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A Review on Mouth Ulcer and Its Various Treatment

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Review Article

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ABSTRACT

An oral ulcer is a sore that develops on the oral cavity's membrane. “A breach within the mucosal surface of the buccal cavity,” according to the definition. Ulcers are uncovered sores of the surface or mucous membrane in which inflammatory dead tissue is removed. Despite their significant incidence, the etiopathogenesis of many diseases is unknown. It's frequently painful, and it's accompanied by redness, swelling, and bleeding in the affected area. The mouth ulcer commonly causes pain and discomfort, and it might affect a person's eating preferences as it heals. According to how they present and progress, they might be classed as acute or chronic. Trauma, recurring aphthous stomatitis, Behcet's illness, bacterial and viral infections, allergic reactions, and bad drug reactions are all linked to acute oral ulcers. Chronic oral ulcers are linked to illnesses like oral lichen planus. Mouth ulcers can be treated with a variety of synthetic medications. Herbal medicine, as we all know, is the most popular form of primary healthcare, owing to its cultural acceptability, compatibility with natural objects, and lack of side effects. Canker sores can be treated or prevented with the use of dietary supplements and lifestyle adjustments. Mouth ulcers can be effectively treated using a homeopathic approach. This problem can be entirely treated in a few months with the help of a well-chosen Homeopathic remedy. The therapy for mouth ulcers with homeopathy varies from person to person. Homeopathic remedies for mouth ulcers are very safe to use and show highly promising outcomes.

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INTRODUCTION

Ulcers are recurrent lesions that result in tissue loss. They are relatively common oral mucosa lesions that damage both the mucosa and the underneath connective tissue [1]. Oral ulcers are frequently excruciatingly painful and are a common reason for a doctor's visit. Among the causes are infectious processes, neoplasms, gastrointestinal diseases, blood disorders, rheumatic diseases, immunological diseases, trauma lesions, and other variables. Due to the multiple variables that can cause them, a proper differential diagnosis is required [2].

LITERATUERE REVIEW

Canker sores, first described by Hippocrates in 400 BC, are most generally found in the oral and pharyngeal mucosas, although they could also be observed in the vaginal area. Direct ulceration owing to epithelial necrosis that transcends the basement membrane, exposing nerve endings and generating discomfort or suffering, is the primary lesion, not a vesicle or a blister. If they grow large enough, they may leave a scar when they heal. They appear clinically as painful ulcerations of various sizes, round or oval, with clean margins. A yellowish-white fibrinous exudate covers the necrotic fundus, which is framed by a border or red halo of hyper an EMI origin and has a tendency to relapse [3].

A full-thickness erosion of the epidermis into the dermis is known as an ulcer. Because oral mucous membranes are especially thin membranes that are sensitive to physical and chemical damage, it happens more frequently in the mouth. Allergic, viral, metabolic, nutritional, neoplastic, or systemic disorders can all affect these membranes. A variety of inflammatory illnesses can cause readily eroded vesicles and bullae in the oral mucosa, resulting in erosions and ulcers [4] Oral mucosa ulceration is a common occurrence, resulting in painful ‘‘aphthae," an old name for ulcers of any mucosal surface. Oral mucous membranes are fragile, specialized membranes that are prone to erosion.Painful ulceration is caused by full-thickness epithelial erosion into the lamina propria. The doctor is frequently sought for assessment and treatment of mouth ulcers since they are both prevalent and painful. Minor irritation to cancer and systemic illness are all possible causes. A realistic approach to the clinical management of oral ulcers allows the doctor to assess patients accurately and begin treatment. Oral ulcers are unpleasant and come in a variety of shapes and sizes, including single, numerous, symmetric, and irregular. They typically feature a core friable yellow-white exudative base with a bright erythematous ring. Once an ulcer has formed, it is irritated by saliva and bacteria regularly, and the acute inflammatory stage may be followed by a pattern of chronic inflammation. Oral ulcers have a lot of similarities clinically and histologically, despite the reality that they have a lot of different origins. In determining etiology, an algorithmic method based on length, repetitive nature, morphology, location, and systemic symptoms is effective. Acute oral ulcers last for a short time, and 6 weeks is a good point to distinguish between acute and chronic ulcers. Chronic mouth ulcers can be caused by a wide variety of factors, including malignancy, systemic disease, and various chronic inflammatory or immunological bullous disorders such as pemphigus, paraneoplastic disease, mucous membrane pemphigoid, and lichen planus [5].

Oral mucosa ulcers are prevalent, and patients may report pain or apprehension regarding the source of the ulcer [6]. Although the clinical appearance of mouth ulcers may be similar, the causes might range from minor trauma to infection, cancer, or systemic disease. The presence or lack of systemic symptoms, as well as the duration, pattern of recurrence, clinical appearance, mucosal location, and present or disappearance of systemic symptoms, can all be useful clues in determining the origin of ulceration. The causes of mouth ulcers are discussed in this article. Differentiating between acute and chronic oral ulcers may be the first step in finding the cause.

Acute oral ulcers are episodes that last fewer than 6 weeks and are classified as either solitary or recurring [7].

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Ulcers can be characterized based on I onset time, (ii) number of ulcers and (iii) etiological factors; an ulcerative lesion that lasts longer than two weeks is referred to as a chronic ulcer. Acute ulcers are short-term ulcers that last no more than two weeks and are usually painful [8]. Physical or chemical damage, infectious neoplasia, and immune system abnormalities, particularly autoimmune illnesses, are all common causes of mouth ulcers. Most oral lesions have a simple origin that can be recognized by history and clinical appearance, and many of these lesions could be effectively treated with a range of conservative procedures. Some ulcers, is from the other hand, necessitate a biopsy, culture, or other laboratory techniques for a clear diagnosis and the establishment of a tailored treatment plan [9].

Type of mouth ulcer

Mouth ulcers are categorized as major, minor, or herpetiform based on the size and number of ulcers [10]. The following are the most common forms of mouth ulcers:

Minor ulcers: Minor aphthous ulcers are the most frequent type, accounting for around 80% of occurrences. These are approximately 2-8 mm in diameter and usually clear up in 10 to 2 weeks. These ulcers are often superficial, small in size (less than 1.0 cm in size), few in number, occur alone or in clusters, and heal without scarring [11].

Major ulcers: Major aphthous ulcers, which affect roughly 10% of patients, are the second category. These are larger and deeper in shape, with a raised or uneven border with a diameter of over 1 cm [12]. They might appear as a single lesion or as a group of lesions. Because of the level of necrosis, this form of the ulcer may take many days to recover and can cause complications inside the mouth [13].

Herpetiform ulcers: Herpetiform ulcers, the third category, is a term that refers to the clustered appearance of lesions. This ulcer consists of a cluster of dozens of tiny lesions the size of pinheads. It has nothing to do with the herpes virus. These appear in enormous numbers, ranging from 10 to 100 at a time, and are made up of several tiny lesions that eventually join to form larger plaques. They may heal with a scar in 7 to 30 days depending on the size and depth of the ulcer.

Couse of ulceration

Sores and erosions can be the last common indication of a variety of conditions, ranging from epithelial damage caused by trauma to an immunological attack such as lichen planus, select appropriate, or part of a particular, to damage caused by an immune defect such as Human immunodeficiency virus and leukemia, infections such as viral pathogens, tb, and syphilis, or nutritional deficiencies such as vitamin deficiency [14].

Local causes of ulceration

Chemical burns, heat, ice, or ionizing energy burns, or factitious ulceration of the maxillary group includes, can appear at any age. Ulceration can appear at any age as a result of trauma, hard meals, or equipment. The lingual fraenum can be damaged by brushing the lowest incisors repeatedly as in cunnilingus, or by persistent cough as in rapid coughs, or by self-mutilation. After receiving a dental local anesthetic, children may bite their lower lip, resulting in ulceration. Non-accidental injury can manifest as ulcers of the higher labial fraenum, particularly in a youngster with slightly swollen lips, subluxed dentition, or a fractured jaw [15].

Recurrent oral ulceration trauma: Many of the most frequent causes of recurring mouth ulcers are oral trauma. This happens when the mucosa is irritated mechanically, chemically, or thermally. These are usually acute, short-term episodes that result in painful ulcers that heal quickly and without scarring within a few weeks. If the inciting stimuli are not removed, the ulcers may reoccur. Recurrent oral ulceration can be produced by dental appliances, dentures, and orthopedic devices [16]. Ulcers can be produced by trauma, such as those caused by sharp teeth and tooth edges. In the oral mucosa of children and patients with mental illnesses, self-inflicted lesions can occasionally be seen [17,18] Self-inflicted traumatic ulcers can also be produced by

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improper teeth brushing and biting the tongue or lower lip after anesthesia. Dental prosthetics can cause decubitus sores [19]. Irritation caused by a sharp or fractured tooth is generally obvious. Patients may also unknowingly cause traumatic ulcers by biting the oral mucosa, either by mistake or through habit [20].This commonly happens on the tongue, lower lip, or loose buccal mucosa. Erosion along the bite line, which corresponds to the closing of the abutment teeth, is caused by habitual cheek biting. Cheek biting does not usually create lesions above or below the bite line. Like an effect of exposure to acidic or basic substances, chemical irritation causes ulceration. Nonsteroidal anti-inflammatory medicines, such as aspirin, which patients may keep in their mouths to treat toothache, might cause local ulceration on occasion. Many additional over-the-counter drugs have the same effect on the mucosa when used for extended periods.

Recurrent Aphthous Disease (RAS): RAS also called mouth ulcers, is thought to affect as many as 20% of people in North America. Recurrent aphthous ulcers are usually restricted to the oral mucosa and have a complex origin rather than being caused by a single source. Trauma, smoking, stress, hormonal impacts, heredity, food allergies, infections, and immunologic variables are all thought to be contributing factors [21,23]. Familial and genetic variables, autoimmune factors, hormonal changes, hypersensitivity to particular foods, medicines, blood shortage, zinc deficit, stress, tobacco, local traumas, infectious agents, and numerous systemic disorders have all been implicated in the etiological factors of RAS [24,25].
According to on appearance or medical description, recurrent mouth sores stomatitis can be categorized into two groups. Cooke classified RAS into three types based on morphology to use the first categorization. The most commonly used type of mouth sores ulcer is minor aphthous ulcers, which account for roughly 80% of cases. These ulcers are usually superficial in origin, small in size, few in number, arise alone as well in batches, and heal any scar in around 7 to 10 days. The second kind, large aphthous ulcers, sometimes called peri adenitis mucosal necrotic recurrence or Sutton's disease, affects roughly 10% of individuals. These ulcers are greater in size, typically exceeding 1 cm wide, and can occur alone or in clusters.

INFECTIONS CAUSED BY VIRUSES

Whether the herpes virus contamination is primary or secondary affects the clinical aspects of the virus in the mouth [26].Primary herpetic gingivostomatitis is the name for the initial infection. In very young children, it can be asymptomatic or extremely mild, but it is linked to increasingly severe general symptoms as the patient becomes older. Gingivitis is the first symptom, followed by the production of vesicles that easily rupture, resulting in painful ulcers coated in a yellowish membrane that tends to coalesce after 2–3 days. Lips, tongue, oral mucosa, palate, and pharynx are still the most common locations [27].

Herpes simplex virus 1: Oral ulcers can be caused by a variety of infections. The most prevalent viral cause of ulcers is primary herpes simplex type 1 (HSV-1). The oral mucosa of those who are affected may develop widespread, tiny, superficial ulcers. The gingiva is frequently enlarged and ulcerated, resembling acute necrotizing ulcerative gingivitis. Primary HSV-1 infection commonly occurs in the second or third decade of life, although it was formerly thought to be a childhood disease [28]. Recurrent episodes of herpes labialis occur in about 5% of people with original HSV-1 infection (cold sores). This includes paraesthesia, erythema, vesiculation, pustulation, and ulcers at the lips and/or nose's mucocutaneous junctions. Concurrent sickness, UV light, and pregnancy are all risk factors for herpes labialis [29,30].

Epstein–Barr Virus (EBV): Epstein–Barr Virus (EBV) ulcers are uncommon, however, they can be a symptom of infectious mononucleosis. A few little superficial ulcers of the oral mucosa make up the ulcers. EBV is more commonly linked to the ulcers that accompany various non-lymphomas. Hodgkin's [31] or white spots known as tooth decay hairy leukoplakia (OHL), which can

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develop in immune suppression. OHL has been seen in patients with inflammatory bowel illness who are on immune suppressive medications.

Ulcers caused by fungal infections

Candidiasis: Candidiasis is the most common fungal infection involving the oral cavity and shows a variety of clinical presentations, including ulcération [32]. The usual causative organism, *Candida Albicans,* is present in the oral flora in about 40% of individuals without signs and symptoms of candidiasis. This fungus, however, is capable of causing infection when the oral flora is altered.

Predisposing variables must be evaluated in all cases of candidiasis. Inadequate vertical dimension and ill-fitting dentures are two examples. Systemic variables must be examined in dentulous patients and persistent situations involving edentulous people. Intractable mucocutaneous candidiasis is common in immune deficiency disorders such as acquired immune deficiency syndrome and rare hereditary immune deficiencies." Candidiasis is common in patients taking immune suppressive drugs for cancer or autoimmune disease, or to prevent transplanted organ rejection. Diabetes mellitus patients appear to be more susceptible to Candida infection infections. Candida infection is more typically seen in patients who have been treated for an infectious condition with broad-spectrum antibiotics.

The antibiotic suppresses the natural flora in this condition, allowing Candida spp. to thrive. Acute pseudo membranous candidiasis, acute atrophic candidiasis, and chronic atrophic candidiasis are all clinical types of candidiasis that show as mouth ulcers [33].

Ulcers caused by bacterial infection

Acute necrotizing ulcerative gingivitis: Acute destructive ulcerative periodontal is a nonspecific ulceration disease that affects the gingivae almost exclusively. Poorly controlled diabetes, tobacco smoking, immune deficiency, and possibly psychological stress are all associated contributing factors [34]. Minor trauma, as well as cleaning and flossing, usually cause pain in the patient. Rubbing the gingiva can result in tissue desquamation or the creation of a blood-filled bulla. The illness is more common among postmenopausal women, but it is not exclusive to them. Erosive lichen planus, allergic stomatitis, and bullous pemphigoid are just a few of the disorders that might show clinically with comparable lesions [35].

Acute necrotizing ulcerative gingivitis causes painful sores along the gingival edges, especially between the teeth. The ulcers can be localized or universal, and if they are serious enough, they might cause cervical lymphadenopathy, pyrexia, and malaise. Oral malodor is very common. Interdental papillae can be destroyed and lost as a result of long-term or recurrent illness. Cancrum oris (noma), a disorder similar to ANUG, can develop in severely malnourished children and adults. The ulcers of cancrum oris extend to the neighboring soft tissues, leading to necrosis of the lips and/or cheeks, unlike the ANUG in immunocompetent patients. Children in Central Africa have been most typically diagnosed with Cancrum oris, malnutrition caused by poverty brought on by political and economic upheaval [36].

Mycobacterial infection: Sputum-borne *Mycobacterium tuberculosis* can infect the oral mucosa, causing non-healing indurated ulcers. Chronic ulcers are the most frequent source of ulcers. A granulomatous inflammation occurs, along with caseous necrosis. These lesions aren't easily distinguishable, hence tissue culture is required for diagnosis**.** Oral ulcers are persistent, indurated, and have an uneven undermined edge as well as thick mucous material at the base. Tuberculous ulcers are usually painless and persistent, with overhanging or undermined borders and a pale floor, but they can also be ragged and uneven, which can be unpleasant. Secondary tuberculosis oral symptoms can occur anywhere in the mouth, with the tongue being the most usually afflicted site. The gingiva, mouth floor, palate, lip, and mucous membrane are the additional sites involved [37,38]

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Nutritional deficiency

Various nutritional deficiencies, including ferric, folic acid, b-complex, B1, B2, and B6, have been linked to a subset of aphthous ulcer patients. Nutritional deficits' role in aphthous ulcers is expected to vary by region, depending on diet and dietary supplementation [38].

Food allergies

Allergies can be triggered by a variety of foods. Patients with recurrent aphthous stomatitis have antibodies to milk from cows and wheat protein. As a result, several typically allergenic foods have not been linked to recurrent aphthous stomatitis. Cacao, coffee, almonds, cereals, nuts, strawberries, cheeses, tomato, and flour may be linked to some patients' symptoms [39,10].

Genetic factors

Patients with aphthous ulcers have a genetic component, with about 30 percent to 40 percent of patients having a family background [40]. Some sufferers have a family background of recurrent aphthous ulcers. A common link is the start of symptoms at a young age and the severity of the symptoms. In identical twins, recurrent aphthous ulcers are substantially associated [41].

Chemical injuries

Chemicals like aspirin or alcohol that are kept or came in contact with the mucous membranes can cause necrosis and sloughing, resulting in an ulcerated surface. There is little evidence to link sodium laurel sulfate (SLS), one of the key chemicals in most toothpaste to an increased risk of mouth ulcers [42].

Immune system

Many researchers believe that aphthous ulcers are the result of a variety of disease processes, all of which are mediated by the immune system. Aphthous ulcers are hypothesized to emerge when the body becomes aware of compounds it doesn't recognize and assaults them [43].

TREATMENT

The most common treatment for mouth ulcers is symptomatic treatment. If the cause is known, treatment for the ailment is also suggested. Adequate oral hygiene may also aid in symptom relief [44]. Topical antihistamines, antacids, corticosteroids, other treatments designed to calm sore ulcers, as well as oral analgesics like paracetamol or ibuprofen, and local anesthetic lozenges, paints, or mouth rinses like benzocaine, may be useful, as can avoiding spicy or hot food.

Topical medicines, rather than systemic medications, are the initial line of treatment for aphthous stomatitis. The most common treatment for aphthous stomatitis is topical corticosteroids. Due to the potential of significant side effects associated with several of these medications, systemic treatment is usually reserved for severe disease.To prevent secondary infection of the ulcers, good dental hygiene is also necessary. Amlexanox, when used topically, has been extensively examined and found to be successful in healing; however, less conclusive research suggests that vitamin B12 intake and avoiding sodium lauryl sulfate in toothpaste may help prevent a recurrence [45].

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Natural methods

Canker sores can be treated or prevented with the use of dietary supplements and lifestyle adjustments. There is no scientific proof for them, however, people have reported feeling better after using them:

Vitamins

Vitamin B1, B2, and B-complex are all B vitamins. Take a B complex prescription on a regular basis. *Lactobacillus acidophilus* is a type of probiotic bacteria (Chew four Lactobacillus tablets 3 times per day to reduce soreness) *Lactobacillus acidophilus* and *Lactobacillus bulgaricus* have been observed to help persons with recurring canker sores.

Herbals

***Adansonia digitata*:** The plant *Adansonia digitata*, which belongs to the Malvaceae family, is generally known as the "boabab or chimp tree of Africa." Its chemical contents include phobaphene-rich pulp, mucilage and gum, glucose, potassium tartrate, and acetate, and other salts [10]. Wax, glucose, salts, gum, and albuminoids are all found in a leaf. Wax, soluble and insoluble tannin, acid gum, albuminous carbonate, sodium and potassium chloride, and glucoside Adamson are all found in the bark [46]. The show study Reported by Abeer Adansonia digitata extract has a substantial protective effect against acetaminophen-induced hepatotoxicity. This protection is provided by Adansonia digitata extract, which reduces lipid peroxidation by scavenging free radicals and boosting the antioxidant defence system [47].

allivum sativa: The Liliaceae family's *Allium sativum* is usually referred to as "garlic." The active ingredient in this plant is an acrid volatile oil, which is also found in starch, mucilage, albumen, and sugar. Seeds produce fragrant oil and vitamin-rich supplementary compounds [48]. It reported by randa after 8 weeks of garlic and black seed diet, plasma MDA showed a significant decrease ($p<0.001$), according to a study. MDA levels are good indicators of lipid peroxidation as people get older. GSH-Px was considerably greater ($p<0.05$) in erythrocytes after 8 weeks of ingestion of garlic-black seed combination. Furthermore, SOD activities were also significantly higher ($p<0.05$) after consumption of the combination of garlic and black seeds for the same period [49].

Aloe vera: Polysaccharides, anthraquinone, lectin, superoxide dismutase (an antioxidant enzyme), glycoprotein, amino acids, vitamins C and E, and minerals are all present in the Aloe vera plant [50]. Antioxidant capabilities, Cox-2 suppression, and immunological modulatory pathways are all provided by this herbal compound. The results of a study that looked at the effects of oral aloe vera on patients undergoing radiation therapy found no favorable effects, however, the quality of life scores did improve marginally [51]. Another 2009 study found that aloe vera juice is useful in reducing the incidence of mucositis in radiation therapy patients, particularly those with lower mucositis grades. As a result, while aloe vera may not be able to entirely prevent oral mucositis, it can help to relieve symptoms and slow the progression of the disease. According to a recent study by de Freitas topical administration of aloe vera aids in the healing of lesions generated on the tongue of radiation-exposed mice. Ahmadi A found that aloe vera mouthwash relieved oral mucositis caused by head and neck radiation in another investigation [52].

Catechu: *Acacia catechu*, often known as catechu, catechu, or black catechu, is a valuable medicinal plant and a valuable forest tree. su reported that is drug, which has been used as a mouthwash for oral ulcers, possesses both tissue regeneration and wound healing characteristics. When it was combined with Scutellariae baicalensis radix, it provided additional benefits such as anti-inflammatory properties. In comparison to local norfloxacin, catechu powder had a greater effect on oral mucositi .

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All of the patients who received catechu were cured, whereas only 73.3 percent of those who received norfloxacin were cured. However, the positive results of this Acacia catechu extraction could lead to a viable treatment for oral mucositis [50].

Indigowood root: In China, the herb indigo wood root is widely utilized. *Brassicaceae* is the family of this plant. This substance has antiviral, detoxifying, and anti-inflammatory effects. The effects of indigowood on oral mucositis in radiation therapy patients were studied in a clinical trial, and the findings revealed that it has the ability to reduce mucosal damage through anti-inflammatory properties [53]. that is reported by wang et al. V1G1 was the best water control treatment in 2016, with values of 0.9746 and 0.9741, respectively, followed by V1G0. In addition, with values of 0.9762 and 0.9458, V1G0 was the best water control treatment in 2017, followed by V1G1. With values of 0.0078 and 0.0081 for the two years, the V3G2 therapy was the worst. The V1G1 treatment reduced irrigation costs and increased water efficiency without lowering yield. It also improved the quality of the herb to some amount, boosting the indigowoad root's commercial worth and providing more economic benefits to growers[54–57].

Azadirachta indica: *Azadirachta indica* belongs to the *Meliaceae* family. It is frequently referred to as "neem." Nimbidin, polyphenols, saponin, and flavonoids are among the chemical ingredients found in this plant. Margosine is a bitter alkaloid found in it. A yellowish bitter permanent oil is found in 10%–31% of the seeds. Unbound and aromatic fatty acids are present in the oil [54]. It has been discovered to have powerful antiulcer and gastroprotective properties. At a dose of 2.5 g/kg, this was tested in rats. It was tested on a variety of factors to see whether there was a plausible mechanism for curing ulcers. Its anti-secretory and protons pumps inhibitory effects, instead of defensive mucin formation, is responsible for ulcer protection. *In vitro*, *Azadirachta indica* bark extract inhibits H^+-K^+-ATPase function. It protects the stomach mucosa from oxidative damage by inhibiting lipid peroxidation and scavenging the endogenous hydroxyl radical (OH), which is a significant cause of ulcers [55].

Papaya: *Carica papaya* Linn is the biological source of papaya. It is a member of the *Caricaceae* family and is well-known because of its medicinal properties. The fruits are said to have antiulcer properties. Antimicrobial, anthelmintic, and antiamoebic activities have been documented for the seeds [56]. it reported show At doses of 125 mg/kg, 250 mg/kg, and 500 mg/kg, a methanolic extract of the plant's seed has gastroprotective and ulcer-healing benefits in rats. It significantly reduced the gastric lesion with 56%, 76%, and 82% inhibition. Papaya's anti-ulcerogenic action is due to its cytoprotective properties.. The enzyme P1G10 found in papaya has been demonstrated to help cure chemically induced stomach ulcers [57,59].

Turmeric: Turmeric is derived from the Curcuma longa plant, which belongs to the Zingiberaceae family. Turmeric's antiulcer activity in the stomach and duodenum has been studied in rats. Curcuma longa volatile oil has anti-inflammatory and anti-arthritic properties. Curcumin water and fat-soluble extracts had antioxidant activity comparable to vitamins C and E [60]. the reported research Endoscopy is used to examine ulcers in the abdomen. and the duodenum Their ulcer sizes were between Sizes range from 2 mm^2 × 6 mm^2 and 15 mm^2 × 15 mm^2. Following that endoscopic exams were performed at 4, 8, and 12 weeks after capsule-filled turmeric was given orally in the quantity of 2 capsules (300 mg each) five times daily. The percentages of ulcer healing were 48 percent (12 cases), 72 percent (18 cases) and 76 percent (19 cases) after 4, 8 and 12 weeks of treatment respectively [61].

***Glycyrrhiza glabra* L.:** *Glycyrrhiza glabra* L., sometimes known as Liquorice, is a sweet, moist, relaxing, flavoring herb that belongs to the *Fabaceae* family. The biological activities of this plant species have been recorded in the literature, including anti-inflammatory and expectorant properties, as well as cough control and hormonal impacts. It protects and detoxifies the liver. Internally, it is used to treat Addison's illness, as well as asthma, bronchitis, peptic ulcers, arthritis, allergic symptoms, and

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steroid therapy. Licorice is used externally to treat Eczema, Herpes, and Shingles. Liquorice lowers testosterone levels in women's blood and helps with aplastic anaemia. Since licorice extract is used to treat autoimmune diseases and has therapeutic value in immunodeficiency diseases such as AIDS. Licorice root preparations exhibit estrogenic and oestrogen antagonistic properties. As a result, it's a vital plant for treating female hormone-related issues. The root is used to various formulations as an energy tonic, notably for the spleen and stomach. *Glycyrrhiza glabra* roots are employed in genito-urinary illnesses as a tonic, demulcent laxative, and emollient [62].

Hibiscus rosa sinesis: The *Malvaceae* family's *Hibiscus rosa Sinensis* is widely known as a "changing rose." Flavonoids, anthocyanins, quercetin, cyaniding, kaempferol, and hydro citric acid are chemical elements of this plant [63]**.** The reported study show in Group, gastric secretion volume, free acidity, and total acidity were (29.24 ± 0.54) mL, (6.90 ± 0.34) mEq/dL, and (8.20 ± 0.50) mEq/dL, respectively. Three indexes were significantly reduced $p<0.001$ after extract administration, and these reductions were equivalent to cimetidine and verapamil. The antiulcerogenic effect of *H. rosasinensis* extract may be attributed to its calcium channel blocking activity [64].

Ginger: In traditional medicine, ginger is one of the most commonly used herbs. A number of research have also confirmed and proved ginger's anti-inflammatory properties. Haghpanah et al. The researchers found that a bioadhesive ginger film might relieve pain in RAS patients, however that the change in ulcer width, inflamed halo, and healing duration were not substantially different from placebo [65-66].

Homeopathic treatment of ulcers

Mouth ulcers can be effectively treated using a homeopathic approach. This problem can be entirely treated in a few months with the help of a well-chosen Homeopathic remedy. The therapy for mouth ulcers with homeopathy varies from person to person. Homeopathic remedies for mouth ulcers are very safe to use and show highly promising outcomes because they are made from naturally occurring components [67].

Borax: Borax is a good homeopathic remedy for treating aphthous ulcers inside the mouth, tongues, and cheek. Aphthae are very painful and give a burning sensation. The sores in the mouth are exceedingly painful to touch. Borax is also one of the most commonly prescribed homeopathic treatments for aphthae caused by sour or salty foods. On occasion, the ulcers may bleed when touched or during eating. Borax is particularly beneficial for children with very tender mouth ulcers that prohibit them from nursing. It is also advised for elderly people who wear dentures and suffer from mouth ulcers as a result [68].

Borax is a sodium bicarbonate-based medication. In the past, sodium bicarbonate was used to neutralize the effects of the stomach's excessive acids. It's a homeopathic medicine that's used to treat ulcers that bleed quickly when touched or when eating. Dryness in the mouth and the quick production of ulcers are two other significant indications for the usage of borax. Ulcers develop within mouths and on the inside of the cheeks. It's also used to treat mouth ulcers in neonates and infants [69].

Nitricum acidum: The drug nitricum acidum is made from the trituration of nitric acid. It has a noticeable effect on the body's outlets, where the mucous membranes contact the skin. It is used to treat ulcers on the soft palate, inside the cheeks, and on the tongue's borders. It's most commonly utilized when the entire mouth is ulcerated and the pain is excruciating [70]**.** Sticking pains in ulcers, similar to those caused by a splinter, are the primary reasons for the use of nitric acid in medicine. It's also used

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to treat mucous membranes that are easily bitten, inflamed, or ulcerated. The patient is unable to chew due to swollen mucous membranes, such as ulcerated sensitive gums [71].

Kalium Iodum: Kalium Iodum is a mouth ulcer treatment that is used when the mucous membrane of the mouth develops irregular ulcers. They appear to be coated in a milky substance. Some signs that indicate the need for this treatment include profuse salivation, bad mouth odor, heat in the mouth, swelling, dryness, and bitterness in the mouth, and pharynx.

Natrum muriaticum: Oral thrush treatment natrum mur. is a medication used to treat mouth ulcers caused by oral thrush. Dry mouth, lips, and tongues, painful mouth with sensitivities to liquid, blazing pain when foods or juices contact the ulcer, little clustered sores on the tongue, gums, and cheek with burn, and copious wet mucus from of the mouth are all symptoms.

CONCLUSION

It is the most popular form of primary healthcare, owing to its cultural acceptability, compatibility with natural objects, and lack of side effects. Canker sores can be treated or prevented with the use of dietary supplements and lifestyle adjustments. Mouth ulcers can be effectively treated using a homeopathic approach. This problem can be entirely treated in a few months with the help of a well-chosen Homeopathic remedy. The therapy for mouth ulcers with homeopathy varies from person to person. Homeopathic remedies for mouth ulcers are very safe to use and show highly promising outcomes.

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