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# A STUDY AND EVALUATION OF VARIOUS MODALITIES OF NON SURGICAL TREATMENT IN ORAL SUBMUCOUS FIBROSIS

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## ABSTRACT

It is a prospective study .The study consists of patients suffering from Oral Submucous Fibrosis attending the outpatient department of ENT, Santosh Medical College & Hospital, Ghaziabad. Only those hundred patients were taken up for the study who completed the treatment and followed up during the period April, 11 to September, 12. The patients divided at random into 5 equal groups irrespective of age, sex, clinical presentation and degree of involvement. The response to treatment evaluated on subjective improvement of symptoms, clinical changes of mucosa and other signs. Improvement in trismus were recorded by measuring the distance between upper and lower incisors (central point) and upper and lower first premolars on both the sides with the help of a caliper and scale.

## INTRODUCTION

Oral submucous Fibrosis was first described by Schwartz in the year 1952. He described the condition as “atrophica idiopathica mucosa oris”in tobacco chewing woman of Indian origin in Kenya[1]. In India it was first described by Joshi in 1953. Oral Submucous Fibrosis is an insidious, chronic disease affecting any part of the oral cavity and some times the pharynx[2]. Occasionaly it is preceded by and/or associated with vesicle formation[3] and is always associated with a juxta-epithelial inflammatory reaction followed by progressive hyalinization of the lamina propria[4]. The later subepithelial and submucosal myofibrosis leads to stiffness of the oral mucosa and deeper tissue with progressive limitation in opening of the mouth and protrusion of the tongue, thus causing difficulty in eating, swallowing and phonation[5]. Epithelial atrophyis marked in advanced stages of the disease. The disease is of unknown etiology, endemic in India and is prevalent throughout the Indian subcontinent sparing no caste and creed, affecting the young and the old, the rich and the poor alike[6].

## MATERIAL AND METHODS

It is a prospective study .The study consists of patients suffering from Oral Submucous Fibrosis attending the out patient department of ENT, Santosh Medical College & Hospital, Ghaziabad. Only those hundred patients were taken up for the study who completed the treatment and followed up during the period April, 11 to September, 12. The patients divided at random into 5 equal groups irrespective of age, sex, clinical presentation and degree of involvement.The study conducted in out patient department of ENT,Santosh Medical College & Hospital, Ghaziabad.The period of study was from April, 2011 to September, 2012.

Inclusion criteria- Habits of Pan, tobacco, betel nut, gutka chewing. Intollerance to chillies and spices. Painful oral ulcer.Burning sensation in mouth. Inability to protrude the tongue. Trismus. Excessive salivation. Dryness of mouth.

Exclusion criteria- Patients with infective etiologies and malignancies.Patient who did not complete the study.

A detailed history was taken. Special stress was placed on oral habits of chewing pan, tobacco, betel nut, gutka . An attempt was also made to find out the excessive use of spices and chillies in the diet. Their Hemoglobin, Total Leucocyte Count, Differential Leucocytic Count, ESR, Urine, X-Ray Chest and X Ray Temporomandibular Joint (wherever indicated to rule out any other associated pathology) were done. After a clinical diagnosis was made, a thorough ENT and

systemic examination also done to exclude any foci of infection or similar lesion elsewhere. Biopsy was taken in all cases. Biopsy tissue was fixed in 10% formaline and sent to Department of Pathology, where it was routinely processed and stained with H & E (Hematoxylin and Eosin) stain and studied.

First group A consisted of 20 patients in which local Inj. of dexamethasone 4mg biweekly was given. Second group B consisted of 20 patients in which Inj. of hyaluronidase 1500 I.U. dissolved in 1.0 C.C. of 2% lignocanine locally biweekly was given. Third group C consisted of 20 patients in which 4 mg Inj. of dexamethasone and Inj. of hyaluronidase 1500 I.U. locally biweekly was given. Fourth group D consisted of 20 patients and in which of Inj. of placental extract 2 ml locally biweekly was given. Fifth group E consisted of 20 patients in which orally anti-oxidants was given. The duration of treatment was 8 weeks in all the five groups and the patients were followed up for further 4 weeks.So all together the study continued for 12 weeks.The response to treatment evaluated on subjective improvement of symptoms, clinical changes of mucosa and other signs. Improvement in trismus were recorded by measuring the distance between upper and lower incisors (central point) and upper and lower first premolars on both the sides with the help of a caliper and scale

**RESULTS**

A total number of 100 patients suffering from Oral Submucous Fibrosis attending the out patient department of ENT,Santosh Medical College And Hospital,Ghaziabad were studied during the period from April, 2011 to September, 2012. Maximum number of patients were in the age group 21-30 years i.e. 45% and least in 41-50 years (14%). The youngest patient was 16 years and oldest was 48 years. Males predominated over males. Male to female ratio was 5.25 : 1. Trismus (86%) was the most common presenting complaint followed by Intolerance to chillies and spices (84%), Burning sensation in the mouth (72%) and Painful ulcerations of the mouth (57%). Gutka chewing (92%) was the most common oral habit. Four patients had no positive oral habit. Excessive use of chillies and spices was found in 24 patients (24%). Only five patients (5%) had positive family history. Soft palate was involved in 100% cases followed by anterior pillar (94%), posterior pillar (80%). The mean maximal mouth opening for Indian is 5 cm. Sixty two patients (62%) had interarch distance at midline between 2.1 cm, - 3.0cm, Seventy four patients (74%) had equal inter premolar distance on both the sides whereas, in the remaining twenty six patients(26%), a difference of 0.1 to 0.2 cm, was there on the two sides.

The group receiving combination of injection of hyalase and injection of dexamethasone showed much better results as compared to those receiving injection of hyalase, injection of dexemethasone, injection of placental extract and oral antioxidant alone.

**TABLE**

| **Symptoms and Signs** | **Percentage Improvement in** | | | | |
|---|---|---|---|---|---|
| | **Group A** | **Group B** | **Group C** | **Group D** | **Group E** |
| Painful ulcertations | 41.66 | 50.00 | 60.00 | 46.15 | 45.45 |
| Burning Sensation | 50.00 | 100.00 | 78.52 | 71.42 | 50.00 |
| Intolerance to chillies and spices | 100.00 | 100.00 | 100.00 | 100.00 | 83.33 |
| Inability to protrude the tongue | 50.00 | 75.00 | 100.00 | 25.00 | 20.00 |
| Trismus | 62.50 | 83.33 | 100.00 | 55.55 | 50.00 |
| Excessive salivation | - | 00.00 | 33.33 | 00.00 | 00.00 |
| Dryness of mouth | 00.00 | 50.00 | - | 00.00 | 00.00 |
| Abnormal colour of mucosa | 65.00 | 55.00 | 75.00 | 45.00 | 40.00 |
| Suppleness | 00.00 | - | 100.00 | 50.00 | 00.00 |
| Blanching | 50.00 | 52.94 | 77.77 | 35.00 | 33.33 |
| Fibrous Bands | 50.00 | 70.58 | 72.22 | 45.00 | 44.44 |

## DISCUSSION

Oral submucous fibrosis is a well known clinical entity known since the time of Sushurta. In the modern literature this condition was first reported by Schwartz . In India it was first described by Joshi. Oral Submucous Fibrosis has been defined as an insidious chronic disease of unknown etiology, reported mainly in Indians and affecting the entire oral cavity. The basic change is a fibroelastotic transformation of the connective tissue in the lamina propria preceded by vesicle formation. In later stages the oral mucous membrane becomes stiff and the patients suffer from trismus and resultant difficulties in eating[9].

The disease is of unknown etiology, endemic in India and is prevalent throughout the Indian subcontinent sparing no caste and creed, affecting the young and the old, the rich and the poor alike[6]. The exact eiology of this condition is unknown. Excessive use of chillies and spices is

blamed as the irrtant factor[6]. In my study I found only 24 (24%) patients with history of excessive use of chillies and spices. The earliest symptom of the disease is soreness of the mouth with a constant burning feeling worsened during meals consisting of spiced foods. This may be associated with periods of exacerbation, manifested by the appearances of small vesicles on the cheek and palate. Later symptoms are due to the fibrosis. In my study also the earliest symptom noted was burning sensation in the mouth and painful uncerations of the mouth. And also those patients who presented with trismus gave previous history of burning sensation and painful ulcerations. Trismus was the most common presenting complain (86%) followed by intolerance to chillies and spices (84%), burning sensation in the mouth (72%) and painful ulcerations of the mouth (57%) in my study.

As regards the areas of involvement in fibrotic process paymaster [10] reported that the fibrosis mainly affects soft palate, hard palate, and tonsillar pillars in that order whereas, buccal mucosa is the site of least involvement. In my study soft palate was involved in 100% cases followed by anterior pillar (94%), Posterior pillar (80%), hard palate (48%) and buccal mucosa (45%). Tongue was involved only in five cases (5%). Since Oral Submucous Fibrosis is of unknown etiology no satisfactory treatment has been found as yet. Sinha and Lalchandani [11] while using this combination of local injection of hydrocortisone and injection of hayalase found out that burning sensation was relieved in 87.5%, suppleness of oral tissue improved in 87.5%, fibrous bands decreased in 75% and trismus relieved in 100% cases. Histologically also changes were more marked in this group. In my study the group C received local injection of dexamethasone and local injection of hyaluronidase showed the results as follow : painful ulcerations improved in 60%, burning sensation improved in 78.57%, intolerance to chillies and spices improved in 100%, ability to protrude the tongue in 100%, trismus improved in 100%, excessive salivation decreased in 33.33%, colour of mucosa returned to normal in 75%, supplness improved in 100%, blanching decreased in 77.77%, and fibrous bands decreased in 72.22%.

In my study it was found that much better results were obtained in those receiving a combination of Hyalase and dexamethasone as compared to those receiving Hyalase, dexamethasone, Placentrex and antioxidant alone.

**CONCLUSIONS**

Maximum number of patients were in the age group of 21-30 years (45%).Trismus (86%) was the most common presenting complain, followed by intolerance to chillies and spices (84%) and

burning sensation in the mouth (72%).Gutka chewing (92%) was the most common offending oral habit.Soft palate was involved in 100% cases followed by anterior pillar (94%) and posterior pillar (80%).The prime aim of the study was to compare the various non-surgical therapeutic modalities commonly used viz. intra oral injection of dexamethasone, injection of hyalurconidase, combination of injection of dexamethasone and injection of hyaluronidase, injection of placental extract and oral anti-oxidants.The patients were divided into 5 groups irrespective of the age, sex, presentation and degree of involvement.Twenty patients were given local injection of dexamethasone, twenty patients were given localy injection of hyaluronidase, twenty patients were given a combination of injection of dexamethasone and injection of hyaluronidase, twenty patients were given local injection of placental extract and twenty patients were given oral anti-oxidants.The patients were given biweekly injections, the duration of treatment was 8 weeks in all the cases.The final conclusion were drawn after 4 weeks of completion of treatment i.e. after 12 weeks.Much better results were obtained in those receiving a combination of injection of dexamethasone and injection of hyalase as compared to those receiving, injection of dexamethasone, injection of hyalase, injection of placentrex alone or antioxidant alone.My study coraborates the findings of earlier workers Sinha and Lalchandani[11], Kakar,R.K.Puri,V.P.Venkatachalam[12], therefore it can be safely concluded that the use of a combination of injection of dexamethasone and injection of hyaluronidase as intra oral injections is the best first line of treatment for Oral Submucous Fibrosis.

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