



# Ayurvedic Approach to Manage Oral Submucous Fibrosis - A Case Study

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## ABSTRACT

Oral cavity is considered to be the mirror of body's internal mechanism. Hence a lot of efforts must be made to keep it healthy from chronic conditions which may lead to not so pleasant results. One of such chronic debilitating condition of oral cavity involves the formation of constricting bands of collagen fibre, build in a progressive manner in the oral mucosa resulting in restricted movement of mouth and tongue ultimately leading to hindered or problematic speech and difficulty in swallowing food termed as Oral Submucous Fibrosis (OSMF). In modern parlance, many medicinal and surgical modalities have been put forth in use but the results yielded are not much satisfactory and on the other hand owe to recurrence and adverse effects. On analysing the symptomatology of OSMF with *Ayurvedic* classics, it can be considered as *Vata Pitta Pradhana Sarvasara Mukharoga*. Here, an effort was made to treat a 65 years old female, well diagnosed case of OSMF through *Ayurvedic* modalities. In this case study, patient was treated at both local and systemic level. Local modalities like *Vrana Shodhaka* and *Vrana Ropaka Pratisarana* (Rubbing) & *Kavala* (Gargling) stop the progression of the disease and these local therapies prevent and reverse the fibrosis and improve the muscular movements of mouth. Systemic therapy brings homeostasis and enhance the vitality of the oral mucosa. This case report showed that *Ayurvedic* treatment modalities are promising in the management of OSMF and capable of increasing the quality of life of the patient.

**Key Words:** *Oral Submucous Fibrosis, Sarvasara Mukharoga, Pratisarana, Kavala*

## INTRODUCTION

The term Oral Submucous Fibrosis (OSMF) is derived from oral (mouth), submucous (below the mucosa) and fibrosis (hardening and scarring)<sup>1</sup>. OSMF is a chronic debilitating disease of the oral cavity characterized by progressive fibrosis and inflammation of the submucosal tissues (lamina propria and deeper connective tissues) leading to increased rigidity and eventually the inability to open the mouth<sup>2</sup>. Most commonly involved site is

the buccal mucosa, involvement of any part can be noticed, even the pharynx<sup>3</sup>. Its manifestation includes stiffness in the mouth and blanching, intolerance to hot and spicy foods, recurrent vesicular eruption and ulceration of the buccal mucosa, palate and pillars, loss of gustatory sensation etc<sup>4</sup>.

OSMF has now been globally accepted as an Indian disease having highest potential of malignant transformation among other malignant



oral lesions and conditions<sup>5</sup>. Worldwide around 2.5 million people are supposed to be affected by OSMF with majority of cases in the Indian subcontinents, especially southeastern India<sup>6</sup>. A sharp spike has been noted in the incidence of OSMF after commercialisation and availability of *Pan Masala* and *Gutaka* started and there is no looking back to regression of numbers<sup>7</sup>. With a high morbidity as it causes progressive inability to open the mouth leading to inability in eating and consequent nutritional deficiencies. Significance in mortality rate can also be seen as it is viable enough to get transformed into oral cancer, particularly squamous cell carcinoma at a rate of 7%-30%<sup>8</sup>.

Various factors like- Habit of chewing tobacco and betel nut, genetic influence, high intake of spices like chillies, immune mediated process, smoking, consumption of liquor along with dietary deficiencies are said to be the causative factors of OSMF<sup>9</sup>. But chewing of areca nut as a habit is a compelling evidence implicates towards the manifestation of OSMF<sup>10</sup>. The fibro elastic changes of lamina propria along with epithelial atrophy leading to stiffness of oral mucosa causing trismus and inability to eat<sup>11</sup> as a result of juxta epithelial inflammatory reaction.

Clinically, OSMF can be divided into 3 stages<sup>12</sup>.

- Stage 1 – Stomatitis
- Stage 2 – On healing of ulcers and ruptured vesicles occurrence of fibrosis takes place which is the hallmark of this stage.

- Stage 3 – Leukoplakia, speech and hearing deficits

As the disease OSMF cannot exactly be equated with any *Mukha Rogas* in *Ayurvedic* classics, some scattered description of symptoms related to OSMF can be found in the ancient texts such as; *Krichchhen Vivrinoti Mukham*<sup>13</sup> (Difficulty in opening the mouth), *Mukhadaha*<sup>14</sup> (Burning sensation in mouth), *Tikshna Asahya*<sup>15</sup> (Intolerance to spicy food), *Mukhantargata Vrana*<sup>16</sup> (Ulceration of the oral mucosa) and *Vranavastu*<sup>17</sup> (Fibrosis). Thus analysing the condition of disease, OSMF can be considered as *Vata Pitta Pradhana Sarvasara Mukharoga* (Disease affecting the whole oral cavity).

According to modern science, the management of OSMF comprises of nutritional support and anti-oxidants, physiotherapy, immunomodulatory drugs such as steroids, intra-lesional injections of steroids, hyaluronidase, human placental extracts, etc. either singly or in combination for early/milder form of disease and surgical measures for advanced cases<sup>18</sup>. Unfortunately, all these medical and surgical interventions have been limited success, as they are not free of adverse effects and recurrence are also there<sup>19</sup>. So there is a need of such a harmless and cost effective *Ayurvedic* treatment to treat the OSMF permanently through *Nidana Parivarjana* (Prohibition of chewing betel nut and its related products), *Sthanika Chikitsa* (Local therapy) and *Samsthanika Chikitsa* (Systemic therapy). In this study, we have tried to treat a chronic case of



OSMF through these above mentioned *Ayurvedic* treatment modalities.

## CASE PRESENTATION

### Chief Complaints

A married female patient aged 65 yrs, named Geeta Chitara was registered in the P.G. Department of Kayachikitsa OPD (OPD No. 44950) of Dr. S.R. Rajasthan Ayurved University, Jodhpur on 25/10/2018. She had complaints of ulceration on tongue margin, vesicular eruption on tongue margin, burning sensation in mouth, intolerance to hot and spicy food, excessive secretion from the lesion, hindrance in opening mouth and in mastication, restricted tongue movements, continuous headache, sleeplessness, loss of appetite, and constipation since 1 year.

### History of Present Illness

The patient states that she was quiet well before 1 year. After passing away of her son-in-law she didn't take food properly which followed by constipation. Then patient had a gradual onset of small blisters on tongue margin. For the past 5-6 years she had a chronic habit of chewing tobacco. She had stopped this habit completely before 1 year. She had taken allopathic treatment but didn't get any relief. After sometimes her blisters converted into ulceration and ulceration area of tongue got enlarged. And she developed all above associated complaints. Then she came to our hospital, Dr. S. R. Rajasthan Ayurved University in the P. G. Department of *Kayachikitsa* OPD for proper and better management.

### History of Past Illness

Patient had a history of Hypertension since 30 years, Hypothyroidism since 15 years. She also had underwent through left nephrectomy 30 years back and Hysterectomy 13 years back. Besides of this she had no significant history of chronic illness and trauma.

### Family History

Her family history revealed that there was no such complaint ever.

### Personal History

Personal history revealed that patient was on veg diet with low appetite, constipated bowel, disturbed sleep, frequency of micturition 4-5 times per day and had an addiction of tobacco chewing before 1 year.

### General Examination

Patient was obese (Weight 105 kg) and vitals were pulse rate 80/min, respiration rate 19/min, blood pressure 140/100 mmHg and afebrile body temperature.

### Systemic Examination

Cardiovascular system, Respiratory system, Integumentary system, Central nervous system examination had shown no deformity.

### Gastrointestinal System Examination –

Inspection – Dry & Pinkish Lips, Restricted mouth opening, ulceration at tongue margin, Discoloured (Pale White) oral mucosa, Coated Tongue

Palpation – Rigidity in abdomen

Auscultation – NAD

Percussion – NAD

### Ashtavidha Pariksha



*Nadi* (Pulse) - *Vatakaphaja*.

*Mala* (Stool) – *Vibandha, Sama*

*Mutra* (Urine) - *Samyaka*

*Jihwa* (Tongue) –*Malavritta, Vranayukta*

*Shabda* (Voice) - *Aspashta*

*Sparsha* (Touch) - *Samyaka*

*Drik* (Eyes) – *Raktabha Shewta*

*Aakriti* (Appearance) – *Sthoola*

### ***Dashavidha Pariksha***

*Prakriti* – *Vatakaphaja*

*Vikriti* – *Vikriti Vishama Samaveta*

*Sara* – *Mamsa-Meda Sara*

*Satva* – *Avara*

*Samhanana* – *Pravara*

*Pramana* – *Madhyma*

*Satmya* – *Avara*

*Vaya* – *Vridhha*

*Aahara Shakti* – *Avara*

*Vyayama Shakti* – *Avara*

### **Investigations**

Routine investigations such as complete blood count, blood sugar, urine routine and microscopic were in normal ranges. Patient had suggested to done biopsy of oral mucosa but she denied for the biopsy and go for the *Ayurvedic* management.

### **Diagnosis**

On the basis of clinical history and examination, the condition was diagnosed as Oral Submucous Fibrosis (OSMF) which resembles with *Sarvasara Mukharoga*.

### **Assessment Criteria**

Various symptoms were assessed before, during and after the treatment for any change. Symptoms

were graded into different grades as per their severity as shown following –

#### **1) *Mukhadaha* (Burning Sensation in Mouth)**

Nil – 0

On taking spicy food – 1

On taking food – 2

Continuous – 3

#### **2) *Vrana Strava* (Secretion from the wound)**

Nil – 0

In small quantity – 1

In moderate quantity – 2

In excessive quantity – 3

#### **3) *Katu Rasa Asahishnuta* (Intolerance to Spicy Food)**

Nil – 0

Mild – 1

Moderate – 2

Severe – 3

#### **4) *Mukha Vedana* (Pain in Mouth)**

Nil – 0

Mild – 1

Moderate – 2

Severe – 3

#### **5) *Colour of Oral Mucosa***

Normal pink – 0

Red or deep pink – 1

Pale white – 2

Blanched white – 3

#### **6) *Ulceration in Mouth***

Nil – 0

Mild – 1

Moderate – 2



Severe – 3

### 7) 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

### Treatment Protocol

Treatment Duration – Approx. 6 months

Treatment given at the first visit – After through physical and systemic examination along with laboratory investigations, the patient was advised following medicines for 15 days –

1) Well prepared combination of *Ashwagandha Churna* 2gm, *Madhuyashthi Churna* 2gm, *Amalaki Churna* 1 gm, *Trivanga Bhasma* 250mg, *Gokshura Churna* 2gm, *Godanti Bhasma* 500mg twice a day after meal with lukewarm water.

2) *Pratisarana* by *Madhupippalyadi Yoga* (*Madhuyashthi* 3gm, *Haridra* 1gm, *Pippali* 500mg, *Tankana Bhasma* 250mg) mixed with Honey.

3) *Kavala* by *Triphala Kwatha* mixed with *Haridra Churna*.

4) *Kanchnar Guggulu* 2 tablet after meal thrice a day with lukewarm water.

5) Local application with *Jatyadi Taila*

6) *Shirodhara* by *Bala Lakshadi Taila*, *Ashwagandha Taila* and *Tila Taila*

First follow-up – It was found that patient got complete improvement in clinical symptoms of headache and sleeplessness. After physical and

systemic examination the following medicines were advised for 15 days.

1) *Rasayana Yoga* 1-1 tablet after meal twice a day with lukewarm water.

2) *Kanchnar Guggulu* 2-2 tablet after meal thrice a day with lukewarm water.

3) *Cancer Gaja Kesari* 1-1 tablet after meal twice a day with lukewarm water.

4) *Pratisarana* by *Madhupippalyadi Yoga* (*Madhuyashthi* 3gm, *Haridra* 1gm, *Pippali* 500mg, *Tankana Bhasma* 250mg) mixed with Honey.

5) *Kavala* by *Triphala Kwatha* mixed with *Haridra Churna*.

6) Local application with *Jatyadi Ghrita*

Second follow-up – It was found that patient got 60% improvement in clinical symptoms. After physical and systemic examination the following medicines were advised for 15 days.

1) Well prepared combination of *Rasayana Churna* 2gm, *Haridra Khanda* 2gm, *Godanti Mishrana* 500mg after meal twice a day with lukewarm water.

2) *Triphala Guggulu* 2-2 tablet after meal thrice a day with lukewarm water.

3) *Anacarcin* 1-1 tablet after meal twice a day with lukewarm water.

4) *Pratisarana* by *Madhupippalyadi Yoga* (*Madhuyashthi* 3gm, *Haridra* 1 gm, *Pippali* 500mg, *Tankana Bhasma* 250mg) mixed with Honey.

5) *Kavala* by *Triphala Kwatha* mixed with *Haridra Churna*.



6) Local application with *Jatyadi Ghrita*.

Follow-up was carried out after every 15 days for 4 months. Patient's examination and relief in symptoms were observed in every follow up. Patient got 80% relief in all clinical symptoms after 6 months.

The improvement in term of the patient's view in clinical symptoms was as follows:

- Healing of ulceration on tongue
- Reduction in burning sensation of mouth
- Improvement in difficulty in opening the mouth and mastication
- Improvement in restricted tongue movements
- Improvement in loss of appetite
- Improvement in bowel functions

***Madhupippalyadi Pratisarana*** –

*Madhupippalyadi Churna*, 4-5gm was mixed with equal quantity of honey to make the paste, which was then taken on the index finger and applied all

over the oral mucosa and gentle massage was done for about 10 min. Then, the patient was allowed to spit out the drug and secretions.

***Triphala Kwatha Kavala*** –

Lukewarm *Triphala Kwatha* in the quantity of 10-15ml mixed with *Haridra Churna* was advised to fill in the mouth and move it between cheek and throat. It was continued for a period until the patient developed *Kaphapurnaasyata* (Mouth filled with secretions), *Ghranaastrava* and *Akshistrava* (Watery discharge from nose and eyes). Then, the patient was allowed to spit out the *Kwatha* and secretions.

**OBSERVATIONS**

Observations were made according to assessment criteria which were assessed before & after treatment as table 1 and lesion area were recovered from figure 1 to figure 2.

**Table 1** Effect of treatment on patient according to assessment criteria

Assessment criteria	BT	AT
<i>Mukhadaha</i> (Burning Sensation in Mouth)	3	1
<i>Vrana Strava</i> (Secretion from the wound)	3	1
<i>Katu Rasa Asahishnuta</i> (Intolerance to Spicy Food)	3	2
<i>Mukha Vedana</i> (Pain in Mouth)	3	1
Colour of Oral Mucosa	3	1
Ulceration in Mouth	3	1
Fibrous Bands on Palpation	3	1



**Figure 1** Before Treatment



**Figure 2** After Treatment



## DISCUSSION

OSMF is a complex highly potent pre-cancerous condition, which is characterized by juxta-epithelial inflammatory reaction and progressive fibrosis of submucosal tissues. In modern science, the management of OSMF comprises of medical and surgical interventions. All these medical and surgical interventions have very limited success, as they are not free of adverse effects and recurrence is also there. *Ayurveda* have some simple treatment modalities that are easily available and could be dispensed in Oral submucous fibrosis (OSMF).

Almost established cause of OSMF is habit of betel nut, tobacco and its related products chewing. Excessive and constant chewing of areca nut, tobacco and its products and consumption of chilies and spices seem to be *Atiyoga* of *Kashaya-Katu Rasa* and *Tikshna-Ushna Guna* affecting locally predominantly and also systemically precipitating the disease condition by virtue of its *Ruksha, Khara, Vishada, Vikashi* properties provoking the *Vata Dosha* along with *Pitta Dosha* contributing in the precipitation of the disease. According to various *Acharyas*, the general line of treatment of *Vata Pitta Pradhana Sarvasara Mukhapaka* is *Pratisarana, Kavala* and use of *Madhura & Sheeta Dravyas* along with all *Pitta* mitigating treatments<sup>20</sup>. So in this case study we have tried to subside all these causative factors by *Pratisarana, Kavala Dharana* and *Vata-Pitta Pradhana Tridoshanashaka Chikitsa*.

Drugs used in *Madhupippalayadi Pratisarana* have overall *Lekhana* (Fibrolitic), *Shothahara* (Anti-inflammatory), *Vranashodhana* (Wound healing), anti-cancerous, *Vata-Pitta* pacifying effect as well as anti-inflammatory and anti-oxidant properties. Furthermore, gentle massage over the oral mucosa improves blood circulation in the mucosa and submucous, improving the health of the tissues of oral cavity. It stimulates the mucosal epithelial cell and helps in restoration of destroyed or atrophied epithelium and regeneration of epithelium.

By *Kavala Dharana*, movements of mouth help to relieve stiffness of the oral cavity, improve circulation to local region and nourish *Sthanstha Dhatus* (Local tissues). When *Kavala Dharana* is done one gets maximum absorption of the drugs through oral mucosa which helps in relieving the symptoms by increasing *Snigdhatva* and *Mardavata* in *Mukha* (Oral mucosa). *Acharya Vagbhatta* mentioned about *Kavala of Triphala Kwatha* in *Mukhapaka*<sup>21</sup>. *Kavala of Triphala Kwatha* mixed with *Haridra* has excellent anti-inflammatory, anti-oxidant, muscle relaxant, *Vranashodhana* (Wound cleaning), *Vranaropana* (Wound healing) properties. *Haridra* has fibrinolytic activity due to inhibition of collagen synthesis. Hence it acts as an effective drug for the treatment of OSMF.

There is a nutritional deficiency as an aggravating factors in OSMF. So, most of the drugs used for systemic therapy have *Rasayana* (Rejuvenative), *Balya* (Strength promotive), *Deepana*



(Carminative), *Pachana* (Digestive), *Vata-Pitta* pacifying properties. Furthermore, most of the drugs have immunomodulatory, anti-oxidant, anti-inflammatory, anti ulcerogenic and cancer preventive properties that helps in improving the status of *Dhatu*s (Tissues).

So, complete treatment protocol is helpful to subside inflammation and ulceration, prevent and reverse the fibrosis, improve the movement of mouth and enhance the vitality of oral mucosa and submucous to overcome the disease.

## CONCLUSION

From this case study it can be concluded that *Ayurvedic* treatment protocol ensures the regain of normality of oral mucosa and it is effective in the management of OSMF without having any adverse effect as well as sustained relief in follow up. It can be considered as a better alternative to the modern drugs in the management of OSMF.



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