

## Original Research

### Efficacy of intralesional injection of Hyaluronidase and Triamcinolone in treatment of OSMF

N. Rupa<sup>1</sup>, BVV Srinivas<sup>2</sup>

<sup>1</sup>Assistant professor, Dept. Of Dentistry, Govt. Medical College, Srikakulam,

<sup>2</sup>Professor, Dept. Of Periodontics, Sri Sai Dental College and Research Centre, Srikakulam, Andhra Pradesh

#### ABSTRACT:

**Background:** Oral Submucous Fibrosis is a chronic progressive debilitating disease of the oral mucosa involving the oropharynx. The present study was conducted to assess efficacy of intralesional injection of Hyaluronidase and Triamcinolone in treatment of OSMF.

**Materials & Methods:** The present study was conducted on 68 patients of OSMF of both genders. Patients were given intralesional injection of 1500 IU hyaluronidase (1 ml) and triamcinolone 40 mg (1 ml) mixed with 2% lignocaine with adrenaline (1:200,000) at the interval of ten days. Patients were recalled regularly intervals of 2 weeks, 1, 3 and 6 months. Mouth opening was recorded. **Results:** Out of 68 patients, males were 56 and females were 12. Mouth opening before treatment in males was 20.6 mm and in females was 24.2 mm, after 1 month was 22.1 mm in males and 25.6 mm in females, after 2 months was 26.8 mm in males and 30.4 mm in females, after 3 months was 35.4 mm in males and 38.1 mm in females and after 6 months, it was 38.6 mm in males and 41.2 mm in females. The difference was significant ( $P < 0.05$ ). **Conclusion:** Authors found that combination of intralesional injection of Hyaluronidase and Triamcinolone in treatment of OSMF found to be effective.

**Key words:** Hyaluronidase, OSMF, Triamcinolone

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Corresponding Author: Dr. N. Rupa, Assistant professor, Dept. Of Dentistry, Govt. Medical College, Srikakulam

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#### INTRODUCTION

Oral Submucous Fibrosis (OSMF) is a chronic progressive debilitating disease of the oral mucosa involving the oropharynx. The classical features of this disease are blanching and stiffness of the oral mucosa, trismus, burning sensation in the mouth and hypomobility of the soft palate and tongue with loss of gustatory sensation.<sup>1</sup>

The initial presentation of OSF is inflammation. Inflammation is followed by hypovascularity and fibrosis visible as blanching of the oral mucosa with a marble-like appearance. Blanching may be localized, diffuse, or reticular. In some cases, small vesicles may develop that rupture and form erosions.<sup>2,3</sup>

In the later advanced stage of OSF, a fibrous band that restricts mouth opening (trismus) is characteristic. It causes further problems in oral hygiene, speech, mastication, and possibly swallowing.<sup>4</sup> Development of fibrous bands in the

lip leads to thickening and rubbery appearance. It becomes difficult to retract or evert the lips, which transform into an elliptical shape.<sup>3</sup> The aim of the treatment of OSMF is to improve the mouth opening and relieve the symptoms by medicinal or surgical means.<sup>5</sup> The conservative treatment consists of local application of steroids and hyaluronidase either topically or as intralesional injection. This is supported with various oral nutritional supplements. The role of hygiene or its absence has seldom been highlighted in context of progression of the disease.<sup>6</sup> The present study was conducted to assess efficacy of intralesional injection of Hyaluronidase and Triamcinolone in treatment of OSMF.

#### MATERIALS & METHODS

The present study comprised of 68 patients of OSMF of both genders. The study was approved from the

institutional ethical committee. All were informed regarding the study and written consent was obtained. Data such as name, age, gender etc. was recorded. Patients were given intralesional injection of 1500 IU hyaluronidase (1 ml) and triamcinolone 40 mg (1 ml) mixed with 2% lignocaine with adrenaline (1:200,000) at the interval of ten

days. Patients were recalled regularly intervals of 2 weeks, 1, 3 and 6 months. Mouth opening was recorded. Results were subjected to statistical analysis. P value less than 0.05 was considered significant.

**RESULTS**

**Table I Distribution of patients**

Gender	Male	Female
Number	56	12

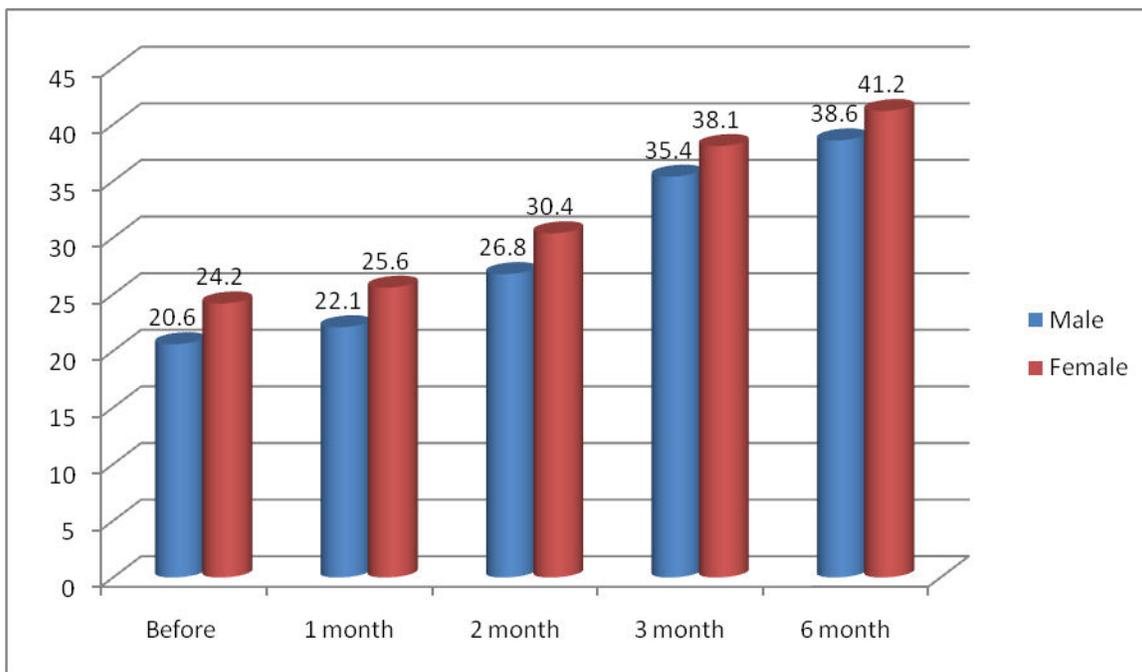
Table I shows that out of 68 patients, males were 56 and females were 12.

**Table II Mouth opening at different intervals**

Interval	Male	Female	P value
Before	20.6	24.2	0.01
1 month	22.1	25.6	
2 month	26.8	30.4	
3 month	35.4	38.1	
6 month	38.6	41.2	

Table II, graph I shows that mouth opening before treatment in males was 20.6 mm and in females was 24.2 mm, after 1 month was 22.1 mm in males and 25.6 mm in females, after 2 months was 26.8 mm in males and 30.4 mm in females, after 3 months was 35.4 mm in males and 38.1 mm in females and after 6 months, it was 38.6 mm in males and 41.2 mm in females. The difference was significant (P < 0.05).

**Graph I Mouth opening at different intervals**



## DISCUSSION

Oral submucous fibrosis (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.<sup>7</sup> 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.<sup>8</sup>

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.<sup>9</sup> Patient complains of limited mouth opening, difficulty in speaking, eating and swallowing. Blanching of the oral mucosa is caused by impairment of local vascularity because of increasing fibrosis and results in a marble-like appearance. Blanching may be localized, diffuse or reticular. In some cases, blanching may be associated with small vesicles that rupture to form erosions.<sup>10</sup> The present study was conducted to assess efficacy of intralesional injection of Hyaluronidase and Triamcinolone in treatment of OSMF.

In this study, out of 68 patients, males were 56 and females were 12. Mouth opening before treatment in males was 20.6 mm and in females was 24.2 mm, after 1 month was 22.1 mm in males and 25.6 mm in females, after 2 months was 26.8 mm in males and 30.4 mm in females, after 3 months was 35.4 mm in males and 38.1 mm in females and after 6 months, it was 38.6 mm in males and 41.2 mm in females. The difference was significant ( $P < 0.05$ ).

Ahmed et al<sup>10</sup> found that 48 patients in stage II & III OSMF were selected for the study. All the third molars were extracted in each patient followed by 6–8 doses of combined intralesional injection of Hyaluronidase and triamcinolone at 10 days interval targeting the fibrotic bands. Mouth opening and improvement in hypersensitivity to food was noted by numerical grading. The patients were followed for one year at regular intervals. The initial mouth opening in Stage II patients ( $n = 27$ ) was  $30 \pm 3.0$  mm and in Stage III patients ( $n = 21$ ) was  $19 \pm 3.5$  mm and the increase in mouth opening at the end of treatment was  $11.3 \pm 1.9$  mm and  $10.2 \pm 2.3$  mm respectively. The mean improvement in hypersensitivity to food in both the groups was 2.9 and 2.2 respectively. There is significant improvement in grade II patients in mouth opening and hypersensitivity to food. Grade III patients show variable improvement or no improvement wherein surgery becomes the only option. Third molar extraction helps in reducing inflammation and fibrosis in the retromolar region thus

easing in mouth opening. This combined approach for moderately staged OSMF can be proposed as a viable conservative modality.

Rai<sup>11</sup> tried submucosal injection of triamcinolone acetonide (40 mg) in the faucial pillar retromolar area, and buccal mucosa. Dose of 150–200 mg in 10-day intervals for a period of 2–3 months gave favorable results, revealed improvement in the clinical picture, and caused an increase in mouth opening along with regression of recurrent stomatitis, ulceration, and burning sensation.

## CONCLUSION

Authors found that combination of intralesional injection of Hyaluronidase and Triamcinolone in treatment of OSMF found to be effective.

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