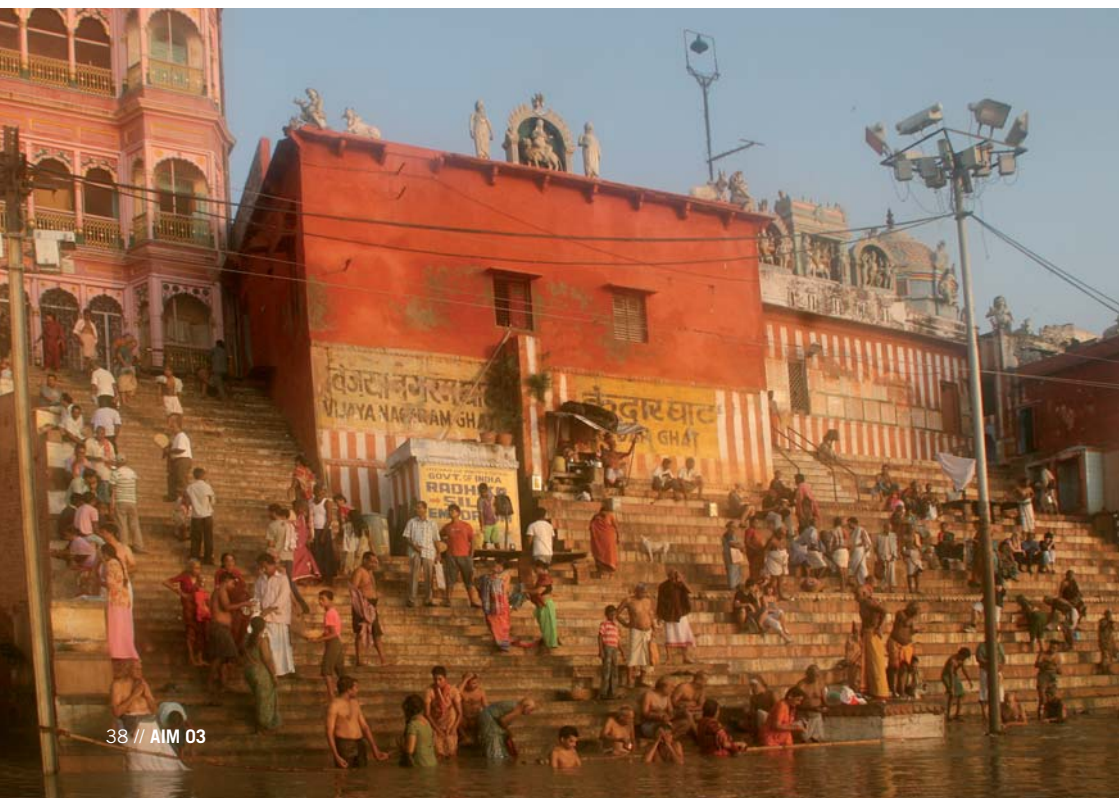


Herbal medicines and dentistry: Herbs and Treatment

TEXT: Dr. Saurabh Lall and Dr. Anu Aggarwal

From time immemorial, generations in India and other countries have grown up hearing the grand Hindu Epic “Ramayana”. In this world famous epic of the Hindi poet Tulsidas, there is a description of a wonder herb called the “Sanjeevani booti” (Life giving herb), which according to the popular belief had given life to the dying “Laxmana”, the younger brother of Lord Shree Rama. Since then, the question of existence of such life-giving herbs has been floating in the minds of people. According to the Ramayana, the Sanjeevani booti is found in the Indian Himalayas and has the unique property of bioluminescence, which helps in its easy identification.



In Hindu mythology, Sanjeevani is a magical herb which has the power to cure every known and unknown malady. It is believed that medicines prepared from this herb can even revive a dead person. This herb is mentioned in the Ramayana when, during the battle with Ravana (the King of Demons), Lakshmana was wounded and nearly killed by Ravana's son Meghnaad. Hanuman was called upon to fetch this herb from the Dronagiri mountain in the Himalayas (currently in Uttarakhand State of India). Upon reaching Mount Meru, Hanuman was unable to identify the herb and decided to lift the entire mountain and brought it to the battlefield. Herbal medicine or "natural remedies" for dental care have been around for centuries, only now there is research to prove if they are effective or just old wives tales. Herbs with medicinal properties are a useful and effective source of treatment for various disease processes.

Applications of herbal medicines

- **Fluoride**, a naturally occurring mineral has been proven to protect teeth from decay.
- **Non-alcohol mouthwashes**: Alcohol dries out the mouth which can cause discomfort and create an environment for more plaque to thrive.
- **Tea**: Wet tea bags can give relief from canker sores, swollen gums, toothaches and stop bleeding after extraction.

- **Cold sores**: A diet high in lysine and low in arginine has been found to be helpful. In vitro studies indicate that the amino acid arginine is required by the herpes virus to replicate. Since lysine competes with arginine for intestinal transport, a diet rich in lysine (brewer's yeast, legumes, dairy, wheat germ, fish and meat) and low in arginine may have an antiviral effect. Chocolate, peanuts and almonds are high in arginine and should be avoided. In addition to dietary changes, lysine supplements are recommended. A dose of 1,000 mg taken three times a day has been shown to be effective. This approach is not curative but can help prevent recurrences.



- **Green tea halts growth of oral cancer cells and kills existing oral cancer.** Ingesting or swishing with green tea introduces the tea polyphenols to the oral cancer cells which may be present in the mouth. The polyphenols are antioxidants, which work to remove the free radicals (*oxidants*) that cause mutation of genes, which may lead to cancerous growth to prevent gene mutations from the actions of the oxidants and cause cell death in cancerous cells without harming the normal cells. They can also inhibit the growth and spread of cancerous cells. The mouth's

mucous lining must be exposed to four to six cups of green tea a day. This study suggesting the use of green tea as a beverage or in oral health and skin care products is likely to be beneficial in helping to prevent oral cancer.

- **Zinc:** Available in lozenges to relieve the pain of a sore throat. Topical applications of zinc can reduce symptoms and prevent cold sores recurrences. It is applied directly to the skin at the site of the flare-up. Zinc can also be used to help alleviate cold and flu symptoms.

- **Lemon Balm:** Lemon balm cream pro-



Fig. 1: Barberry Bark to treat bad breath. – **Fig. 2:** Valerian is used to calm nervous patients. – **Fig. 3:** Aloe Vera gives benefits to the skin such as vitamins and amino acids. – **Fig. 4:** Tea prevents periodontal disease.

moted the healing of cold sore blisters in five days.

- **Honey:** Has enzymes that contain anti-bacterial quality phytochemicals which act as antioxidants to prevent the erosion of tissue surrounding teeth as a result of an infection. Caution, honey can vary widely in the potency of its antibacterial agents and should not be given to children under two years of age.

- **Plant Aloe vera:** Anti-viral and anti-inflammatory properties, Aloe vera provides additional benefits to the skin, such as amino acids, B1,B2,B6 and C vitamins. Dentists recommend patients to consume Aloe vera juice to treat various internal ulcerations of the mouth, including aphthous ulcer, lichen planus and oral mucus membranes. Recent findings show that Aloe vera cleared up oral lesions associated with lichen planus better than any other traditional treatment.

- **Oil of calendula:** For mouth wounds like cold sores.

- **Plant-derived amica** can be useful to patients after a tooth extraction or after oral surgery. It responds to minor trauma

- **Valerian** (Gilgiti valerian in Hindi and Mushk bala and Risha wala in Urdu): Used to calm nervous or anxious patients who are interested in an alternative to nitrous oxide.

- **Barberry Bark, Myrrh Gum:** To treat bad breath.

- **Horehound:** To treat acute or chronic sore throats and coughs.



- **Speedwell:** To gargle for mouth and throat sores

- **Echinacea Root:** To treat strep throat.

- **More Tea, Less Cavities:** Drinking black tea can help prevent gum disease and fight cavities by rinsing your month with black tea. Rinsing for 1 minute, 10 times a day resulted in a decrease in plaque build-up. The chemicals in black tea, called polyphenols, suppress the growth of cavity-causing bacteria in plaque and reduce acid production levels. So drinking black tea could reduce the number of cavities and prevent periodontal disease.

- **Natural Whitening:** Brush with normal toothpaste and rinse as usual. Dip the brush into baking soda and brush again with it for one full minute. Rinse with mouthwash. Once Weekly: Substitute the following regimen for one brushing each week—mix two teaspoons of baking soda with enough hydrogen peroxide to make a thick paste, brush and allow the mixture

to remain on your teeth for at least two minutes. Do not swallow this mixture, Rinse and brush again with your regular toothpaste.

- **Hibicleans OTC** and dilute a 4oz bottle with a gallon of water, it has the same effects as chlorhexidine.

Interactions

Blood thinners, such as the popular Ginkgo biloba can interact with aspirin leading to prolonged bleeding time. Patients taking ginkgo may bleed through their gums, and the product may cause uncontrollable bleeding or speed up existing gum diseases.

The following herbal medications can also cause an increase in bleeding when combined with prescription or over the counter drugs...Garlic, Melilot, Sweetwoodruff, Horse Chestnut, Cinnabar root, Alfalfa, Dong quai, Barberry, Goldenseal, Oregon grape, Feverfew and Bromelains. These herbs increase the action of blood thinners Coumadin, Warfarin and other coumadin anticoagulants.

Vitamin C, when taken in the thousands of grams can cause problems and weaken the efficiency of anesthesia. Calming supplement, such as Kava Kava or St. John's Wort and Valerian can enhance the effects of the anesthesia to cause problems. It is recommended to gradually discontinue the use.

Dandelion and bearberry are both herbal supplements that are said to work as a diuretic. These can interact with and over-enhance the effects of prescription diuretics, which can lead to dehydration, loss of potassium in the body, and even disrupt heart-rhythm.

Echinacea—possible problems with allergic reactions, decreased effectiveness of immunosuppressants and possible immune suppressant with long-term use.

Ginseng can cause bleeding and hypoglycemia by lowering blood sugar. It is recommended to discontinue ginseng use at least seven days prior to surgery. Avoid mixing with:

- Warfarin (*Coumadin*), an anticoagulant—this combination could cause bleeding problems.
- Phenelzine sulfate (*Nardil*), an antidepressant—might cause headaches, trembling or manic behavior.
- Digoxin (*Lanoxicaps, Lanoxin*)—might interfere with its pharmacologic actions.

Cassia cinnamon can decrease the effectiveness of tetracycline by up to 80%. Tetracycline can be used to help treat gum disease.

St John's Wort can cause drowsiness and sensitivity to light. It interferes with the effectiveness of other drugs such as Versed,



Fig. 1: *Echinacea* root is used to treat strep throat. – **Fig. 2:** *St John's Wort*.

Valium and Halcion, Coumadin and digoxin and Tylenol. Due to its ability to diminish the actions of other drugs it is recommended to discontinue its use five days prior to surgery. Avoid mixing it with:

- Antidepressants—combination of SJW with some antidepressants, such as selective serotonin reuptake inhibitor, may cause excess of serotonin. Typical symptoms include headache, stomach upset and restlessness.
- Indinavir sulfate (*Crixivan*), a protease inhibitor used to treat HIV.
- Digoxin (*Lanoxicaps, Lanoxin*), a drug used to increase the force of contraction of heart muscle and to regulate heartbeats.
- Theophylline (*Slo-bid, Theo-Dur*), an asthma medication.
- Cyclosporin (*Neoral, Sandimmune, SangCya*) an immunosuppressant

Valerian: Potential to enhance the sedative effects of agents used in general anesthesia. It is recommended to discontinue the

use of valerian prior to anesthesia. If someone is taking large doses of this medication, it is not recommended to abruptly discontinue this medication, but slowly decrease taking this herb in order to prevent withdrawal symptoms.

Avoid mixing Cayenne with:

- Angiotensin-converting enzyme (*ACE*) inhibitors, drugs used for diabetic kidney disease, heart failure, high blood pressure.
- heophylline (*Slo-bid, Theo-Dur*), an asthma medication.

Precautions

Sanguinarine is not recommended due to its links to predisposing gum tissue to oral cancer. **People with heart conditions** should be especially careful to avoid stimulants. The herb ma huang, known as ephedra, has been associated with stroke, heart attack, and sudden death. Ma huang is a herbal source of ephedrine, a powerful stimulant found in weight-loss and energy

supplements. Agrimonia eupatoria, Agropyrum repens, Alchemilla arvensis, Alisma plantago, Anacyculus purethrum, Bearberry, Black cohosh, Hawthorn, Sassafras, Dandelion and Viola tricolor can cause hypotension when taken with medications prescribed for **hypertension**. Caution needs to be used when getting out of the dental chair after being in a laid-back position.

The FDA Center for Food Safety and Applied Nutrition notified of the potential **risk of severe liver injury** associated with the use of kava-containing dietary supplements. Supplements containing the herbal ingredient kava are promoted for relaxation (e.g., to relieve stress, anxiety, and tension), sleeplessness, menopausal symptoms and other uses. Kava-containing products have been associated with liver-related injuries, including hepatitis, cirrhosis, and liver failure. Kava can be listed under different names: Piper Methysticum, Ava pepper, Sakau and Tonga. Given these reports, persons who have liver disease or liver problems, or persons who are taking drug products that can affect the liver, should consult a physician before using kava-containing supplements. **Herbal tea may be harmful to teeth**. Dentists have warned herbal tea lovers that their favorite drink may be harming their teeth. According to a report published in the *Journal of Dentistry*, herbal tea can erode the protective layers

of enamel that surround every tooth. It may be a healthier alternative to the more traditional cup of tea. Many of the teas they tested were acidic enough to erode tooth enamel. They also found that some were up to three times more acidic than fruit juice. It was suggested to avoid herbal and fruit teas.

Recommendations before undergoing dental surgery:

If you use any of these herbal medications stop taking them:

- ***Ephedra at least 24 hours before surgery.***
- ***Garlic seven days before surgery.***
- ***Ginkgo 36 hours before surgery.***
- ***Ginseng seven days before surgery.***
- ***Kava 24 hours before surgery.***
- ***St. John's Wort five days before surgery.***

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