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Mouth Ulcer Relief: Herbs Offer Natural Solution

Sonal Phadatare[1*], Jyoti Soundarmal[2], Madhavi Sathe[3]

Student[1*], Assistant Professor[2], Student[3]

Department of Pharmacology[2]

[1]Alard collage of Pharmacy, Marunji-Hinjewadi Pune, India

Abstract: Mouth ulcers are a widespread and disabling illness occurring in millions across the globe. This review is intended to present an overview of the established knowledge regarding mouth ulcers, such as causes, symptoms, and treatment, at the present time. Mouth ulcers refer to painful sores that cause lesions on the mucosal lining of the mouth, resulting in pain and speaking and eating difficulty. This review indicates the possibilities of medicinal plants in their management. Traditional therapies such as topical creams and oral steroids are widely practiced, but increasing attention is being drawn to alternative forms of therapy, especially the utilization of herbal plants, because they have healing effects and very little side effect. Herbal medicines are a promising and natural remedy for the treatment of mouth ulcers, and flavonoids, essential oil, alkaloids are responsible for their therapeutic activity. Special emphasis is given to the use of medicinal plants in the management of mouth ulcers, citing their anti-inflammatory, analgesic, and antimicrobial activities. The plants have bioactive compounds that can speed up healing, alleviate pain, and inhibit secondary infections in the ulcer site.

Keywords: Mouth ulcer, natural remedies, antiulcer activity, Medicinal plants

I. INTRODUCTION

Oral health greatly influences the overall quality of life, and chronic conditions and systemic diseases are greatly influenced by poor oral health. Herbal medicine has been used in the oral cavity for the treatment of various diseases.11 Over 700 bacterial species have been identified in the oral cavity .[1]

A mouth ulcer also known as an oral ulcer, or a mucosal ulcer is an ulcer that appears on the mucous membrane of the oral cavity. They are tender round or oval sores that develop in the mouth, primarily on the inside of the cheeks or lips. Frequent causes of ulcers in the mouth are deficiency of iron, vitamins particularly B12 and C, improper oral hygiene, infections, stress, indigestion, mechanical trauma, food allergies, hormonal disturbance, skin disorder etc. Ulcers in the mouth or aphthous ulcers can hurt during eating, drinking or while brushing teeth. [2]

Minor aphthous ulcers are the most prevalent type of aphthous ulcers (80%) with major aphthous ulcers next, while herpetiform ulcers are the least. The ulcerative disorders of oral cavity have a number of different causes, though their management commonly consists of minimization of pain, shortening duration, avoiding secondary infection and recurrence. Therapy could include utilization of local anesthetic agents applied topically, steroids both systemically and topically, mouth rinses, antibiotics for secondary infection, cautery, lasers, or a combination of all of these. [3]

Trauma to the oral cavity is among the leading common etiologies of recurrent oral ulcers. This leads to mechanical, chemical, or thermal irritation of the mucosa. These are typically acute transient processes that cause painful ulcers, which heal with ease in a few weeks without leaving a scar. The ulcers may even be recurrent if the offending stimulus is not removed. [4]

oral ulcer can be categorized as trauma, recurrent aphthous stomatitis, Behcet's disease, bacterial and viral infections depending on their progression. Synthetic drugs can treat mouth ulcers, but there is also great influence exerted by herbal medicine in treating mouth ulcers.[5]

Mouth ulcers are typically shallow, oval or round ulcers with a yellowish or white center and a red border. Mouth ulcers may be mild and transient or severe, and may disrupt eating, drinking, and speaking. Treatment is often symptomatic and supportive, involving the application of topical agents, analgesics, and occasionally oral medications, depending on the etiology. [6]

fig : mouth ulcer

SYMPTOMS:

Symptoms of a mouth ulcer depend on the cause but may include

- One or more painful sores on the skin lining the mouth.
- Swelling of the skin around the sores.
- Tenderness makes it hard to chew or brush teeth.
- Salty, spicy, or sour foods sting the sores.
- Aphthous ulcers are typically located on the softer lining of the lips, cheeks, sides of the tongue, floor of the back of roof of the mouth, and around the tonsil region. These ulcers are usually no more than 5mm in mouth, diameter. You may have more than one aphthous ulcer simultaneously, and these ulcers may sometimes be connected to each other. [5]

TYPES OF MOUTH ULCER :

Mouth ulcer classify according to :

- ulcer size and
- number of ulcers,

There are three main types of mouth ulcers that are :

- minor,
- major and
- herpetiform: [3]

Minor ulcers	•These are usually small, ranging from 2 to 8 mm in diameter and may take up to 10 to 14 days to clear up.
Major ulcers	•These are bigger, deeper with raised and irregular borders, often 1 cm or more. Healing time ranges from several weeks to months.
Herpetiform ulcers	•Herpetiform ulcers: These are cluster of smaller ulcers, as small as the size of a pinhead [3]

CAUSES:

There is no certain etiology and pathology known for mouth ulcer; though some factors are considered important which include nutritional deficiencies such as iron, vitamins particularly B12 and C, poor oral hygiene, infections, stress, indigestion, mechanical trauma, skin disease etc. [2,4] Certain other factor include such as:

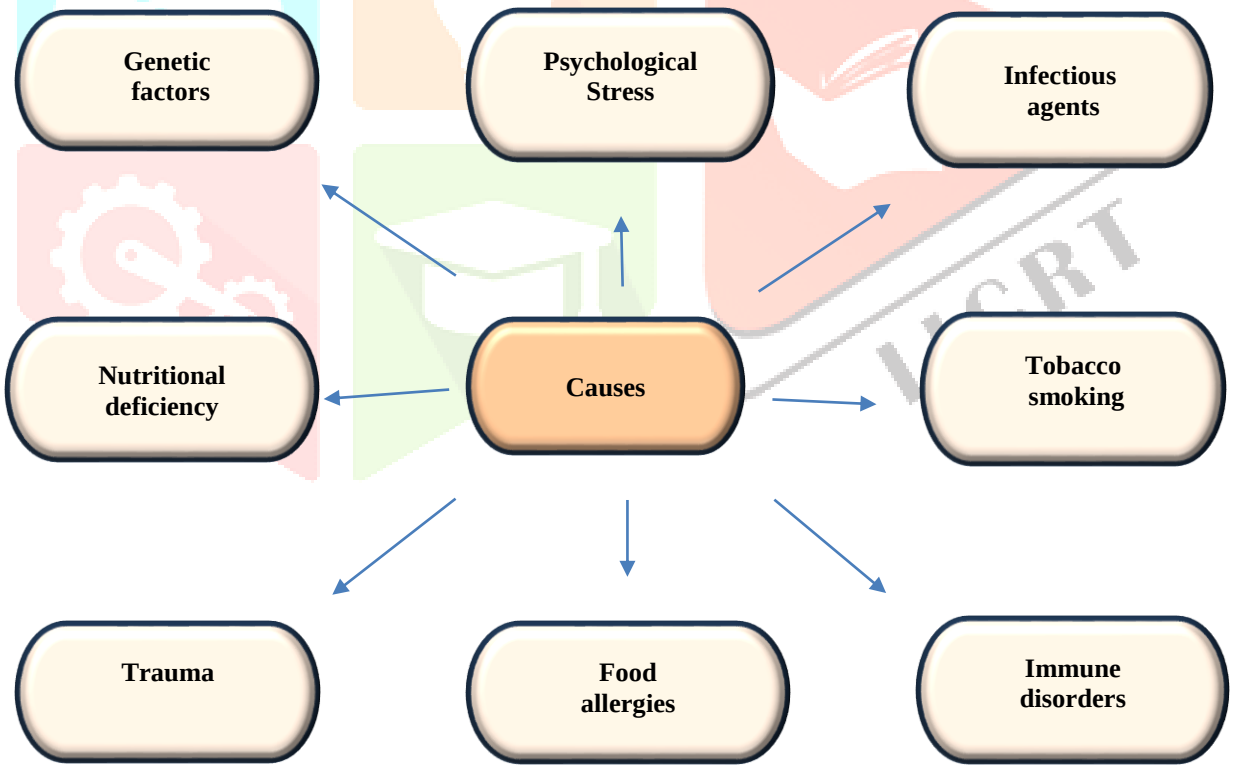

Table : herbs used to treat mouth ulcer

Sr.No.	Scientific Name	Common Name	Family	Part Used	Chemical Constituents	Reference
1	Acacia catechu	Khair	Fabaceae	Heartwood	Tannins (catechins), flavonoids, alkaloids, polyphenols	[7]
2	Allium sativum	Garlic	Amaryllidaceae	Bulb	Allicin, sulfur compounds, antioxidants	[8,9]
3	Aloe barbadensis	Aloe Vera	Asphodelaceae	Leaf Gel	Anthraquinones, polysaccharides, vitamins, enzymes	[10,11]
4	Azadirachta indica	Neem	Meliaceae	Leaves, Bark	Azadirachtin, nimbolide, flavonoids	[11]
5	Bauhinia variegata	Orchid Tree / Kachnar	Fabaceae	Bark, Leaves	Flavonoids, saponins, tannins	[12]
6	Camellia sinensis	Tea Plant	Theaceae	Leaves	Catechins, caffeine, theanine, flavonoids	[13]
7	Capsicum annuum	Bell Pepper / Chili Pepper	Solanaceae	Fruit	Capsaicin, carotenoids, vitamins, flavonoids	[14]
8	Carica papaya	Papaya / Pawpaw	Caricaceae	Fruit, Leaf, Seed	Papain, chymopapain, vitamins, flavonoids	[15]
9	Chamomilla recutita	German Chamomile	Asteraceae	Flower	Chamazulene, bisabolol, flavonoids	[16 ,17]
10	Cinnamomum verum (Cinnamon)	Cinnamon	Lauraceae	Bark	Cinnamaldehyde, eugenol, tannins	[18]
11	Citrullus lanatus	Watermelon	Cucurbitaceae	Fruit	Citrulline, lycopene, vitamins A and C	[19]
12	Cocos nucifera	Coconut	Arecaceae	Fruit, Oil, Water	Lauric acid, capric acid, carbohydrates, vitamins	[20]
13	Commiphora myrrha	Myrrh	Burseraceae	Resin	Myrrh, terpenes (fragrant oils), sesquiterpenes	[21]
14	Curcuma longa	Turmeric	Zingiberaceae	Rhizome	Curcumin, essential oils, flavonoids	[22]

Sr.No.	Scientific Name	Common Name	Family	Part Used	Chemical Constituents	Reference
15	Echinacea purpurea	Purple Coneflower	Asteraceae	Root, Flower, Leaf	Alkylamides, polysaccharides, flavonoids	[23]
16	Embelia ribes	Indian Wonderberry / Vidanga	Myrsinaceae	Fruit, Seed	Embelin, flavonoids, tannins	[24]
17	Ginseng (Panax ginseng)	Ginseng	Araliaceae	Root	Ginsenosides, polysaccharides, panaxans	[25]
18	Glycyrrhiza glabra	Licorice	Fabaceae	Root	Glycyrrhizin, flavonoids, triterpenoids, saponins	[26,27]
19	Jasminum grandiflorum	Spanish Jasmine / Common Jasmine	Oleaceae	Flower	Jasmines, flavonoids, volatile oils	[28]
20	Morinda citrifolia	Noni	Rubiaceae	Fruit, Leaf	Anthraquinones, scopoletin, proxeronine, vitamins	[29]
21	Nigella sativa	Black Seed / Black Cumin	Ranunculaceae	Seed	Thymoquinone, essential oils, fatty acids	[30]
22	Ocimum tenuiflorum	Tulsi / Holy Basil	Lamiaceae	Leaf	Eugenol, flavonoids, essential oils	[11]
23	Olea europaea	Olive	Oleaceae	Fruit, Oil	Oleuropein, hydroxytyrosol, oleic acid, flavonoids	[31]
24	Panax notoginseng	Sanchi Ginseng / Notoginseng	Araliaceae	Root	Ginsenosides, saponins, polysaccharides	[32]
25	Piper betel	Betel Leaf	Piperaceae	Leaf	Piperine, essential oils, alkaloids	[33]
26	Potentilla tormentilla	Tormentil	Rosaceae	Root	Tannins, flavonoids, gallotannins	[34]
27	Psidium guajava	Guava	Myrtaceae	Leaf, Fruit	Flavonoids (quercetin), carotenoids, tannins	[35]
28	Punica granatum	Pomegranate	Lythraceae	Fruit, Peel, Seed	Punicalagins, ellagic acid, flavonoids, anthocyanins	[36 ,37]
29	Rosmarinus officinalis	Rosemary	Lamiaceae	Leaf	Rosmarinic acid, ursolic acid, essential	[38]

Sr.No.	Scientific Name	Common Name	Family	Part Used	Chemical Constituents	Reference
					oils (eucalyptol, camphor)	
30	Salvia officinalis	Sage	Lamiaceae	Leaf	Rosmarinic acid, thujone, flavonoids, essential oils (thymol, camphor)	[39]
31	Satureja hortensis	Summer Savory	Lamiaceae	Leaf	Carvacrol, thymol, flavonoids	[40]
32	Terminalia chebula	Chebulic Myrobalan	Combretaceae	Fruit	Tannins, chebulic acid, flavonoids, anthraquinones	[41]
33	Zingiber officinalis	Ginger	Zingiberaceae	Rhizome	Gingerol, shogaol, zingerone, essential oils	[42 ,43]

CONCLUSION :

This review points out the major contribution of medicinal plants in the healing of mouth ulcers, and how their efficacy in healing cannot be ignored. Herbal medicines are regarded as one of the best treatments for mouth ulcers because they contain naturally occurring chemical entities like flavonoids, alkaloids, and essential oils, which have been found to possess anti-inflammatory, analgesic, and antimicrobial activities. These compounds are responsible for the herbs' medicinal properties, providing an all-natural and healthy substitute to traditional treatments with fewer side effects. The medicinal property of these plants is mainly the fact that they are compatible with the human organism, such that they are a great choice for the treatment of mouth ulcers. In summary, the review elucidates in a clear manner that medicinal plants, due to their specific phytochemicals, are very effective in the management of oral ulcers and have a promising and natural mode of treatment.

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