

## AN AYURVEDIC APPROACH ON ORAL SUBMUCOSAL FIBROSIS – A SINGLE CASE STUDY

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### ABSTRACT

**Background of the study:** Since of the excessive consumption of the betel nut chewing and tobacco; Oral Submucosal Fibrosis which is a disease with insidious onset and with characteristic fibrosis is a threat among young males. Though it reported first on early 1950 s, the prevalence rate is 2% and 5% for transforming to malignancy. The features of *Sarvasara Mukharoga* with *Tridosha prakopa* corresponds with Oral Submucosal Fibrosis. Present work has been undertaken to evaluate the effect of ayurvedic intervention in the management of Oral Submucosal Fibrosis.

### INTRODUCTION

Oral submucous fibrosis (OSMF) is said to be a chronic debilitating disease of the oral cavity characterized by inflammation and progressive fibrosis in the lamina propria and submucosa, that results in significant rigidity and eventually inability to open the mouth.<sup>[1]</sup> Major causative factors of the OSMF are supposed to be Habit of betel nut, areca nut and tobacco chewing also.<sup>[2]</sup> Most probably involved pathogenesis is stimulation of fibroblast production, increased collagen synthesis due to areca nut alkaloids mainly arecoline along with stabilization of collagen structure by catechin and tannin contents of areca nut.<sup>[2]</sup>

The first reported case of OSMF was in early 1950s; Prevalence rate of disease is 2% and transformation rate to malignancy is around 5%.<sup>[2]</sup> *Sarvasara* is one among the mukharoga where OSMF can be included. Discontinuation of addictive habits, nutritional support, antioxidants, physiotherapy, immunomodulatory drugs, local infiltration of steroids, hyaluronidase, human placental extract etc constitute initial treatment and the advanced cases warrant scalpel intervention.<sup>[3]</sup> A combined treatment protocol that consists of local snehan,

swedan, Gandoosh, Pratisaran, & Kawala on the initial stage & later with various types of gandoosh were adopted in this case.

**Case summary:** A 28 year old male patient was reported in shalakya opd in Government Ayurveda hospital, Nagpur with symptoms of reduced mouth opening, inability to protrude tongue, intolerance towards spicy food and burning sensation, since 5 years.

Patient also had difficulty in brushing the teeth. Necessary investigations revealed that he is having no active systemic illness. Presently; he is having good oral hygiene, history of Kharra consumption since 7 years. Routine investigations like Hb, TLC, DLC, ESR, FBS were within the normal range.

### Examination

Examination revealed the formation of bilateral whitish fibrous bands in the posterior 2/3<sup>rd</sup> border of hard palate, lateral sides and almost 80% of buccal mucosa, extended patch beneath the tongue on the floor of oral cavity (vesicles also present over here), blanching noted near to the uvular region & uvula was having hockey stick appearance. Also depapillated tongue was noted with inability to protrude normally. The mouth opening / Inter Incisal Distance was 28 mm on the first visit.

### Treatment

Treatment was given for a duration of 6 months and consists of 2 phases. Phase 1 was primarily focussed on improving Inter Incisal Distance so as regular activities like brushing, eating food gets to normalcy also to make the oral cavity to respond to the treatment by minimising fibrous bands. And Phase 2 consists of making the buccal mucosa back to normalcy and minimise vesicular eruptions by various gandoosh dharan which can be done like a dinacharya.

During Phase 1; Patient was given local snehan with Mahanarayana Taila over the face & supraclavicular region followed by swedan. Later Gandoosh with Triphala, Yashti, Vacha, Hareetaki. Finally Kavala with Ksheerabala taila was given.

During Phase 2; Treatment was only confined with various types of Gandoosh. Triphala on morning before 8 am; immediately after brushing. Yastimadhu Kwath Gandoosh in the afternoon half an hour after the lunch is over. And Tila taila Gandoosh in the bed time after Brushing was advised. The patient was advised to fill her mouth with lukewarm Kwath for a

period till there is Kaphapurnasyata (mouth filled with secretions), Ghranasrava & Akshisrava (watery discharge from nose and eyes), followed by spitting out the oil and secretions.

### Assessment criteria

Symptoms were reviewed after a fortnight and Inter incisal distance (IID) was measured with Vernier Calliper by taking the distance between the mesial angels of the upper and lower central incisors also the IID scoring was adopted to assess improvement in the opening of the mouth. Clinical stages and grading of the disease were adopted from previous studies.<sup>[4,5]</sup>

Signs and symptoms	Score
<i>Mukhadaha</i> (burning sensation in mouth)	
Nil	0
On taking spicy food	1
On taking food	2
Continuous	3
<i>Rasagyana</i> (taste)	
Normal	0
Altered/decreased	1
<i>Lalasrava</i> (salivation)	
Normal	0
Altered	1
Decreased	2
<i>Katu Rasa Asahishnuta</i> (intolerance to spicy food in comparison to previous tolerance)	
Nil	0
Mild	1
Moderate	2
Severe	3
<i>Mukha Vedana</i> (pain in mouth)	
Nil	0
While opening the mouth	1
Continuous	2
Colour of oral mucosa	
Pink normal	0
Red or deep pink	1
Pale white	2
Blanched white	3
Ulceration in mouth	
Nil	0
Mild	1
Moderate	2
Severe	3
Consistency of the mucosa on palpation	
Soft normal	0
In between soft and leathery hard	1
Leathery hard	2
Fibrous bands-on palpation	
No fibrous bands	0
One or two solitary fibrous bands	1
Bands felt nearly in entire surface	2
Adherent fibrous bands producing rigidity of mucosa	3

The scoring pattern for IID

Inter incisal distance (mm)	Score
41 or above considering normal	0
37-40	1
33-36	2
29-32	3
25-28	4
21-24	5
17-20	6
13-16	7

## RESULTS

There was marked improvement in opening of mouth, burning sensation and intolerance to spicy food. IID after the treatment was 39mm while it was only 28mm before the treatment also with reduction in fibrous band masses (Table 1)

**Table 1: Showing the results obtained [Before & After Treatment].**

Sl. No	Symptom	Before Treatment	After Treatment
1.	Inter incisional distance	4	0
2.	Burning sensation	2	1
3.	Taste	1	0
4.	Salivation	1	0
5.	Intolerance o spicy food when Compared to previous tolerance	2	1
6.	Pain in mouth	1	0
7.	Colour of oral mucosa	3	2
8.	Ulceration of the mouth	2	1
9.	Consistency of the mucosa on Palpation	2	0
10.	Fibrous Bands on palpation	3	1

## DISCUSSION

Because of the excessive consumption of Areca nut having the property like Sheeta/cold, Kashaya / astringent taste, Ruksha / Dryness etc vitiate Vata and causes AgniMandhya.<sup>[7]</sup> By Assessing the chronicity of OSMF in this case 2 phases of treatment was given. During the phase1; initially Snehana & Swedana were given since supraclavicular massage and fomentation help to improve circulation to local region also increases absorption of the drugs

along with it. Gandoosh strengthens oral mucosa with better penetration of the drugs.

*Ksheerabala Taila* is having *Snehana* (unctuous), *Balya* (strength enhancing), *Brimhana* (bulk enhancing), *Ropana* (healing) and *Vata Pitta* pacifying properties and the drugs possess anti-inflammatory, muscle relaxant and tonic properties. The *Tila Taila* base of that makes the whole drugs pervading to micro channels due to its *Shukshma* (entering in micro channels) and *Vyavayi* (spreading quickly) properties and it is also the best pacifying drug for the *Vataja Vikara*.<sup>[6]</sup> Movement of oral cavity in *Kavala* procedure is also useful as physiotherapeutic measure to relieve stiffness.

In the Phase 2; Various types of Gandoosh were selected since *Taila* medium will help on the restricted movement of the oral cavity, stretching issues etc by reducing *vata dosha* and strengthens the oral cavity. *Yastimadhu* gandoosh helps in relieving *pitta* also new blood vessel formation over the palate (Blanching), burning sensation etc. The fibrous bands, heaviness over the oral cavity can be decreased by *triphala* and *tankana* gandoosh which alleviates excessive *kapha dosha*. All these gandoosh were given on the timing of respective *doshakala* in a day.

## CONCLUSION

Overall treatment protocol was helpful to subside inflammation and ulceration so preventing further progress, increases suppleness to the stiffed oral tissue in terms of improving mouth movements, reverses fibrosis in some extent and improves the strength of oral mucosa and submucosa to overcome the disease. Ayurvedic treatment protocol helps to regain the normalcy of oral mucosa; is clearly evident from the current study. An effective management of OSMF without any adverse effect as well as with sustained relief in follow-up. It can be assessed as a better alternative to the modern treatment modality in the management of OSMF.

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