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ALTERNATIVE MEDICINE FOR ORAL HERPES: A REVIEW

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ABSTRACT

Herpes simplex is a common viral infection of the skin or mucous membranes. The lesions caused by this infection are often painful, burning or pruritic and tend to recur in most patients. Short term treatment with antiviral drugs can accelerate the healing of an acute outbreak, and continuous therapy is often prescribed for people with frequent recurrences. While this drug can reduce the recurrence rate by 60-90 percent, it can also cause a wide array of side effects, including renal failure, hepatitis, and anaphylaxis. Safe and effective alternatives are therefore needed. There is evidence that certain dietary modifications and natural substances may be useful for treating active Herpes simplex lesions or preventing recurrences. Treatments discussed include lysine, vitamin C, zinc, vitamin E, adenosine monophosphate, and lemon balm (*Melissa officinalis*).

Key Words: Herpes, Lemon Balm, Lysine, Tea Tree Oil, Garlic etc.

INTRODUCTION

Herpes Simplex labialis (HSL) is commonly recognized as “cold sores” or “fever blisters”, as it is called in the vernacular. Recurrent infection with herpes simplex virus 1 (HSV1), called herpes simplex labialis, is a global problem for patients with normal immune systems. An effective management program is needed for those with frequent HSL recurrences, particularly if associated morbidity and life-threatening factors are present and the patient’s immune status is altered. Over the past 20 years, a variety of antiviral compounds (acyclovir, penciclovir, famciclovir, valacyclovir) have been introduced that may reduce healing time, lesion size and associated pain. Classical lesions are preceded by a prodrome, but others appear without warning, which makes them more difficult to treat. Oral herpes is an extremely annoying, highly contagious and disfiguring disease [1]. Herpes virus cycle between periods of active disease—presenting as blisters containing infectious virus particles—that last 2–21 days, followed by a remission period. After initial infection, the viruses are transported along sensory nerves to the sensory nerve cell bodies, where they become latent and reside

lifelong. Causes of recurrence are uncertain, though some potential triggers have been identified, including immunosuppressant drugs. The previously latent virus then multiplies new virus particles in the nerve cell and these are transported along the axon of each neuron to the nerve terminals in the skin, where they are released. Over time, episodes of active disease reduce in frequency and severity. Herpes simplex is most easily transmitted by direct contact with a lesion or the body fluid of an infected individual. Transmission may also occur through skin-to-skin contact during periods of asymptomatic shedding. Virus must come in contact with mucosal surfaces or abraded skin for infection to be initiated. With viral replication at the site of primary infection, either an intact virion or, more simply, the capsid is transported retrograde by neurons to the dorsal root ganglia where, after another round of viral replication, latency is established. Although replication sometimes leads to disease and infrequently, results in life-threatening infection (e.g., encephalitis), the host-virus interaction leading to latency predominates. After latency is established, a proper stimulus causes reactivation; virus becomes evident at mucocutaneous sites, appearing as skin vesicles or mucosal ulcers. Oral herpes is easily diagnosed if the patient presents with visible sores or ulcers. Early stages of orofacial herpes and

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genital herpes are harder to diagnose; laboratory testing is usually required [2].

Lysine

The most biologically sound approach to herpes involves the oral administration of the amino acid L-Lysine. It has been shown that the herpes virus thrives on the amino acid L-Arginine. L-Lysine happens to be the antagonist to L-Arginine. When the availability of L-Arginine is appreciably diminished, the virus will die. Arginine is a common protein fraction (amino acid). It is the primary protein needed to build new herpes virus. It is found, to some degree, in most foods. Arginine is particularly high in chocolate and nuts. Lysine is commonly found in fish, vegetables and most dairy products. This is one protein that cannot be used to construct new herpes viruses. In fact, it is like putting water on a fire. Arginine and lysine fight over the same storage space within cells of human body. The more cells store lysine, the less arginine it can hold. It is easy to drop stored arginine levels by taking in higher quantities of lysine. This is a proven method many folks use to reduce duration or occurrences of oral herpes. Lysine extinguishes the cold sore fire. Lysine supplements are usually 500-milligram capsules. Lysine is one of many common proteins and is quite safe. To treat a cold sore, dosages of 2000 to 4000 milligrams daily are the norm. Many people take 500 milligrams per day to help prevent future oral herpes cold sore outbreaks. Lysine for cold sores is a well-proven and effective treatment when taken internally. However, it has not shown much value as a topical treatment [3]. One double-blind, placebo-controlled study followed 52 participants with a history of herpes flare-ups. While receiving 3 g of L-lysine every day for 6 months, the treatment group experienced an average of 2.4 fewer herpes flare-ups than the placebo group—a significant difference. The lysine group's flare-ups were also significantly less severe and healed faster [4]. Another double-blind, placebo-controlled crossover study on 41 subjects also found improvements in the frequency of attacks. Interestingly, this study found that 1,250 mg of lysine daily worked, but 624 mg did not [5].

Zinc

Zinc lozenges or nasal sprays are thought to be effective for fighting the viruses that cause colds. A recent study suggests that topical zinc may be helpful for herpes infections of the mouth and face as well. Zinc salt solutions applied to herpetic lesions decrease viral load and markedly improve healing rates, relieving the signs and symptoms of herpes as healing occurs. Zinc ions irreversibly inhibit HSV glycoprotein functions by accumulating in the sulfhydryl groups of glycoprotein B in the viral membrane, blocking synthesis of DNA [6].

Oral administration of 23 mg zinc (sulfate) and 250 mg vitamin C, each twice daily for six weeks, to an

unspecified number of patients appeared to reduce the duration and severity of herpes simplex outbreaks during the supplementation period. It was suggested that this treatment be considered for prophylaxis prior to sun exposure for patients who experience sun-induced herpetic outbreaks [7]. In some studies of patients with AIDS, oral or intravenous zinc supplementation has resulted in clinical improvement, but has also unmasked latent herpetic infections. Therefore, it is recommended that AIDS patients receiving zinc therapy also be treated with acyclovir. Although the studies using oral zinc supplementation were not placebo-controlled, zinc may be considered as part of an overall immune-enhancing program for patients with recurrent herpes simplex infections. Long-term zinc supplementation should be accompanied by a copper supplement (1-4 mg daily, depending on the zinc dose), in order to prevent zinc-induced copper deficiency [8].

Vitamin C: Vitamin C would help to eliminate one of the causes of a flare up or overgrowth of this latent herpes virus. It must be noted that the herpes virus is indigenous to some degree in the normal flora of our mouths and genitalia. High doses of Vitamin C are very effective in both the treatment and prevention of recurrent herpes labialis [9]. One study suggests that topical treatment with a vitamin C solution may speed healing of oral herpes outbreaks. It showed that vitamin C, which is an antioxidant, would last longer in the presence of flavonoids that kept it from oxidizing - that is, antioxidant flavonoids protecting antioxidant vitamin C [10]. Ascorbic acid has been shown to inactivate a wide range of viruses in vitro, including Herpes simplex virus, and to enhance immune function. As early as 1936, vitamin C was reported to be of value in the treatment of Herpes simplex. Klenner stated in 1949 that administering massive parenteral doses of vitamin C accelerated the healing of herpes lesions [11].

In a small, double-blind trial, patients with herpes simplex outbreaks received 200 mg ascorbic acid and 200 mg water-soluble flavonoids (apparently from citrus) three times daily for three days or a placebo. Randomization was not specified. The mean time until remission of symptoms was 57-percent shorter in the active-treatment group than in the placebo group (4.2 versus 9.7 days; $p < 0.01$). Treatment was most effective when initiated during the prodromal stage. The importance of flavonoids as a component of this treatment is uncertain, although several different flavonoids have demonstrated antiviral activity against HSV-1 in vitro. Thus, supplementation with vitamin C, with or without flavonoids, appears to be a worthwhile treatment for Herpes simplex. Although a relatively low dose of vitamin C was effective in the study described above, clinical observations suggest that the antiviral effect of vitamin C is more pronounced at higher doses. For treatment of an acute episode, up to 10,000 mg per day or more, according to bowel tolerance, for 5-10

days might be considered. For long-term prophylaxis, 500-3,000 mg vitamin C daily is reasonable for most patients, although there have been no studies evaluating the effect of vitamin C prophylaxis [12].

Vitamin E

In uncontrolled trials, topical application of vitamin E relieved pain and aided in the healing of oral herpetic lesions (gingivostomatitis or herpetic cold sores). In two studies, the affected area was dried and cotton saturated with vitamin E oil (20,000-28,000 IU per ounce) was placed over it for 15 minutes. Pain relief occurred within 15 minutes to eight hours, and the lesions regressed more rapidly than usual. In some cases, a single application was beneficial, but large or multiple lesions responded better when treated three times daily for three days [13]. In another study of 50 patients with herpetic cold sores, the content of a vitamin E capsule was applied to the lesions every four hours. Prompt and sustained pain relief occurred and the lesions healed more rapidly than expected [14].

Lithium

Preliminary evidence suggests that oral or topical lithium is beneficial. Lithium inhibited the replication of HSV-1 and HSV-2 in vitro at concentrations that did not inhibit host cell replication. In case reports and observational studies, treatment with lithium carbonate for depression or other psychiatric problems was associated with a reduction in the frequency of herpes simplex outbreaks. In contrast, treatment with other antidepressants had no effect on the rate of herpes simplex infections [15]. An ointment containing eight-percent lithium succinate was evaluated in a double-blind study of 73 patients with recurrent oral herpes simplex infections. The lithium preparation or a placebo was applied topically four times daily for seven days, beginning within 48 hours of the onset of lesions. Compared with placebo, the lithium ointment reduced the median duration of pain (4 versus 7 days; $p < 0.05$), but not the time to complete healing. Although the authors of the study attributed the beneficial effect of the ointment to its lithium content, the product also contained 0.05-percent zinc sulfate, which may have been responsible for all or part of the improvement. Because of its potential to cause side effects and the absence of controlled trials demonstrating efficacy, oral lithium should not be considered a primary treatment modality for patients with recurrent Herpes simplex. Further research is needed to determine whether topical lithium preparations are effective [16].

Dulse Plant

Turning to specific herbal treatments of cold sores, the true and common dulse plant is extremely effective. It improves common cold symptoms as well. Eat about half an ounce of the plant daily. The herb's botanical name is *Halymenia edulis* and *palmeata* [17].

Melissa officinalis

More commonly known as lemon balm, *Melissa officinalis* is widely sold as a topical cream for the treatment of genital and oral herpes. Extracts of the leaves of lemon balm (*Melissa officinalis*) have been investigated as a topical treatment for herpes simplex. Sixty-six patients with a history of recurrent herpes labialis (at least four episodes per year) were randomly assigned to apply, in double-blind fashion, a standardized 1% lemon balm cream (70:1 extract of leaves) or placebo cream to the affected area four times daily for five days. On the second day of therapy, the symptom score was significantly lower in the active-treatment group than in the placebo group (4.03 versus 4.94; $p = 0.042$) [18]. In another randomized, double-blind trial, 116 patients with an acute herpes simplex outbreak applied the same lemon balm cream as in the previous study or a placebo cream. Treatment began within 72 hours of the onset of symptoms and administered 2-4 times daily for 5-10 days. Healing was assessed as "very good" by 41 percent of patients in the lemon balm group and by 19 percent in the placebo group ($p = 0.022$) [19].

Larrea

Larrea extracts applied topically have healed oral and facial blisters in less than 24 hours, where symptoms would normally last 3-7 days. Larrea preparations taken internally have reversed the symptoms of shingles and prevented recurrent outbreaks. HIV-positive people have used Larrea extracts topically to shrink lesions caused by ongoing Kaposi's sarcoma on their feet or legs within 1-2 weeks of daily application. HIV-positive people have used Larrea both topically and internally to clear lesions from severe, ongoing cold sores, genital herpes infections, and shingles, and to prevent subsequent outbreaks. Recent studies have shown that Larrea extracts eliminated the growth of herpes viruses in cultured cells of humans and monkeys, whereas cells in cultures that were grown without Larrea extracts were destroyed by viral infection within 72 hours [20].

Calendula

Calendula (Marigold) comes in an ointment or non-alcoholic liquid form. It can be used topically or as a rinse. It is by far one of the most dramatic healing natural substances for oral and perioral tissue irritations or lesions [21].

Sage & Rhubarb

It is incorrectly called Russian or Siberian ginseng, has shown promise for the treatment of herpes. A double-blind trial of 149 individuals with recurrent oral herpes compared the effectiveness of cream containing Zovirax against cream containing the herbs sage and rhubarb, and cream containing sage alone. The combination of sage and rhubarb proved to be equally

effective to Zovirax cream; sage by itself was less effective [22].

Tea Tree Oil

The next and perhaps the most recent addition to the Western's world armamentarium against the cold sore is Australia's so-called Tea Tree Oil. The aborigines in Australia call the Melaleuca tree the healing tree. It is now known as the tea tree. It is recommended to dab pure tea tree oil onto the herpes lesion three times a day. Even the Food and Drug Administration recognizes this substance's usefulness and considers tea tree oil to be a natural antiseptic and fungicide.

Eucalyptus Oil

It can be used the same as tea tree oil for basically the same results [23].

Aloe Vera

Aloe latex contains anthraquinones, which are chemical compounds that are used in healing and arresting pain because they are anti-inflammatory in nature. Its antiviral properties help in the treatment of cold sores (Herpes Simplex) and shingles (Herpes Zoster). The succulent aloe plant is famous as a treatment for burns and minor wounds [24].

Holly/Walnut Flower Essence

It is said to be a very potent combination to cure herpes [25].

Apple Cider Vinegar

It is said to be a wonderful topical solution for cold sores. Dab it on straight with a Q-tip at the first sign of an eruption and continue to do so at regular intervals until vesicles are resolved.

Acetone

Dab a Q-tip with acetone on any cold sore several times a day, and keep the area dry with cornstarch for a very effective herpes treatment.

Alcohol

The old cold sore standby has a solid reputation for good reason. Vodka works just as well, if not better, than ordinary rubbing alcohol.

Alum

It is said to be an amazing cure for cold sores. It dries out cold sores practically overnight. Just put it on every two or three hours until completely healed [26].

Colloidal Silver

It used externally works very well. Also of course taken internally it has powerful anti-viral properties as well.

Bitter Melon

It is reported to work wonders for subduing cold sore outbreaks.

Acidophilus

It is claimed on taking a few capsules of acidophilus at the onset of an outbreak, it will never happen. It can be taken daily for constant protection as well [27].

Propolis

Another natural anti-viral substance is propolis. Propolis is a resinous substance produced by bees. If a foreign body or infected insect enters their hive, they secrete and cover the insect with gelatinous propolis. Bees do not get infections and this defensive use of propolis may be the main reason. British literature describes the chewing of propolis chips about forty years ago to eliminate sore throats in children. This substance can be taken orally in the form of capsules, tablets or in these chewable chips. The most useful form for oral or perioral problems is in an extract or tincture. It can be applied topically at night on the lesion [28].

Garlic

The next, and perhaps least exotic herb used to combat viruses, is the magnificent and odiferous garlic plant. Garlic has been referred to as the "poor man's antibiotic" and has helped the populace of many underdeveloped regions in the Middle East. It can be eaten raw or cooked. It can be applied topically in liquid form, or it can be taken internally as a liquid in a capsule or in a dry dehydrated form [29].

Acupuncture

Acupuncture is extremely effective against shingles if treatment is initiated within a few days of its onset. It is quite possible that acupuncture could be helpful against herpes simplex lesions as well. It certainly would be another self-healing, non-invasive attempt [30].

Adenosine Monophosphate

Adenosine monophosphate (AMP) is a purine nucleotide that is an intermediate in cellular metabolism and nucleic acid synthesis. In humans with herpes simplex infections, blood levels of AMP were found to be consistently low. Thirty-six patients (ages 16-50 years) with recurrent herpes labialis were treated with a series of intramuscular AMP injections. Each injection contained 1.5-2.0 mg AMP per kg body weight and was administered every other day for a total of 9-12 treatments. Prior to the start of treatment, the mean recurrence rate had been 6.3 episodes per year and 20 patients had been experiencing recurrences for more than five years. After the treatment was begun the lesions healed rapidly. During follow-up

periods ranging from one month to over two years, 23 patients (63.9%) remained free of recurrences and nine (25%) were recurrence-free for more than one year. The other 13 patients had only one mild episode each, with lesions restricted to the maculopapular stage and lasting no longer than 2-3 days. This author has administered a series of 10 intramuscular AMP injections (usually 100 mg per injection) to 10 patients with recurrent herpes simplex infections [31]. The most gratifying response occurred in a 32-year-old woman who had been suffering from recurrent herpes simplex infections for four years. The outbreaks had become progressively more frequent to the point that she was experiencing at least one herpes lesion on some part of her body on most days. Within forty-eight hours after the first of 10 injections, the lesions had essentially disappeared and there was only one recurrence during the next 15 months. Intramuscular AMP injections occasionally cause transient chest pain. Although this pain is not of cardiac origin, it can be frightening. Chest pain can usually be prevented by injecting half the dose, waiting 20 minutes, and then administering the other half. Care should be taken to ensure the needle is not in a vein, because rapid intravenous injection of adenosine, a related compound, is known to cause cardiac arrhythmias and other side effects. At the time of this writing, AMP for intramuscular administration is available only through compounding pharmacists [32].

Homeopathy

They are the homeopathic remedies. Two other remedies that have been reported to be helpful against cold sores are Thuja and *Natrum muriaticum*. They are usually found in the form of white pillules but may also be prepared in solutions or tinctures. These remedies are administered sublingually (under the tongue) [33].

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Dietary Factors

Ingestion of large amounts of refined carbohydrates impairs certain parameters of immune function. In healthy humans, acute ingestion of 75 g of glucose significantly depressed cell-mediated immune function after 30 and 60 minutes. Although the relationship between refined-carbohydrate intake and susceptibility to herpes simplex has not been investigated, many patients have observed that herpetic lesions recur when they eat too many sweets. In some cases, ingestion of even small amounts of refined sugar appears to trigger an exacerbation. Restriction of refined-carbohydrate intake should, therefore, be considered on a case-by case basis [34].

CONCLUSION

There are a number of natural options available for the prevention and treatment of herpes simplex infections. Dietary modifications, although based mainly on anecdotal reports or theoretical grounds, might help prevent recurrences. These would include restricting refined-sugar intake, identifying and avoiding allergenic foods, and emphasizing foods high in bioavailable lysine. Reducing intake of high-arginine foods may be considered if the clinical history suggests that eating such foods precipitates outbreaks.

Natural remedies that show promise either for prophylaxis or treatment include lysine, vitamin C, zinc, vitamin E, adenosine monophosphate, and lemon balm. Future research should investigate whether using these substances in combination would be more effective than using them individually.

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