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File: ■ Recurrent Aphthous Stomatitis
■ Diet and Stress
■ Adaptogens

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RE: Herbal Adaptogens, Stress Reduction, and Gluten-Free Diet for Recurrent Aphthous Stomatitis (RAS)

Abascal K, Yarnell E. Treatments for recurrent aphthous stomatitis. *Altern Complement Med.* 2010;6(2):100-106.

Recurrent aphthous stomatitis (RAS), commonly known as canker sores, is the occurrence of small painful ulcers on the soft tissues in the mouth. RAS is correlated with elevated tumor necrosis factor-alpha (TNF- α) and other pro-inflammatory cytokines, such as interleukin-2 (IL-2) and IL-6.^{1,2} Current research shows that RAS is not caused by a virus. Ulcers of <5 mm in diameter lasting for up to 2 weeks usually do not occur on the gingiva, palate, or on the tongue in the minor variety of RAS. The major variety manifests as oval ulcers >1 cm for up to 6 weeks on the lips, soft palate, and the fauces (between the back of the mouth and the pharynx). Herpetiform RAS is the third and most rare form that is characterized by multiple small clusters of ulcers that can number in the hundreds. All types of RAS can be chronic or intermittent.

A number of studies have suggested that there is a correlation between gluten in wheat and related grain products and RAS. Celiac disease is characterized by intolerance to gluten. One common symptom in celiac disease is RAS. Results from one study showed that 71.7% of 61 celiac patients with RAS on a gluten-free diet for a year reported no or reduced RAS episodes.³ Although RAS is not caused by an allergy to gluten, clinical evidence indicates some association between intolerance to gluten and the occurrence of RAS. Therefore, reducing or eliminating gluten-containing foods may aid in reducing RAS. Other foods that may contribute to occurrence of RAS are dairy foods, chocolate, coffee, peanuts, almonds, strawberries, and tomatoes.

Up to 20% of patients with RAS tested for nutrient levels were found deficient, with twice the prevalence of deficiencies in iron, folic acid, B₆ and B₁₂.⁴ Supplementation, in combination with other therapies, is important to include as a treatment to address any underlying deficiencies.

Stress plays a role in RAS. In general, medical and dental students tend to have a higher stress level. Compared to the general population, they have a 31%-66% higher incidence of RAS. One study that examined the incidence of RAS in 485 health care

students found that about 37% of students had RAS outbreaks with about 9% having a current outbreak. Medical interns had the highest RAS incidence (44-46%), associated with increased stress and inadequate sleep.⁵ Stress reduction is a key component to reducing RAS outbreaks.

Adaptogenic herbs are an excellent adjunct therapy for RAS. Adaptogens help the body adapt to stress and improve immune function. Rhodiola (*Rhodiola rosea*) root preparations have shown antioxidant, cardioprotective, anticarcinogenic, and strengthening effects in vitro and in animal studies with virtually no toxicity. In several human studies, the general outcomes were similar, with the effects of participants showing a reduction in physical and mental stress, improved memory, less mental and physical fatigue, and reduced situational anxiety.

Licorice (*Glycyrrhiza* spp.) root has long been used for immune support, inflammation, and gastric ulcers. Due to its sweet taste, it is a good candidate for use with children. Because licorice contains glycyrrhizin that has a reputation of possibly raising blood pressure with excessive use in adults, it should be avoided by those with hypertension. But children do not tend to have an issue with blood pressure, making licorice an appropriate choice. One study conducted with twenty patients who applied a deglycyrrhizinated licorice mouthwash/gargle directly on the ulcers had fifteen patients report 50%-75% pain relief within 24 hours, and by day 3, the ulcers had completely healed.

Goldthread (*Coptis* spp.) has a particular affinity for relieving symptoms of RAS with unknown constituent(s) responsible for this action. Goldthread has a high berberine content, but when isolated berberine was tested in comparison to a complete alkaloid composition of goldthread, the total alkaloid extract was more effective on ulcers. Poke (*Phytolacca americana*) root is helpful for treating ulcers in the subacute and chronic stage. Spilanthes (*Spilanthes acmella*) has some chemical similarities to echinacea (*Echinacea* spp.). Spilanthes works wonderfully to reduce inflammation, relieve pain, and speed healing of ulcers, according to the authors.

Tannin-containing herbs have traditionally been used for aphthous ulcers. South American eupatorium (*Chromolaena laevigatum*) was tested in paste form on sixty patients with RAS. Ulcers healed in 5 days for 40% of the patients using paste, while only 27% of ulcers healed using triamcinolone, a steroidal gel. Pain relief with the eupatorium paste was 70% and the steroid gel was 33%, and healing was more rapid with the paste. Lady's mantle (*Alchemilla xanthochlora* syn. *A. vulgaris*) has been shown to produce complete healing of ulcers in 60% to 75% of patients in 2 to 3 days, respectively, when applied as a vegetable glycerine gel 3 times per day. Myrtle (*Myrtus communis*) leaf aqueous extract showed a positive effect when applied 4 times daily as a 5% extract paste to acute ulcers in the mouth by reducing pain and ulcer size quickly.

Addressing nutrient deficiencies, stress, and immune weakness are key components for reduction and prevention of RAS. Adaptogenic herbs such as rhodiola and licorice act as beneficial foundations to strengthen the body and support immunity for prevention. Goldthread, poke, spilanthes, eupatorium, lady's mantle, and myrtle are potentially beneficial treatments to acutely reduce pain, inflammation, and speed healing of ulcers. RAS is a common health issue that can be improved and eliminated by utilizing the benefits of these herbs along with dietary considerations and stress reduction.

–Erin Miner

References

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