



EFFECT OF TANKAN BHASMA IN THE MANAGEMENT OF MUKHPAK (STOMATITIS): AN OBSERVATIONAL STUDY

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<https://doi.org/10.46607/iamj0408122020>

(Published online: December 2020)

Open Access

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Article Received: 11/11/2020 - Peer Reviewed: 16/11/2020 - Accepted for Publication: 18/11/2020



ABSTRACT

Mukhpak (Stomatitis) is most common disease of oral cavity and can occur anywhere in the mouth, including the inside of the cheeks, gums, lips, palate and tongue. It can disrupt a person's ability to talk, eat and sleep. This is an observational study on 65 *Mukhpak* (stomatitis) patients with complaints of redness, ulceration in oral cavity, salivation, pain and burning sensation in mouth treated with 3 - 4 times local application of *Tankan Bhasma* with *Madhu* (Honey) up to 14th days. Study demonstrated that local application of *Tankan Bhasma* with honey is the so fast, simplest, economical and effective drug therapy in the management of *Mukhpak* due to anti-inflammatory, analgesic as well as healing property of *Tankan Bhasma* and *Madhu*.

Keywords: *Mukhpak*, Stomatitis, *Tankan Bhasma*, *Madhu*

INTRODUCTION

In modern life style, excessive intake of fast foods, cold drinks spicy foods mixed type of food, acidic foods, etc. and addictions of chewing betel nut, *Gutkha*, tobacco, smoking, drinking alcohol etc. which are characterised as *Apthyakar* in Ayurveda

disturb the normal physiology of the body and causes many oral diseases. Stomatitis is considered as one of the prevalent oral disease worldwide characterized by redness, ulceration in oral cavity with burning sensation, salivation and pain. Stomatitis occurs anywhere in

the mouth, including the inside of cheeks, gums, tongue, lips and palate. The symptoms degree from presence of mouth ulcers, redness and erosions of buccal mucosa, burning sensation of oral mucosa, difficulty in chewing pungent and hot things and or enlargement of sublingual and submandibular lymph nodes. In Allopathic system of medicine, various vitamins, systematic antibiotics, tetracycline mouth wash, local application of thick layer of triamcinolone acetoride, local anti-inflammatory agents like kenalog, orabase etc., are being recommended in this disease. However, *ayurvedic* treatments for this disease are safe, effective, cheap and non-toxic. *Mukhpaka* often called as *sarvsara roga* is a disease of oral cavity characterised in Ayurveda as the *paka-avastha* of oral mucosa and produces ulcers in oral cavity. *Pitta dosha*, *raktavah* and *mamsa* are the main dushya in *Mukhpak*. According to *Acharya Sushruta* there are 65 *mukhroga* which occur at seven locations such as lips, teeth, tongue, palate, throat and oral cavity and out of them 8 occur in lips, 15 in gums, 8 in teeth, 3 in tongue, 9 in palate, 17 in throat and 3 in entire mouth as described in *uttartantra*. To break this *samprapti*, *pitta doshahar*, *rakta prasadak*, *vranashodhak*, *vranropak*, *shothahar chikitsa* is essential. As per Ayurveda the line of treatment for *mukhpak* should be *pittashamaka*, *Shothahara*, *Vedanasthapana*, *vranashodhana*, *Vranaropana*, *Rakta prasadaka*, *Mamsa dhatu pustikara*. The clinical symptom of *Mukhpak* is comparable with stomatitis. There are many drugs described in Ayurveda literature to cure *Mukhpak* (Stomatitis) effectively. *Sushruta* praised the effect of *Kshara* (alkalis) so much that it can be replace *Shastra karma* since it does the *chedna*, *bhedna*, *lekhna*, *darana*, *shothahara* and *roopna karmas* simultaneously without the help of *Shashtra*.

Tankana (Na₂B₄O₇.10H₂O; Sodium tetraborate decahydrate) or purified borax a commonly available alkali appreciated as *kshara raja* or *kshara shresta* It has own important role because of its high therapeutic value. It is a medicine that is used for the treatment of skin diseases, ulcerating sores, gingivitis, eczema, cough etc. Honey, known as *madhu* is one of the most

important medicines used in *Ayurveda* for both internal and external applications and mainly used for the treatment of eye diseases, cough, thirst, phlegm, hiccup, worm infestation, vomiting, epistaxis, leprosy, obesity, asthma, healing wounds and diarrhoea. It is also used as a vehicle along with some medicines to improve its efficacy or to mitigate the side effects of the other medicines. In the present observational study, therapeutic potential of *Ayurvedic* medicine i.e. *Tankan Bhasma* along with *madhu* in 65 patients suffering from *Mukhpak* (stomatitis) is described

Material and Methods

This is an observational study based on daily OPD practice on 65 patients of age range 13-73 years with complaints of redness, ulceration in oral cavity, salivation, pain and burning sensation in mouth during chewing of food for the last 3 months visited OPD of Shri Gurudev Ayurved College department of Kayachitsa for treatment. Gender wise distributions of patients along with their socioeconomic conditions were presented in Table 1. Based on the symptoms and clinical feature they are diagnosed with the disease *Mukhpak* (Stomatitis). Patients were treated with oral application of 500 mg *Tankan Bhasma* with 2 ml *madhu* for three to four times in a day and advised to stop sour, hot and spicy food article. Present study was carried out in accordance with ethical principles by following International conference of Harmonization-Good Clinical Practices Guidelines (ICH-GCP).

Criteria for Assessment: The treatment result was assessed in the form different levels of grades assigned to the clinical sign and symptoms.

Clinical Assessment

Clinical assessment was done on alternate 0 day and 14th day. Follow up of the patients was also performed on 7th days. Change in symptoms before and after treatment were recorded at each follow up and recorded in the form of qualitative data and further converted to quantitative data for statistical analysis. Grading was given for every clinical feature. The signs and symptoms were assessed by adopting suitable scoring method. The details are as follows.

Symptom	Grading
Redness	0 No redness. 1 Mild redness. 2 Moderate redness. 3 Severe redness. 4 Extreme redness
Ulcer in mouth	0 No ulceration in oral cavity. 1 1-2 ulcers in oral cavity. 2 2-3 ulcers in oral cavity. 3 4-5 ulcers in oral cavity. 4 More than 5 ulcers in oral cavity
Salivation	0 No salivation in oral cavity. 1 Wild salivation (1-2 times spitting) in a day. 2 Moderate (3-4 times spitting) in a day. 3 5 to 7 times spitting in a day
Pain	0 No pain in ulcers in mouth. 1 Mild pain in ulcers in mouth. 2 Moderate pain in ulcers in mouth. 3 Severe pain in ulcers in mouth. 4 Extreme pain is ulcers in mouth
Burning sensation during food intake	0 No pain in ulcers in mouth. 1 Mild pain in ulcers in mouth. 2 Moderate pain in ulcers in mouth. 3 Severe pain in ulcers in mouth. 4 Extreme pain is ulcers in mouth

Statistical analysis: The data obtained was analyzed for significance between the groups by student t-test using statistical software programme “SPSS evaluation version 22”.

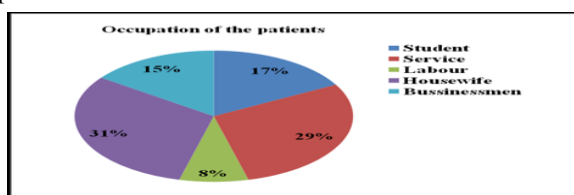
Results: Results of the observational study showed that among 65 patients of stomatitis included in this

study, male and female were 32 and 33 respectively (Table 1). The age ranges of male and female subject were 25-73 years and 13-63 years respectively. Figure 1 shows the occupation wise distribution of *Mukhpak* patients. It was observed that *Mukhpak* is a common disease in all the age groups of present era.

Table 1: Gender wise distribution of the patients selected for the study

Gender	No. of Patient	Age range
Male	32	25-73
Female	33	13-63
Total	65	13-73

Figure 1: Occupation wise distribution of *Mukhpak* patients



Results of the Table 2 showed that the local application of *Tankan Bhasma* with *Madhu* have resulted in clinically marked improvement in the symptoms of *Mukhpak* which are statistically significant ($P < 0.001$). There was a rapid decline in redness (98.82 %), ulceration in oral cavity (98.44 %), salivation (99.21%), pain (99.60) and burning sensation in mouth during chewing of food (95.47%).

Table 2: Efficacy evaluation of Tankan Bhasma along with Madhu in symptoms of Mukhpak (stomatitis)

Symptoms in	Before	After treatment	% Relief
Redness	3.94 ± 0.03	0.05 ± 0.03*	98.82%
Ulcer in mouth	3.94 ± 0.03	0.06 ± 0.04*	98.44%
Salivation	3.90 ± 0.01	0.03 ± 0.02*	99.21%
Pain	3.88 ± 0.04	0.02 ± 0.01*	99.60%
Burning	3.73 ± 0.12	0.17 ± 0.01*	95.47%

Values are represented as Mean± SE.*P < 0.001 as compared to the symptoms of the before treatment

DISCUSSION

Mukhpak (Stomatitis) is a very common disease of oral cavity in India as well as Asia due to heavy consumption of *pitta prakopakaahar* like spicy oily food, tobacco chewing, smoking, alcohol consumption, fast food etc. and also *pitta prakopak vihar* like late night sleeping, improper timing of meals, lack of exercise etc. According to *Ayurveda*, in this condition *Mukha* is affected by *Paka* process which is always associated with *pitta Dosha* and patient feels irritation, pain and burning sensation during food intake. It may also occur due to addiction like tobacco, wine etc. Insomnia, vitamins deficiency, and life-threatening disease like malignancy, sub mucosal fibrosis disturbances in gastrointestinal tract. It is very important to have effective, economic & without any side effect, medicine on it. So here an attempt is made to treat stomatitis with *Tankan Bhasma* with *Madhu*.

Tankan Bhasma has both bleaching and antiseptic properties which ultimately eradicate pathogens. Honey has been described in ancient and modern medicine as being effective in the healing of various infected wounds, healing of burns, ulcers and open wounds, which believed to be related to its constituents since fructose, the predominant sugar in honey, is very hygroscopic. *Madhu* or honey is probably adsorbing toxins from the mucous membrane and precipitate protein, so the pus and inflammatory exudates became adsorbed by the natural honey, thus protecting the underlying tissues and enhanced normal healing and the epithelialization.

The natural honey is sticky viscous solution that is the way to make it adherent to the ulcer. Coating the ulcer and prevention of secondary infection is the probable mechanism of action of *Madhu*. No allergic mucosal

reaction or toxic effects have been reported with the usage. Results of the present study demonstrated highly effective, therapeutic and significant potential of *Ayurvedic* medicine in management of *Mukhpak* or stomatitis. It may be due to anti-inflammatory, analgesic as well as healing property of *Tankan Bhasma* and *Madhu*. Study demonstrated and confirms that local application of *Tankan Bhasma* with *Madhu* is the so fast, simplest, economical and effective drug therapy in the management of *Mukhpak*.

CONCLUSION

Present observational study showed that stomatitis is of the commonest oral diseases in India and found in all the age groups. Local application of *Tankan Bhasma* with *Madhu* is effective medications for the treatment of *Mukhpak* (stomatitis). These remedies are being practiced in *Ayurveda* and are cost effective and easily available.

Recommendation

The present study is an observational study based on the clinical practice. Moreover, a well-structured standardized randomized placebo-controlled study is recommended.

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Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Tushar Suresh Punse: Effect Of Tankan Bhasma In The Management Of Mukhpak (Stomatitis): An Observational Study. *International Ayurvedic Medical Journal* {online} 2020 {cited December, 2020} Available from: http://www.iamj.in/posts/images/upload/5227_5231.pdf