

Original Article

A Comparative Evaluation of Placental Extracts and Hyaluronidase in Cases of OSMF- A Clinical Study

Nikita Goyal¹, Sapna Rajee², Anamika Shivhare³

¹Senior lecturer, Department of Oral Medicine and Radiology, ²Senior lecturer, Periodontics, ³Oral Pathology, Sri Aurobindo College of Dentistry & PG Institute, Indore, M.P., India

ABSTRACT:

Background: OSMF is a potentially malignant disease of the oral cavity. The present study was conducted to compare the effect of Placental extracts and Hyaluronidase in cases of OSMF. **Materials & Methods:** The present study was conducted on 24 patients of OSMF. All were divided into 2 groups. Group I were prescribed 2ml of placental extract and group II patients were put on 1500 IU of Hyaluronidase. In all patients, mouth opening was measured before and after treatment. Pain was measured on VAS before and after treatment. **Results:** In group I, the mouth opening was 24.2 mm and after treatment 32.4 mm. In group II, it was 26.3 mm before treatment and 33.8 mm after treatment. The difference was significant ($P < 0.05$). The mean burning sensation on VAS score was 7.2 and 1.4 before and after treatment in group I. It was 6.8 and 1.6 before and after treatment in group II. The difference was significant ($P < 0.05$). **Conclusion:** Both hyaluronidase and Placental extracts resulted in significant improvement in mouth opening and reduction in burning sensation.

Key words: OSMF, Hyaluronidase, Placental extracts

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Correspondence to: Dr. Nikita Goyal, Senior lecturer, Department of Oral Medicine and Radiology, Sri Aurobindo College of Dentistry & PG Institute, Indore, M.P., India

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INTRODUCTION

OSMF is a potentially malignant disease of the oral cavity. It is defined as insidious, chronic disease that affects any part of the oral cavity and sometimes the pharynx. Although occasionally preceded by, or associated with, formation of vesicles, it is always associated with a juxtaepithelial inflammatory reaction followed by fibroelastic change of the lamina propria and epithelial atrophy that leads to stiffness of the oral mucosa and causes trismus and an inability to eat.¹

At first, OSMF was thought to be idiopathic, but it was later suggested to be multifactorial in origin. Various epidemiological studies, large cross-sectional surveys, case-control studies and cohort and intervention studies have provided irresistible evidence that areca-nut is the main etiological factor in OSMF. It is also considered as a disorder of collagen metabolism and is characterized by

increased production and decreased degradation of collagen fibers.²

Other mechanisms are autoimmune factors and genetic predisposition that lead to OSMF. It seems likely that OSMF is a multifactorial disease with initiators, promoters, and other modifying cofactors. Management includes controlling the signs and symptoms of the lesion. Patients' education is necessary to minimize the risk of malignant transformation. The management of OSMF can be divided into 3 broad groups: medical treatments, physical, and surgical.³ Placental extracts have potential role in the management of OSMF. It contains anti-inflammatory agents, growth factors and possesses antiplatelet activity. Hyaluronidase acts by breaking down hyaluronic acid, the ground substance of connective tissue, thereby decreasing the viscosity of intracellular cement substance.⁴ The present study was conducted to compare the effect of Placental extracts and Hyaluronidase in cases of OSMF.

MATERIALS & METHODS

The present study was conducted in the Department of Oral Medicine & Radiology. It comprised of 24 patients who were diagnosed cases of OSMF of both genders (males- 14, females- 10). All were informed regarding the study and written consent was taken from the patients. Institutional clearance was obtained prior to the study.

General information such as name, age, gender etc. was recorded. All were divided into 2 groups. Group I were prescribed 2ml of placental extract and group II patients were put on 1500 IU of Hyaluronidase. In all patients, mouth opening was measured before and after treatment. Pain was measured on VAS before and after treatment. Results were subjected to statistical analysis. P value less than 0.05 was considered significant.

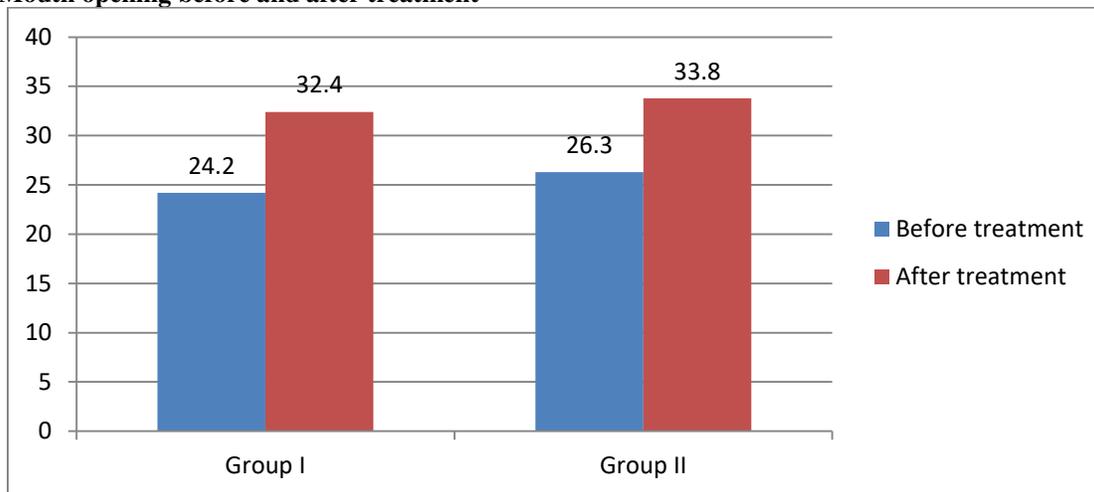
RESULTS

Table I Distribution of patients

Groups	Group I	Group II
Agent	2ml of placental extract	1500 IU of Hyaluronidase
No. of patients	12	12

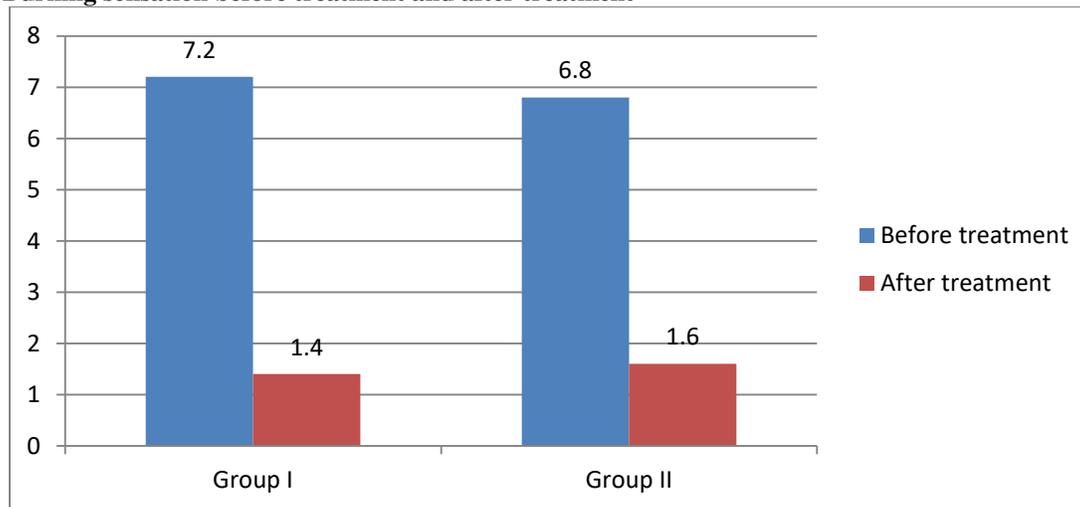
Table I shows that each group had 12 patients. Group I were prescribed 2ml of placental extract and group II patients 1500 IU of Hyaluronidase.

Graph I Mouth opening before and after treatment



Graph I shows that in group I, the mouth opening was 24.2 mm and after treatment 32.4 mm. In group II, it was 26.3 mm before treatment and 33.8 mm after treatment. The difference was significant (P< 0.05).

Graph II Burning sensation before treatment and after treatment



Graph II shows that mean burning sensation on VAS score was 7.2 and 1.4 before and after treatment in group I. It was 6.8 and 1.6 before and after treatment in group II. The difference was significant (P< 0.05).

DISCUSSION

OSMF is one of the potentially malignant disorders. The use of arecanut leads to the formation of vertical fibrotic bands in various parts of oral cavity such as buccal mucosa, lips, soft palate. The characteristic feature is hockey stick like shrunken uvula. Patient complains of limited mouth opening, difficulty in speaking, eating and swallowing.⁵ Various combinations of drug regimens have been used in the treatment of OSMF and each drug has a different mechanism of action. Intralesional injections of drugs like dexamethasone, triamcinolone, hyaluronidase and placental extract have shown relief from the symptoms and improvement in the mouth opening in patients with OSMF. In present study we compared the effect of Placental extracts and Hyaluronidase in cases of OSMF.

We included 24 patients in the study. We observed that the mouth opening increased from 24.2 mm to 32.4 mm in group I. In group II, it was 26.3 mm before treatment and 33.8 mm after treatment. In both groups, there was significant improvement in mouth opening. Naik et al.⁶ in their study found favorable treatment outcomes by using placental extract injections in the treatment of OSMF.

We assessed burning sensation in both groups. The mean burning sensation on VAS score was 7.2 and 1.4 before and after treatment in group I. It was 6.8 and 1.6 before and after treatment in group II. The difference was significant ($P < 0.05$). Katharia et al.⁷ evaluated the efficacy of hyaluronidase and dexamethasone combination in the treatment of OSMF and observed reduction in burning sensation.

Placental extracts has a biogenic stimulator action and is used on the basis of tissue therapy method. It stimulates metabolism, increases the vascularity and promotes and recovery of the tissue, upon implantation into the body. Hyaluronidase causes breakage and dissolution of fibrous bands thus providing relief from the condition. It is suggested that hyaluronidase may be capable of providing better results in patients with restricted mouth opening.⁸

Studies reveal that hyaluronidase attacks quickly on collagen from OSMF patients than on normal collagen. Hyaluronidase degrades the hyaluronic acid matrix, lowers the thickness of intracellular cemental substances as well as activating definite plasmatic mechanisms. As a result, acquittal of trismus may be expected through softening and diminishing of fibrous tissue.⁹

Ali et al¹⁰ conducted a study on 84 oral submucous fibrosis patients. In group 1, intralesional dexamethasone and hyaluronidase was used and in group 2, intralesional triamcinolone acetonide and hyaluronidase was used. The efficacy was assessed by comparing improvement in mouth

opening with the help of Vernier caliper and relief of burning mouth sensation was assessed with the help of visual analog scale (VAS). There was improvement in the burning sensation and in mouth opening in both groups, however, the combination of triamcinolone acetonide and hyaluronidase gave better results as compared to that of dexamethasone and hyaluronidase.

The limitation of the study is small sample size. Moreover, long follow up was not made. The selection of combination of drugs could provide better results.

CONCLUSION

Both hyaluronidase and Placental extracts resulted in significant improvement in mouth opening and reduction in burning sensation.

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