



Ayurvedic Perspective and Management of Stress Induced Recurrent Aphthous Stomatitis: A Case Report

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Abstract

According to the Ayurveda *Mandagni* (~weak digestive fire) is a primary cause of all diseases, including *Mukhpaka* (~recurrent aphthous stomatitis). Stress such as *Chinta* (~worry), *Shoka* (~grief), *Bhaya* (~fear) are the cause that contributes to the formation of *Mandagni* (~weak digestive fire) and, consequently *Aam* (~undigested metabolic waste) is the end product. The symptoms of recurrent aphthous stomatitis (RAS) can be correlated with *Mukhpaka*. A 42-year-old female patient presented to the outpatient department with complaints of recurrent, painful mouth ulcers in the buccal and labial mucosa and soft palate, along with a burning sensation, persisting for two and a half years. The exact etiology of recurrent aphthous stomatitis remains unknown; however, numerous predisposing factors, including stress, are known to influence the condition. The patient was diagnosed with recurrent aphthous stomatitis with stress, identified as a significant predisposing factor. The Depression Anxiety Stress Scale questionnaire was utilized for the diagnosis. The condition was managed with *Aam Pachana* (~metabolic waste digestive medication), along with anti-stress, anxiolytic and *Medhya* (~cognitive-enhancing) medications, as well as *Pranayama* (~breathing exercise). The total treatment period lasted 60 days, followed by a one-month follow-up. After the treatment, the patient experienced significant relief from recurrent aphthous stomatitis.

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Introduction

Recurrent Aphthous Stomatitis (RAS) is a condition in which ulcers repeatedly occur in the oral cavity. Approximately 80% of people have one episode of oral aphthous ulcers before the age of 30 years [1]. Predisposing factors like trauma, deficiency of B-complex vitamins and folate, microbial factors, stress, hormonal changes and immunologic factors may contribute to the formation of ulcers. [2] Recurrent Aphthous Stomatitis has high prevalence rate in female than male [3]. Aphthous stomatitis commonly occurs in non-keratinized mucosa including the buccal and labial mucosa, tongue, soft palate, floor of the mouth, and sporadically on gingiva. Recurrent Aphthous Stomatitis are difficult to manage and treat in some situations, due to their unclear etiology. Stress hereditary, psychological, viral, and hormonal variables, trauma, food allergies, nutritional deficiencies (iron, vitamin B12, and folic acid), and hematological abnormalities can all

contribute to the development of recurrence [3]. Some research data and case reports state that there is a link between stress as the dominant factor for RAS [4].

Mukhapaka, described in Ayurveda, can be collated to this condition. The classical texts of Ayurveda devote a significant space for describing *Mukharogas* (~diseases of the oral cavity). *Mandagni* (~weak digestive fire) is a main cause of all disease's [5] and *Chinta* (~worry), *Shoka* (~grief), and *Bhaya* (~fear) are created *Mandagni* (~weak digestive fire) and formation of *Aam* (~undigested metabolic waste). Aacharya Vagbhat describe symptoms –*Aruna Varna* (~reddish color ulcer), *Tamra Osthā* (~coppery lips), *Vivrotikruchane Mukha* (~difficulty in mouth opening) in *Vataja Mukhpaka*. [6] *Daha* (~burning sensation), *Chosha* (~dryness), *Tiktavakrta* (~bitter taste) and *Ksharikshit Vrna* (ulcers with sharp edges) in *Pittaja* [7] condition and *Madhura-Aashyta* (~sweet taste in mouth), *Kandu* (~itching in mouth), *Pichila Varna* (~slimy ulcer) in *Kaphaja Mukhpaka*. The purpose of this article is to identify the role of stress in *Mukhpaka* and Recurrent aphthous stomatitis and its Ayurveda management.

PATIENT INFORMATION

A 42-year-old female patient presented to the ENT OPD at the *Shalakyā Tantra* department of the National Institute of Ayurveda, Jaipur Rajasthan, with the chief complaints of recurrent, painful multiple mouth ulcers in the buccal and labial mucosa, as well as the soft palate, for the past two and a half years. The patient experiences pain and a burning sensation while eating hot food. She is a housewife. She has been taking allopathic medication for the same since last two years and has consulted to gastroenterologist, but they concluded that she had no gastro-related pathology.

The patient had a history of asthma and was using a foracort inhaler, but she discontinued it two and a half years ago. She denies about any history of allergies. Her blood reports were normal, and her biopsy showed no signs of malignancy or other pathology. The patient brushes her teeth twice a day and does not use toothpaste containing sodium lauryl sulfate. She consumes homemade meals 1–2 times a day and never taking outside materials. She drinks 1.5 to 2 liters of water and one coconut water daily, but sleeps only 4 to 5 hours per day. After in-depth questioning during the history-taking process, she mentioned being very stressed with her family issues.

CLINICAL FINDINGS

The patient was afebrile. Pulse was 78 beats/min. Blood pressure was 124/80 mmHg. Respiratory rate was 20/min and weight was 51 kg.

Extra-oral examination – No pathology was observed in extraoral region, expect mild dryness on lips. Intraoral examination: moderate oral hygiene was noted with multiple oval shaped ulcers measuring 3x2 mm, featuring a white base and surrounded by halo of erythema, the ulcers were present on the middle of upper labial mucosa [Figure 1], lateral of upper labial mucosa [Figure 2] and the right buccal mucosa [Figure 3].

TIMELINE

The timeline of the present case is depicted in [Table 1]

Table 1: Timelines

| Duration | Event |
|------------------------|---|
| At the age of 39 years | Diagnosed as Recurrent Aphthous Stomatitis and managed with allopathic medications |
| Since 2023 | Changed allopathic doctor and visited to gastroenterologist |
| Since January 2024 | Recurrent mouth ulcer persists and burning sensation, no improvement in any symptom |
| Since July 2024 | Ayurvedic diagnosis and treatment |

DIAGNOSTIC FOCUS AND ASSESSMENT

To assess the presence of stress, anxiety, and depression, the patient completed the Depression Anxiety Stress Scale (DASS) questionnaire [8]. The results of the DASS assessment showed a depression level of 12 (mild), anxiety level of 14 (moderate), and a stress level of 26 (severe). Based on various examinations and the DASS

results, the patient was diagnosed with Recurrent Aphthous Stomatitis, with stress and anxiety being the most likely predisposing factors.

The histopathology report (specimen: non-healing ulcer on the upper lip) showed no evidence of malignancy. The blood report revealed hemogram values of Hb 12.4 g/dL and an ESR rate of 12 mm/hr. Vitamin B-12 levels were 574.4 pg/mL, ferritin levels were 13.95 ng/mL, random blood sugar was 120 mg/dL, and the urine analysis results were within normal limits.

Dashavidha Pareeksha (~ tenfold examination)

The *Shareera prakriti* (~nature of body) of patient was *Vatapittaja . Vikriti* (~morbidty) was *Tridosha* (~three *Doshas* of body) along with *Rakta. Satwa* (~psyche), *Sara* (~excellence of tissues), *Samhanana* (~compactness) were *Madhyama* (~moderate), *Ahara shakti* (~power of intake and digestion of food), *Vyayama Shakti* (~power of performing exercise), *Satmya* (~habituation), and *Pramana* (~anthropometry) of the patient were of *Avara* (~poor) level.

INTERVENTION AND PRANAYAMA

The patient was prescribed *Aam-Pachana Vati* -2 tablet with normal water, twice a day before meals; *Ashwagandha Churna* (~Powder of *Withania somnifera*) – 3 gm with milk, twice a day after meals; and *Brahmi Vati* 2 tablet, twice a day [Table 2]. The patient was advised to practice *Anuloma-Viloma*, *Bhastrika*, *Bhramari Pranayama* (~breathing exercise) and Meditation for 15 minutes daily [Table 3]. She was also given information and education about her condition, along with counseling. Initially, internal medication and *Pranayama* (~breathing exercise) therapy were prescribed for one month. After one month of treatment, the patient experienced significant relief, so the treatment was extended for another month.

Table 2: Intervention

| Treatment | Dose | Time |
|---------------------------|----------|--|
| <i>Aam-Pachana Vati</i> | 2 tablet | Twice a day, empty stomach with normal water |
| <i>Ashwagandha Churna</i> | 3 gm | Twice a day after meals with milk |
| <i>Brahmi Vati</i> | 2 tablet | Twice a day after meals with normal water |

Table 3: Therapies

| Therapy | Time |
|---------------------------------|---------------------------|
| <i>Pranayama-Anuloma-Viloma</i> | 5 minute in morning time |
| <i>Bhastrika</i> | 5 minute in morning time |
| <i>Bhramari</i> | 5 minute in morning time |
| Meditation | 15 minute in evening time |

FOLLOW-UP AND OUTCOME

After two months of treatment, an oral examination was performed, and there was no aphthous ulcers were found on the middle of upper labial mucosa [Figure 4], lateral of upper labial mucosa [Figure 5] and the right buccal mucosa [Figure 6].

There was no recurrence of the aphthous ulcers, and the patient reported no pain or burning sensation while eating hot food. The patient was followed up for the next month at 7 day intervals, during which no recurrences were reported. The patient advice to the continues practice of *Pranayama* (~breathing exercise) daily.

DISCUSSION

The Exact etiology of recurrent aphthous stomatitis is still unknown, but several predisposing factors, including stress, are believed to influence it. In this case, the patient mentioned being highly stressed about her family issues. Aphthous ulcers tend to recurs frequently, especially during periods of stress. Despite taking allopathic medications for two years, the patient did not experience satisfactory results. Stress is one of the most significant factors in the occurrence of recurrent aphthous stomatitis. Females tend to have higher stress levels compared to males, as they are often more emotionally sensitive and easily affected by worries. According to Acharya Charaka, even *Pathya Aahar* (~healthy Food) becomes indigestible in conditions of stress, such as *Chinta* (~worry), *Shoka* (~grief), *Bhaya* (~fear), and *Krodha* (~anger), which are all forms of mental stress [9].

Due to improper digestion, *Aam* (~undigested metabolic waste) is formed in the gut. In this case, stress hindered the patient's digestion, leading to the formation of *Aam* (~undigested metabolic waste). To address this, *Aam-Pachana Vati* -2 tablet before meals was prescribed to help with *Aam* (~undigested metabolic waste) digestion. The ingredients of *Aam-Pachana Vati* include *Haritaki* (*Terminalia chebula* Retz), *Shunthi* (*Zinziber officinale* Roxb.), *Pipalli* (*Piper longum* Linn.), *Maricha* (*Piper nigrum* Linn.), *Shuddha Kupilu* (*Strychnos nuxvomica* Linn.), *Hingu* (*Ferula asafoetida* Fil.), *Saindhava*, *Go-Ghrita*, and *Shuddha Gandhaka*. These herbs possess *Katu* (~pungent) ^[10] and *Tikta* (~bitter) tastes ^[11], with *Laghu* (~light), *Tikshna* (~sharp), and *Ushna* (~hot) properties, as well as *Ushna Virya* (~heating potency), which aid in *Deepana-Pachana* (~digestion and metabolism). The ingredients of *Brahmi Vati* include *Brahmi* (*Bacopa monnieri*), *Shankhpushpi* (*Convolvulus pluricaulis* Choiss), *Vacha* (*Acorus calamus* Linn.), *Gojivha* (*Onosma bracteatum* Wall.), *Maricha* (*Piper nigrum* Linn.), *Svarna Mashik*, *Ras Sindur*, and *Jatamansi* (*Nardosachys jatamansi* DC). Most of these herbs possess anxiolytic, antioxidant, and *Medhya* (cognitive-enhancing) effects, which promote mental health and aid in healing irritability, pain, excitability, anger, anxiety, and grief ^[12]. *Ashwagandha* (*Withania somnifera*) has anti-stress and cortisol-lowering effects in chronic stress conditions ^[13]. It possesses *Balya* (~strengthening) and *Rasayana* (~rejuvenating) properties, and it improves the functioning of the *Nadi Sansthan* (~nervous system) ^[14]. *Ashwagandha* has demonstrated significant anti-stress and anti-anxiety activity in various animal models and clinical studies ^[15]. *Anuloma-Viloma*, *Bhastrika*, *Bhramari Pranayama* (~breathing exercise), and meditation help balance the autonomic nervous system by reducing sympathetic activity and increasing parasympathetic output, which contributes to the reduction of negative emotions such as stress, depression, and anxiety ^[16]. While practicing *Pranayama*, the mind and body experience immediate relief from the hustle and bustle of daily life and the sources of stress. This allows the brain to stop focusing on burdens and concentrate fully on relaxation. Due to the combined effects of the prescribed medications and therapies, complete remission of the recurrent aphthous ulcers, burning sensation, and stress was observed by the end of treatment.

CONCLUSION

This case report demonstrates clinical improvement in *Mukhpaka* (~recurrent aphthous stomatitis) with Ayurvedic management. The treatment used in this case is effective, simple, and economical. Although this is a single case study, it may open new avenues for clinicians and researchers to explore the diagnosis and treatment of recurrent aphthous stomatitis. Additionally, this study provides an approach to stress management through Ayurveda, highlighting its potential benefits in addressing the root cause of the condition.

DECLARATION OF CONSENT

The authors confirm that they have obtained a patient consent form, in which the patient has agreed to the case being reported, including the use of images and other clinical information in the journal. The patient acknowledges that their name and initials will not be disclosed, and that all reasonable efforts will be made to protect their identity, though complete anonymity cannot be guaranteed.

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CONFLICTS OF INTEREST

There are no conflicts of interest.

REFERENCES

1. Beguerie JR, Sabas M. Recurrent aphthous stomatitis: An update on etiopathogenesis and treatment. *J Dermatol Nurses Assoc.* 2015;7(1):8–12.
2. Akintoye SO, Greenberg MS. Recurrent aphthous stomatitis. *Dent Clin North Am.* 2014;58(2):281–97.
3. Reddy SM, Kumar Vadivel J, Ramalingam K. Prevalence of aphthous stomatitis: A cross-sectional epidemiological study. *Cureus.* 2023 Nov 23;15(11)
4. Vashishat B, Sinha S, Srivastava T, Mishra A, Sethi KK, Srivastava S, Surana P. Management of oral aphthous ulcer: a review. *Bioinformation.* 2024; 20:434–438.
5. Gallo CB, Mimura MAM, Sugaya NN. Psychological stress and recurrent aphthous stomatitis. *Clinics.* 2009;64(7): 645-8.

6. Triphati B. Asthang Hrudhya of Acharya Vagbhatta. Nidana Stana. Ch. 12, Ver. 1. Varanasi: Chaukhamba Sanskrit Pratishthan; 2022. p. 512.
7. Triphati B. Asthang Hrudhya of Acharya Vagbhatta. Uttara Stana. Ch. 21, Ver. 59. Varanasi: Chaukhamba Sanskrit Pratishthan; 2022. p. 1032.
8. Triphati B. Asthang Hrudhya of Acharya Vagbhatta. Nidana Stana. Ch. 12, Ver. 61. Varanasi: Chaukhamba Sanskrit Pratishthan; 2022. p. 1033.
9. Lovibond SH, Lovibond PF. Manual for the Depression Anxiety & Stress Scales. 2nd ed. Sydney: Psychology Foundation; 1995. Available from: <https://maic.qld.gov.au/wp-content/uploads/2016/07/DASS-21.pdf>
10. Pandey K, editor. Charaka Samhita. Vimana Stana. Ch. 2, Ver. 10. Varanasi: Chaukhamba Bharati Academy; 2013. p. 688.
11. Pandey K, editor. Charaka Samhita. Sutra Stana. Ch. 26, Ver. 42(4). Varanasi: Chaukhamba Bharati Academy; 2013. p. 506.
12. Pandey K, editor. Charaka Samhita. Sutra Stana. Ch. 26, Ver. 42(5). Varanasi: Chaukhamba Bharati Academy; 2013. p. 506.
13. Kalaria P, Singh D, Sharma R. Critical review on Brahmi Vati, an Ayurvedic formulation effective in management of memory loss. Ayushdhara. 2022;Sep-Oct:55–58.
14. Chandrasekhar K, Kapoor J, Anishetty S. A prospective randomized double-blind, placebo-controlled study of safety and efficacy of a high-concentration full-spectrum extract of ashwagandha root in reducing stress and anxiety in adults. Indian J Psychol Med. 2012;255–62.
15. Sharma PV. Dravyaguna-Vigyana. Part 2. Ch. 9. Varanasi: Chaukhamba Bharati Academy; 2017. p. 764.
16. Alex B, Kadine A, Amla S, Kirstan M. Effects of Withania somnifera (Ashwagandha) on stress and the stress-related neuropsychiatric disorders anxiety, depression, and insomnia. Curr Neuropharmacol. 2021;19(9):1468–95.
17. Thanalakshmi J, Archana R. Effect of Bhramari Pranayama intervention on stress, anxiety, depression and sleep quality among COVID-19 patients in home isolation. J Ayurveda Integr Med. 2022;13(3):100596.

