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### Review on oral sub mucous fibrosis in Ayurveda and its management

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#### Abstract:

**Introduction:** Oral submucous fibrosis is a chronic, debilitating, high risk premalignant condition affecting the oral cavity. It is characterized by inflammation and progressive fibrosis of lamina propria and submucosa. Nowadays the incidence of OSMF is rising alarmingly. As the main emphasis of Ayurveda is on maintenance and promotion of health care, a study on Oral submucous fibrosis and its management according to Ayurveda values more in the research field.

**Aim:** To correlate Oral submucous fibrosis with *Sarvasara mukharoga* in Ayurveda.

**Objective:** To correlate Oral submucous fibrosis with *Sarvasara mukharoga* in view of signs and symptoms, causes, types, etiopathogenesis and management.

**Result:** On analysing the *lakshana* described in *Bruhatrayi*, it is revealed

that Oral submucous fibrosis can be equated symptomatically with the *Sarvasara mukharoga*.

**Conclusion:** Oral submucous fibrosis can be correlated with *Sarvasara mukharoga* on the basis of signs and symptoms.

**Keywords:** Oral Submucous Fibrosis, *Sarvasara Mukharoga*, Premalignant condition, *Bruhatrayi*.

#### INTRODUCTION:

Oral health reflect body health. The word 'oral' refers to the whole mouth. Oral health is an essential and integral part of overall health. Good oral health include managing the conditions like tooth disease, gum disease, chronic pain condition, oral cancers, birth defects such as cleft lip and palate <sup>1</sup>.

Oral submucous fibrosis [OSMF] is the chronic and high risk premalignant

condition affecting the oral cavity. The condition was prevalent in the days of sushruta a great practitioners of ancient time. The disease is very common in India, Indian subcontinent and other Asian people. The prevalence vary from 0.20 0.5% in India with a higher percentage being found in the southern parts of the country and if not treated can progress to oral cancer. The conversion rate is about 2-10%. It is major health issues affecting 2.5 million Indian population under the age of 40 years<sup>2</sup>.

The aetiology of OSMF is multifactorial but remains obscure. There is evidence that lends support to habit of chewing betel nut alone or one of the ingredient of pan/panmasala which causes mechanical or prolonged irritation of it's hard surface or chemical irritation of the substance arecoline which is present in areca nut. Excessive use of chillies and spices in the daily food maybe the another factor<sup>3</sup>. Tobacco, lime, chillies , betelnut act like local irritant and can cause damage to oral mucosa.

Nutritional deficiency, defective iron metabolism, bacterial infection, collagen disorder, immunological disorders and altered salivary composition are suppository factors responsible for OSMF.

Probably involved pathogenesis of OSMF includes stimulation of fibroblast production, increase collagen synthesis due to areca nut alkaloids mainly arecoline along with stabilization of collagen structure by catechin and tannin contents of areca nut.

Oral submucous fibrosis can be explained in three stages on the basis of clinical features are stage of stomatitis and vesiculation, stage of fibrosis and stage of sequelae and complications.<sup>4</sup>

OSMF can be classified on the basis of Histopathological features<sup>5,6</sup>.

- **Very early stage** : Dispersion of fibrillar collagen with mark edema, dialated and congested blood vessels are seen. Inflammatory cells mainly Polymorphonuclear leukocytes with occasional eosinophils are found with normal epithelium.
- **Early stage** : Early hyalinization of Juxta epithelial area, separate thick bundles of collagen, moderate no of plump young fibroblast are seen. Inflammatory cells are primarily lymphocytes, eosinophils and occasional plasa cells.
- **Moderately advanced stage** : Collagen is moderately hyalinized. Blood vessels are either normal or compressed.

Thickened collagen bundles are seen. Inflammatory exudate consists of lymphocytes and plasma cells.

- **Advanced stage** : Collagen is completely hyalinized. A smooth sheet with no separate bundles of collagen is seen. Blood vessels are completely obliterated or narrowed. Inflammatory cells are lymphocytes and plasma cells.

In modern science, a plethora of treatment have been tried such as topical and systemic steroid, supplement of vitamins and nutrients, repeated dilatation with physical devices and surgery <sup>7</sup>, but results are not so satisfactory as there is recurrence, adverse effect and condition become more worse. Hence a safe, effective and easily available herbal remedy is today's need to improve patient compliance of the treatment.

## 1. MATERIALS AND METHODS

### Aim

To correlate and compare Oral submucous fibrosis with *Sarvasara mukharoga* in *Ayurveda*.

**Objective:** To Correlate OSMF with *sarvasara mukharoga* in view of causes, types, etiopathogenesis and management.

Looking at the picture we have series of researches which was undertaken to evaluate the review of literature of *Sarvasara mukharoga* and OSMF.

The sources from which review of OSMF and *sarvasara mukharoga* used are pubmed, ayurvedic texts, modern text books. All articles are read in full. All material regarding subject in ancient *samhitas* are read in detail and reviewed accordingly.

### Review in Ayurveda

*Mukha* comprises seven *angas* that are *oshtha, dantamula, danta, jivha, talu, kantha* and combinely one *anga*, hence it is called as *saptanga* <sup>8</sup>. *Sushruta* called these *angas* as a *sthana* of *mukharoga*.

*Samanya hetu* of *mukharoga* are *aanupa mansasevana, mashasupa, dadhi, dugdha, sukta, fanita* etc. *atisevana*. Another *hetu* are *awakshayya, dwishata* ( refuses ) *dantadhawana, dhoomapana, vamana, gandusha* and *raktamokshana*.

These *hetusevana* provokes *kaphaprodhan dosha* and cause different types of *mukharoga* <sup>9</sup>. This is the *samprapti* of *mukharoga*.

1) ***Vataja sarvasara mukharoga*** – the symptoms like dryness, roughness, secretions, coldness, falling of teeth, blackening of *mukha*, pain

(*todabhedavata vedana*) in mouth are found in *mukha*<sup>10</sup>. According to *Sushruta*, painful dry and progressive ulcers are formed in oral cavity, tongue becomes, heavy, fissured, depapillation of tongue, difficulty in opening the mouth are found in *vataja sarvasara*.

Treatment of *vataja sarvasara* as per *sushruta* is *pratisarana*, *kawalgraha*, *nasya*, *snaihi dhoomapana*<sup>11</sup>.

These symptoms of *vataja sarvasara* can be equated with clinical features of OSMF in stage I of its classification. Pindborg JJ(1989) divided OSMF into three stages based on clinical features out of the features of stage I are, stomatitis includes erythematous mucosa, vesicles, mucosal ulcers, melanotic mucotic pigmentation and mucosal petechiae<sup>12</sup>.

The symptoms of *vataja sarvasara* can be co-related with the clinical grading of OSMF according to its severity i.e. Grade I incipient (very early stage), and grade II (mild) where dryness of month, vesicle or ulceration, painful mastication, slight restriction of month opening.

## 2) *Pittaja/raktaja sarvasara mukharoga*

*Charaka* explained the symptoms as thirst, fever, ulcers (*sphota*), burning sensation, chapping of lips. Whereas

*Sushruta* said that the disease where oral cavity completely filled with reddish or yellowish small ulcers with burning is called *pittaja sarvasara*.

Treatment includes *pittanashak* treatment after *sarvadainik shodhana*. Along with it *gandush*, *nasya*, *charvana* and *pratisarana* can be done.

The symptoms of *pittaja sarvasara* and can be correlated with stage of stomatitis, vesiculation, where patient complaints of burning sensation in the mouth, dryness of mouth and inability to eat spicy food . An occasional granulating red spot may be seen on the palate.

## 3) *Kaphaja sarvasara mukharoga*

Itching, heaviness in mouth, mucosa becomes white, anorexia(*aruchi* ), nausea, mild painful ulcers all over the oral cavity these symptoms are found in *kaphaja sarvasara*.

Treatment includes *shodhana*, *pratisarana*, *gandush*, *dhooma*, etc.

These symptoms can be correlated with the signs and symptoms in stage II, of pindborg JJ classification where fibrosis occur in healing vesicles and ulcers which is the hall mark of this stage<sup>12</sup>. In this stage some amount of fibrosis is seen and mucosa shows whitish streaks.

Blanched, opaque, leather like mucosa is also seen.

#### 4) *Sannipataj mukharoga*

The symptoms of all the three *doshas* are found in this type of *roga*. These signs and symptoms of *mukharoga* can be equated with stage III of Pindborg classification where sequel of OSMF is seen which includes all classical signs of OSMF like inability to open the mouth completely or protrude the tongue, difficulty in swallowing. It can be associated with leukoplakic changes<sup>12</sup>.

#### *Samanya chikitsa of mukharoga*

*Mukharoga*, are found to be cause by *kapha* and *raktadushti* so for that *rakta shodhana* should be done frequently.<sup>9</sup>

*Samanya kriyakalpa* which are commonly used in *mukharoga* are *swedana*, *virechana*, *shirovirechana*, *vamana*, *pratisarana*, *gandush*, *kavala*, *raktamokshana*, *nasya*, *dhoomapana*, *shashtrakarma* and *agnikarma*. *Kashaypana*, *mukhadhavana*, *charvana*, *abhyantar chikitsa* should be done accordingly etc<sup>9,13</sup>.

#### **Prognosis**

Atropic epithelium first becomes hyperkeratic and later intracellular edema and basal cell hyperplasia develop eventually, following epithelial atypia

with moderate epithelial hyperplasia and then, carcinoma can develop at any time.

**TABLE 1**

Types of *mukharoga* by different *aacharyas*

<i>Charaka</i>	<i>Sushruta</i>	<i>Vagbhata</i>
(4)	(3)	(4)
<i>Vatajan Mukharoga</i>	<i>Vataja sarvasara</i>	<i>Vataja mukhapaka.</i>
<i>Pittaja Mukharoga</i>	<i>Pittaja/Rakta ja sarvasara</i>	<i>Pittaja/rakta ja mukhapaka.</i>
<i>Kaphaja Mukharoga</i>	<i>Kaphaja sarvasara</i>	<i>Kaphaja mukhapaka.</i>
<i>Sannipataja Mukharoga</i>		<i>Tridoashaja mukhapaka.</i>

## 2. RESULT AND DISCUSSION

*Sarvasara* means *sarvamukhavyapi* which involve the whole oral cavity. In modern science oral submucous fibrosis is a chronic, debilitating disease of oral cavity characterized by inflammation and progressive fibrosis of the lamina propria and submucosa.

The patient of OSMF commonly eat gutka, mawa which contains higher concentration of areca nut and other ingredient like tobacco, lime which are

also harmful. As per previous researches it has shown that chewing betel nuts average five times a day is sufficient to cause the disease <sup>14</sup>. The duration of chewing habit wise data support the fact that the disease is of gradual onset over a period of at least 2-5 years. <sup>15</sup>

Areca nut contains arecoline which is *kashayrasatmak, ruksha, sheet, vikasi* <sup>16</sup>. In patients of OSMF, there is *atiyoga* of *kashayarasa* as they chew gutkha in excess. This *hetu* systematically vitiates *vata* and cause *rukshata, kharata stambha, shushkata* in *sthanastha dhatu* which will develop fibrosed bands in oral cavity <sup>17</sup>. The pungent, hot, penetrating and *pitta* provoking properties of tobacco and lime <sup>18,19</sup> lead to local tissue harm, and its systemic absorption vitiates *pitta dosha* which contributes the disease process. Excessive use of *katu rasa* and *tikshna, ushna dravyas* like chilies and spices <sup>20</sup> act locally and systemically provoking *vata* and *pitta* which aggravates the disease <sup>21</sup> as there is restricted movement of mouth, intake of amount of food will be less, result in *vata dhikya* and *dhatukshinata* (nutritional deficiency) which will finally worsen the diseased condition <sup>17</sup>.

According to *Bruhatrayi* some scattered symptoms of OSMF can be found such as *mukhadaha* <sup>7,9,22</sup> (burning

sensation in mouth) *jivhashitasaha* <sup>20</sup> (intolerance of cold to tongue), *gurvi* <sup>22</sup> (tongue become hard), *mukhagatavrana* (ulceration in over cavity) *vivrinotikrichchenmukham* (difficulty in opening the mouth), *shosha, karkashya, rouksha* <sup>21</sup> (dryness of mouth) *rasagyana abhava* <sup>21</sup> (defect in gustatory sensation), *toda* <sup>21,7,9</sup> (pain in mouth).

On analysing these factors Oral submucous fibrosis can be considered to be similar to *sannipataja sarvasara mukharoga*.

### 3. CONCLUSION

This review article is sincere effort to complete reference from different text and correlate and compare the two terminologies. OSMF can be considered on the basis of signs and symptoms with the *sarvasara mukharoga*. The treatment mentioned by *acharya* in *mukharoga* (*sarvasara*) can be implemented to treat OSMF. This comparison between two terminologies may be helpful in the research field of *Ayurveda*.

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