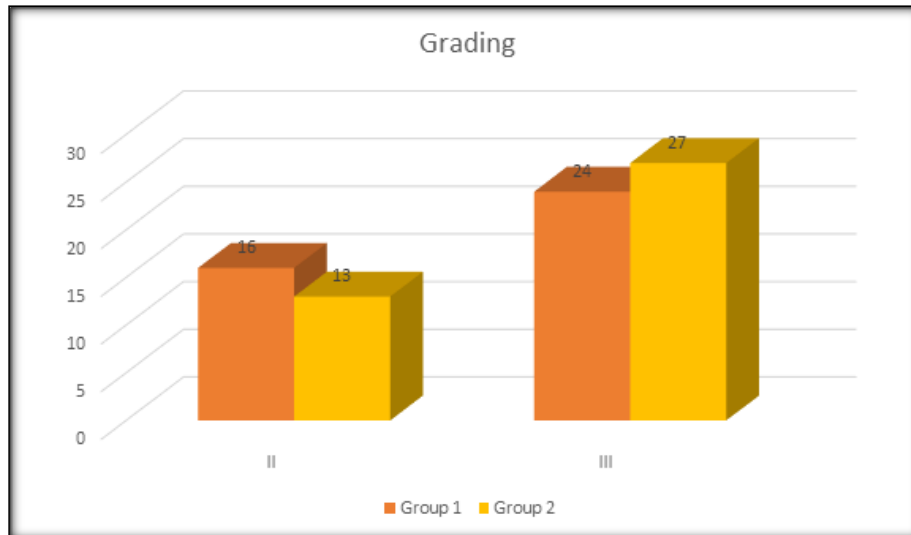


Figure 1:

Table 2: Comparison of burning sensation.

Duration	Group 1	Group 2	P value
2 nd	20	28	<0.05
3 rd	7	6	
4 th	8	4	

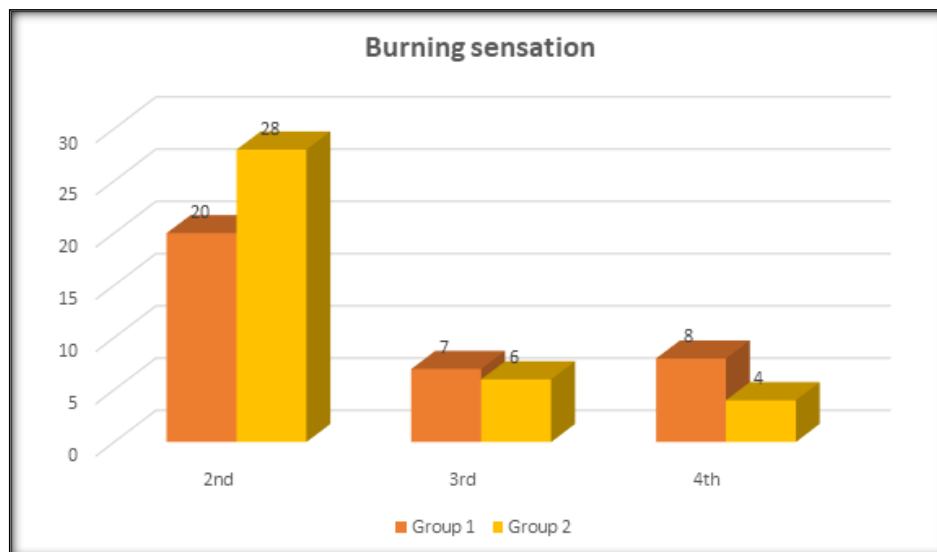


Figure 2:

Table 3: Comparison of mouth (inter-incisal distance) opening.

Inter-incisal distance (mm)	Group 1	Group 2	P value
10-15	6	2	<0.05
15-20	10	5	
20-25	8	15	
25-30	12	10	
30-35	4	6	
>35	0	2	

DISCUSSION

We selected this study on 80 confirmed patients of OSMF of either gender and this study compared colchicine with hydrocortisone and hyaluronidase. Oral submucous fibrosis (OSMF) is an insidious, chronic disease affecting any part of the oral cavity, sometimes pharynx and esophagus.^[9] It is characterized by mucosal rigidity of varying intensity due to the fibro-elastic transformation of the juxta-epithelial layer, resulting in a progressive inability to open the mouth.^[10] The pathogenesis of the disease is not well established, but the cause of oral submucous fibrosis is believed to be multifactorial. Factors include areca nut chewing, ingestion of chilies, genetic and immunologic processes, nutritional deficiencies, and other factors.^[11] Previous studies on the pathogenesis of OSF have suggested that the occurrence may be due to clonal selection of fibroblasts with a high amount of collagen production during the long-term exposure to areca quid ingredients etc.^[12]

Our study showed that group I comprised of 16 grade II and 24 grade III patients and group 2 had 13 grade II and 27 grade III patients. Krishnamoorthy et al,^[13] studied effects of colchicine in the management of oral

submucous fibrosis. Fifty OSF patients were divided randomly into two groups and treated for 12 weeks. Group 1-Patients were administered tablet colchicine orally, 0.5 mg twice daily and 0.5 ml intralesional injection Hyaluronidase 1,500 IU into each buccal mucosa once a week. Group 2-Patients were administered 0.5 ml intralesional injection Hyaluronidase 1,500 IU and 0.5 ml intralesional injection Hydrocortisone acetate 25 mg/ml in each buccal mucosa once a week alternatively. Thirty-three percent in group 1 got relief from burning sensation in the second week. Inter group comparisons of increase in mouth opening and reduction in histological parameters indicated that group 1 patients responded better than group 2.

We observed that at 2nd week, 20 patient sin group 1 and 28 in group 2 showed reduction in burning sensation, at 3rd week, 7 in group 1 and 6 in group 2 and at 4th week, 8 in group 1 and 4 in group 2 showed reduction. Karthik et al,^[14] in age group 30-45 years found that kenacort application suited the best treatment modality for this age group as it showed a very good prognosis in the inter incisal mouth opening. 46-75 years showed that jaggery and turmeric application suited the best treatment modality for this age group as it showed a very good prognosis in the inter- incisal mouth opening.

It was seen that none patient in group 1 and 2 patients in group 2 had >35 mm opening. 4 in group 1 and 6 in group 2 had 30-35 mm opening whereas 12 in group 1 and 10 in group 2 had 25-30 mm opening. Haque et al,^[15] successfully treated 29 OSF patients with recombinant interferon gamma (rhIFN- γ) and concluded that IFN- γ may reverse OSF. They tried IFN- γ in OSF based on the studies which showed that systemic recombinant IFN- γ improved the mouth opening, musculoskeletal, and pulmonary efficiency in patients with scleroderma. In view of the female predilection, its presentation in middle life and histological similarities, the analogy that OSF is an “idiopathic scleroderma of mouth” seems reasonable.

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OSMF remains active even after cessation of the chewing habit, suggesting that components of the arecanut initiate OSMF and then affect gene expression in the fibroblasts, which then produce greater amounts of normal collagen.^[16] Chewing areca quid may also activate NF-kappa-B expression, thereby stimulating collagen fibroblasts and leading to further fibrosis.

CONCLUSIONS

Results of our study revealed that colchicine found to be effective in management of cases of OSMF as compared to other treatment modalities.

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