

**MANAGEMENT OF ORAL SUBMUCOSAL FIBROSIS (OSMF) WITH PANCHGAVYA SHUKTA SHODHAN GANDUSHA AS A DINACHARYA PROCEDURE****Jaiminikumar Shashank Rasane¹, Sudeep Menon², Ashutosh B Patankar³**¹(B.A.M.S) M.D. (Scholar Swasthavritta), M.D., Ph.D. (Scholar) (Swasthavritta)²Associate Professor, Department of Swasthavritta and Yoga³M.D. (Ayu), Ph.D. (Ayu), Ayurved Samhita and Siddhant

Bharati Vidyapeeth Deemed to be University College of Ayurved, Pune-411038

Corresponding Author: vdjaiminikumar03@gmail.com<https://doi.org/10.46607/iamj.1209012021>**(Published online: January 2021)****Open Access**

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Article Received: 02/01/2020 - **Peer Reviewed:** 04/01/2021 - **Accepted for Publication:** 07/01/2021**ABSTRACT**

The rate of tobacco in addition to above conditions consumption in various forms in recent years is viewed as an emerging epidemic. The symptoms of OSMF may include burning sensation in mouth, intolerance to spicy, pain in mouth, changes in color of oral mucosa, difficulty in opening of mouth. *Mukha rogas* have been mentioned in *Ayurved*, with various treatment modalities especially *Gandusha* and is one of the important *Upakrama* in *Dinacharya*. *Panchagavya* is prepared by mixing five products of cow and used in traditional many applications. *Shukta varga* includes acidic and partially alcoholic preparations of self-generated nature. Application of *Panchagavya* externally can reduce the *Kaathinyata* (Hardness) under the *Twacha* (skin) of oral cavity.

Keywords: *Panchagavya*, *Shukta*, *Gandusha*, OSMF**INTRODUCTION**

Oral health is an essential part of our overall health and well-being. Poor oral hygiene can lead to dental

cavities and gum disease, and has also been linked to Heart disease, Cancer and Diabetes. Maintaining

healthy teeth and gums is commitment to life.¹ The continuous chewing of Paan and swallowing of Gutkha, trigger progressive fibrosis in Sub mucosal tissue which is a connective tissue disorder.² OSMF is defined an oral precancerous condition characterized by inflammation and progressive fibrosis of the sub-mucosal tissues resulting in marked rigidity and trismus.³ The symptoms may include burning sensation in mouth, intolerance to spicy, pain in mouth, changes in color of oral mucosa, difficulty in opening of mouth, etc. It occurs at any age but is most commonly seen in adolescents and adults especially between 16 and 60 years.¹⁹ Many treatments for *Muka Rogas like, Kavala, Lepas, Kshar karma, Jaluka avacharan* etc. has also been mentioned in various samhitas.⁵ *Shodhana Gandusha* is a purifactory type of *Gandusha*. This type of *Gandusha* induces excessive oro-pharyngeal secretions. It is capable of eliminating the morbid *Kapha dosha* along with the oropharyngeal secretions in the oral cavity.⁶ There is no direct reference of OSMF in Ayurvedic disease classification, but based on its signs and symptoms, etio pathogenesis, site of manifestation etc it can be understood as one of the types of *Uttan Vatarakta*.⁷

According to Charaka Acharya every disease cannot be named hence here Oral Submucosal fibrosis can be interpreted as *Mukha gata Uttan Vatarakta* according to the signs and symptoms.^{7,8}

Gandusha is a procedure in which medicinal liquid is kept in mouth for a certain period of time without movement inside. It is one of the important *Upakrama* in *Dinacharya*.⁹

Panchagavya is prepared by mixing five products of cow and used in traditional many applications. The three direct constituents are cow dung, urine and milk. The Cow derived products are curd and ghee. These are mixed in proper ratio, to get the end product *Panchagavya*.^{10,11}

Shukta –In this preparation acid is produced predominantly instead of alcohol; hence its taste is mainly sour. *Shukta varga* includes acidic and partially alcoholic preparations of self-generated nature.^{12, 13}

Application of *Panchagavya* externally can reduce the *Kaathinyata* (Hardness) under the *Twacha* (skin) of

oral cavity.¹⁴ Hence the present study *Panchagavya Shukta Shodhana Gandusha* as a treatment modality for management of OSMF had been undertaken.

Aim: Assess the role of *Panchgavya Shukta Shodhan Gandusha* as a *Dinacharya* procedure in management of Oral Submucosal Fibrosis.

Objective

1. Study of Oral Submucosal Fibrosis according to Ayurvedic perspective.
2. Study in detail about *Gandusha Karma* as a *Dinacharya* Procedure.

Hypothesis

H₀: - *Panchagavya Shukta Shodhan Gandusha* has no significant effect in the management of Oral Submucosal Fibrosis (OSMF).

H₁: - *Panchagavya Shukta Shodhan Gandusha* has significant effect in the management of Oral Submucosal Fibrosis (OSMF).

Review of Literature:

1. A pilot study on Ayurvedic management of oral submucous fibrosis.- Kundan R. Patel, Manjusha Rajagopala, Dharmendrasinh B. Vaghela, and Ashok Shah Ayu. 2015 Jan-Mar; 36(1): 34–40. doi: 10.4103/0974-8520.169018 PMID: 26730136.
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Drug Review

Panchagavya -It was prepared by mixing five products of cow and three direct constituents are cow dung, urine and milk and the remaining two are cow

derived products, curd and ghee. These all were mixed in equal ratio and then allowed to ferment.^{10, 11}

Properties-

Drug	Rasa	Guna	Veerya	Vipaka	Doshakarma
Goksheera	Madhura	Snigdha	Sheeta	Madhura	Vata-Pitta Shaman
Godadhi	Amla	Guru	Ushna	Amla	Vata Shaman
Gogrita	Madhura	Snigdha	Sheeta	Madhura	Vata-Pitta Shaman
Gomaya Rasa	Kashaya, Tikta	Laghu	Sheeta	Katu	Kapha-Pitta Shaman
Gomutra	Katu, Lavana	Ruksha, Tikshna	Ushna	Katu	Kapha-Vata Shamana

Shukta Kalpana - According to Sharangdhar Samhita when liquid associated with *Kanda, Mula, Phala, Sneha and Lavana* are allowed to ferment in vessel that fermented liquid is known as *Shukta*. In this preparation, acid is produced predominantly instead of alcohol; hence its taste is mainly sour.^{12, 13}

According to Dalhana, when Madya group of preparations turn into acidic on keeping for longer period and masking other tastes then these are known as *Shukta*. Yadavaji also has defined *Shukta*, as *Madya* group of preparations or any sweet liquid when become spoiled and develop acidic taste or prepared in acidic liquid by fermentation i.e. known as *Shukta*.^{12, 13}

Drug	Rasa	Guna	Veerya	Vipaka	Dosha karma
Shukta	Amla	Tikshna, Sara	Ushna	Amla	Pittavardhak, Vatashamak

Added Dravyas

This was prepared by mixing with the below mentioned drugs.

Properties²⁶

Drug	Rasa	Guna	Virya	Vipaka	Doshakarma
Haridra	Tikta, Madhur	Laghu, Ruksha	Ushna	Katu	Kapha-Pittaghna
Rajika	Katu	Teekshna	Ushna	Katu	Kapha-Vaataghna
Tulasi	Katu, Tikta	Laghu, Snigdha, Tikshna	Ushna	Katu	Kapha-Vaataghna

Methodology

Study Design

Clinical trial on 25 patients diagnosed with OSMF had been selected based on the inclusion criteria with age group of 16-60 years irrespective of both sex. Investigations and the assessment parameters were recorded on the basis of standard method and had been analyzed statistically using paired t test and Wilcoxon test. Patients had been subjected to *Shodhan Gandusha* for a maximum period of 15 days. Follow up on 7th, 15th day and post up follow up was done on 21st and 30th day.

Source of Data

Patients fulfilling the inclusion criteria had been selected for the study from the OPD and IPD of Bharati

Vidyapeeth (Deemed to be University) College of Ayurved and Hospital, Katraj, Dhankawadi, Pune.

Standard Operating Procedure for *Panchagavya Shukta And Gandusha Karma*

Contents: *Panchagavya* (Fresh cow urine, dung and milk and cow derived Curd and Ghee) and *Haridra, Rajika, Tulasi patra*.¹³

Researches on *Haridra* and *Tulasi* applications locally for OSMF has already been conducted and proven.^{22, 23}

Procedure for *Panchagavya Shukta*: Fresh cow urine, dung and milk were collected from local cow farm using sterile container and stored in refrigerator. Cow's curd and ghee (clarified butter) were obtained from Go Shala, Pune. Equal volume of cow urine, dung and milk, curd and ghee were added and was

mixed properly and then filtered through a muslin cloth. Panchagavya and contents of Shukta like Haidra, Rajika, Tualsi Patra and Lavana were mixed together and was placed in glass vessel for 3 days for fermentation i.e. (Sandhan Karma). The mixture was filtered and stored in Air tight glass container. ¹³

Gandusha Procedure: -

The patient with concentrated mind and face slightly lifted up should be asked to hold the medicated liquid

in his mouth without doing any movement inside. Patient should be advised not to drink the liquid and hold it until the mouth gets filled with oro-pharyngeal secretions (Kapha) and watery discharge (Jalasarava) appears from the nose (Nasa) and the eyes (Netra).^{14, 15, 16, 17, 18.}

Authentication and Standardization –

It was done at Savitribahi Phule, Pune University.

Intervention:

Drug	Panchagavya Sukta
Dose	10-20ml.
Kala (Time)	Prataha Kala 5-7 minutes after Dantadhavan
Method	Shodhan Gandusha
Duration of treatment	15 days
Follow up	7 th and 15 th day
Post up follow up	21 st and 30 th day
Total period of study	30 days

Statement of Limitations:

Inclusion Criteria

1. Patients with age group between 16 and 60 years.
2. Diagnosed patients of Oral Submucosal Fibrosis (OSMF).
3. Patients of both sex.

Exclusion Criteria

1. Patients who are contraindicated for Gandusha e.g.- unconscious, poisoned, weak, krusha person, patient suffering from bleeding disorders and conjunctivitis.

2. Extensive fibrosis with severe trismus with an Inter Incisal Distance (IID) <15 mm.
3. Disease is most advanced with premalignant and malignant changes.
4. Generalized fibromatosis.
5. Oral manifestation of scleroderma.
6. Oral lichen planus.
7. Pale oral mucosa of anemia mimicking blanching.
8. Chronic debilitating conditions such as Diabetes Mellitus, Hypertension, HIV, etc.

Assessment Criteria

1. Subjective Parameters

Mukhdaha (Burning sensation in mouth)	Score
Nil	0
On Taking Spicy food	1
On taking food	2
Continuous	3
Lalastrava (Salivation)	Score
Normal	0
Altered	1
Decreased	2
Rasagyana (Taste)	Score
Normal	0

Altered/decreased	1
<i>Katu Rasa Asahishnuta</i> (intolerance to food in comparison to previous tolerance)	Score
Nil	0
Mild	1
Moderate	2
Severe	3
<i>Mukha Vedana</i> (pain in mouth)	Score
Nil	0
While opening the mouth	1
Continuous	2
Ulceration in Mouth ²⁵	Score
Nil	0
Mild	1
Moderate	2
Severe	3
Colour of Mucosa	Score
Pink (Normal)	0
Red or deep pink	1
Red or deep pink	2
Blanched white	3
Fibrous bands-on palpation	Score
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

2. Objective Parameters

Scoring pattern for Inter Incisal Distance (mm)^{3, 23}

The exact readings will be taken with the help of Vernier caliper.

Inter Incisal Distance (IID)
41 or above considering normal
37-40
33-36
29-32
25-28
21-24
17-20
13-16

Statistical Methods: Paired t test and Wilcoxon had been used for analyzing data.

DISCUSSIONS

Age wise distribution: Higher incidence of OSMF was recorded in the age group of 40-60 (64%). This

may be due to prolonged exposure to the tobacco chewing and exposure to other irritants.

Gender wise distribution: Showed higher incidence of OSMF were recorded in Males (68%). This may be

a topographic presentation or may be due to the seriousness of the complaints were more in the male or may be the female cases were keeping away from the Hospital due to ignorance.

Occupation wise distribution

Incidence of OSMF were recorded in the occupation of Employees (28%), Self-Employers (24%) and Farmers (20%). This may be due to work life balance and due to uncontrolled habits.

Diet wise distribution

67% patients belonged to mixed diet group and 23% to vegetarian. Occurrence were found to be higher in people having a mixed dietary. As non-veg diet consumption showed higher in topographic area in the present study.

Prakruti wise distribution

Maximum number of patients i.e. 40% belonged to *Pitta Prakruti*. It suggests that *Pitta Prakruti* people are more prone to OSMF may be due to the *Sevena of Katu, Amla and Ruksha Rasa*.

Saarata wise distribution

Maximum number of patients i.e. 48% belonged to *Madhyam-Saarata*.

Addiction (Vyasana wise distribution)

Maximum number of patient's i. e. 68% were having Gutakha; 64% were having Paan and 60% were having Tobacco as addiction. Tobacco and Gutakha contain Nicotine with that other toxic contents and the *Katu-Kashaya Pradhan Rasa Dravyas* leads to increase *Stambhana and Shotha* (blanching) of oral mucosa leading to OSMF.

Mukhadaha: There was significant change in *Mukhadaha*, this was probably may be due to the *Snigdha, Guru-Guna; Sheeta Virya and Madhur Vipaka of Gow-dughdha*.

Lalasarav: There was significant change in *Lalasarava*, this may be due to *Kshalana Swabhava* of the *Amla Rasa and the Tikshana Guna the Strotovibandha bheda* got removed locally hence increasing the *Lalasarava*.

Rasagyan (Taste): There was significant change in *Rasagyan*, may be due to removal of the *Mukhaliptata* and escalation in the *lalarava* was seen. This was may be due to the *Amla Rasa, Vishyandana and Chedana Karma* of *Saindhava* generating the desired result.

Katu Rasa Asahishnuta: *Panchagavya Shukta* has the action of *Shodhana* and *Ropana* on the oral mucosa and sub mucosa. This healing effect repairs the mucosa and the normal function of oral mucosal epithelium are restored. This increases the tolerance to the *Katu Rasa* caused by local irritation. In spite of *Shukta* the *Panchagavya* contains partial softness of *Goghrita* and adequate supply of B6, B8, B12 which are locally absorbed from oral mucosa and restoring the deficiency.

Fibrous Bands-On Palpation: Drug *Panchagavya Shukta* due to the *Sanghata Bhedana Guna of Amla and Vishyandana Guna of Lavana* added with the supporting *Tikshna Guna* causes the removal of micro tubules and their hardening in the connective tissue resulting in the fibrolysis. i.e reduction of fibrous band.

Mukha Vedana (Pain In Mouth): *Panchagavya Shukta* due to the *Vaataashmaka* action previously explained in the *Katurasa Sahishnuta* and fibrous band reduction repairs the oral wounded mucosa and the *Vedana* was reduced.

Ulceration In Mouth: Drug *Panchagavya Shukta* has the overall action of *Ropana* on the wounded mucosa. As a result Ulceration in the Mouth was reduced.

Colour Of Mucosa: Due to *Varnya Guna* of *Haridra* and *Tulasi*, repairing of the oral mucosa was seen and thus the Colour of mucosa turns to normal.

Inter Incisal Distance (IID): Drug *Panchagavya Shukta* has the fibrolytic action in the process of repairing the oral mucosal and submucosal wounds. The result is in the form of eased out jaw movements and measured as the increased Inter incisal distance.

Opening of Mouth with Vernier's Caliper



Mode of action of Panchagavya Shukta

As Panchagavya Shukta are having the properties of Chedhan, Bhedana and Lekhna, Kshalana and Ropan Karmas it helped in reducing the symptoms mentioned in OSMF. Oral sub mucosal fibrosis is a typical connective tissue disorder the, local treatment Comprises of Snehana or Rukshana and Swedana. Snehana is not indicated in the Saama Avastha, Rukshana may be done by Udgharshana or the Amla-Sweda or any other suitable type of Ruksha Sweda. The Snehana is indicated in Niraam avastha and should be done with Ishata-Snighda-Dravya. Swedana. As spread out state of subdermal thickening occurs, Parisheka and Awgaha type of Sweda are indicated. The Vishaghna ac-

tion of the Panchagavya is well known and recognized by the treatises and was used to combat the local irritation and deposition of the toxins. As Shukta are having the properties of Vishada, Ruksha, Shodhana Guna this was selected and prepared by adding Haridra, Rajika, Tulasi and Saindhav to potentiate the Vishada and Shodhan, Krumighna and Swedopaga actions. Thus, it gives the fibrolytic action on submucosal thickening and Anti-inflammatory action by dissolving the consolidating subdermal oedema getting absorbed into the blood and gets removed from the body via the colon by the normal physiological curable action. Thus, it gives the significant relief based on the above-mentioned principal.

Fig 2: Before Treatment, After treatment



Before and After Treatment with Panchagavya Sukta shodhan Gandusha

CONCLUSION

As ancient Acharya included Gandoosh in Dinacharya has an important measure for maintaining oral health. Habit related to oral hygiene Tobacco, smoking, is the major causative factor and Pradnyaparadha is cause of

Addiction. Eating spicy food with Rooksha, Tikshna, Vidahi and Abhishyandi Guna. (Raktadushtikar Ahar as mentioned in the Vatarakta Nidana) Panchagavya Shukta with its Amla Rasa, vipak, Ushna Virya, Tikshna & Sara Guna helps in Restoration of total health of mucosa. This is Shodhana and Ropana form of Gandoosh described in the text. We have found it to

be most effective in the *Vrana* and *Vranavastu* like conditions *Mukhagata Uttana Vatarakta* (OSMF).

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