



A Review on Mouth Ulcer's Formulations

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ABSTRACT:

Most mouth ulcers hurt and have a negative impact on eating and drinking. As a result, mouth ulcer patients frequently visit neighbourhood pharmacies. An extensive fraction of the population is affected by aphthous stomatitis (oral ulceration), which is characterized by a full-thickness rupture in the epithelium lining the mouth's soft tissues (1, 2). Pharmacists can offer patients quick local therapy and symptomatic relief while also helping to identify the likely origin of the ulceration by asking simple questions about its nature. However, a person suspected of having oral squamous cell carcinoma (mouth cancer) must consult a dentist or their GP immediately.

This article will discuss several mouth ulcer preparations, how pharmacists may determine the best dose forms, and the many potential treatment choices.

KEYWORDS: Mouth ulcer treatment, patches, Tablet, lozenge, Mucoadhesive, herbal remedies etc.

INTRODUCTION:

The primary goals are to increase the administration of dosage forms that are safe and effective as well as to enhance patient compliance and convenience. As a result, many mouth ulcer preparations have been developed. Patient-compliant dose forms are advantageous because they allow patients to choose the best medications based on their conditions, such as dysphagia, paediatric patients, or geriatric patients.

When appropriate, the development of this sort of formulation helps to avoid excessive hepatic first-pass metabolism and increases bioavailability while decreasing dosage waste, dose dumping, stability, and flavor masking.

Nowadays, youngsters with complete dentition often accept jelly sweets because they like the taste and chewing ability of the jelly since they are frequently flavored with fruit juices, and extracts, and have sweetness properties. Since the majority of patients with dysphagia choke on water while consuming liquid formulations with high viscosities, which should be substituted with alternative acceptable dose forms, such pharmaceutical preparations have been developed.

MOUTH ULCER:

Small sores called mouth ulcers might appear on your lips, inner cheeks, gums, or palate (roof of mouth). Numerous things, such as small wounds, hormone fluctuations, and mental stress, can cause them. Although mouth ulcers aren't contagious and usually go away on their own, there are treatments available to lessen their painful effects. (3)



TYPES OF MOUTH ULCERS:

1. Herpetiform ulceration (HU)
2. Minor ulcer:
3. Major Ulcer:

Common Causes of Mouth Ulcers

- Shortage of critical vitamins and minerals in the body
- In an effort to combat oral microorganisms.
- Sensitivity to acidic foods,
- A gluten intolerance may result in tongue ulceration.
- Ulcer growths may result from using mouthwash or toothpaste with sodium lauryl sulphate.

MOUTH ULCER PREPARATIONS:**1. BUCCAL TABLETS FOR MOUTH ULCER:****A. Hydrocortisone Tablet For Mouth Ulcer :**

Hydrocortisone muco-adhesive pills helps hasten the healing of mouth ulcers. They also aid in relieving pain. Put adjacent to the ulcer, muco-adhesive buccal pills are made to dissolve gradually in your mouth.

**Mechanism of Action:**

The active component in hydrocortisone buccal pills is hydrocortisone. This is a member of the corticosteroid class of drugs, which are employed to lessen inflammation. Allergies or irritation can result in inflammation, which is brought on by the immune system's essential chemical messengers being released. These compounds expand blood vessels, causing the afflicted region to become red, bloated, and uncomfortable.

Uses:

- They hasten healing and soothe the pain associated with oral ulcers.
- Tablets of hydrocortisone can be purchased over-the-counter
- Also available from pharmacies.

B. Lidocaine Mucoadhesive Buccal Tablets For Local Relief Of Mouth Ulcers

To treat oral ulcers in a patient who was unable to use magic mouthwash, a lidocaine-releasing sticky buccal tablet formulation was created. The lidocaine hydrochloride, carbopol-934, sodium carboxymethylcellulose, polyvinylpyrrolidone k-30, and d-mannitol powder combination was compacted into a tablet for local application using a manual pellet press. Many of the negative effects of magic mouthwash can be prevented with cautious local lidocaine dosing from the buccal patch.

Mechanism of Action:

It functions by preventing the production of certain chemical messengers (prostaglandins) that are responsible for inflammation and pain (redness and swelling). The local anaesthetic lidocaine is used. It functions by obstructing pain impulses that go from the nerves to the brain, which lessens the perception of pain. (6)

Evaluation Test:

Mucoadhesion test:

After calibrating the tensiometer (Fisher), the gel was exposed to sodium alginate (a replacement for mucin) for five minutes. The force needed to separate the gels from the solution surface (at a speed of 0.2 inch/min) was then calculated in dyne/cm². Six times for each formulation were used in this test (5)

2. Gels for Mouth Ulcer:

Within two minutes, Orasore Mouth Ulcer Relief Gel offers effective relief from the intense pain and irritability brought on by mouth ulcers.

A. Mucopain Gel:



Mechanism of Action:

Topical anaesthetics, including Mucopain, efficiently penetrate the oral mucosa and provide local anaesthetic action that lasts for 10–20 minutes. Mucopain is safe for topical use because of its limited water solubility. When used on a small portion of the body, local anaesthetics reversibly block nerve transmission. In response to the depolarization of the membrane, they attach to the sodium channels in the neuronal membrane and block the entrance of sodium ions.

Uses:

Mucopain Gel is used as a short-term pain reliever for minor oral difficulties such as toothaches, mouth ulcers, sore gums, and mouth/gum injuries.

It is used as local anaesthetic to numb the tissues in a specific location.

Oracare Gel:



Due to the numerous ingredients used, there are no negative side effects. Aloe Vera heals ulcers and lessens their discomfort and swelling.

Uses:

- Curcumin contains antibacterial properties that aid in ulcer repair.
- Menthol has a numbing effect on ulcers and eases slight discomfort.
- Clove oil aids in relieving the discomfort associated with ulcers.
- Ginger and ajwain both have the ability to treat ulcers and ease their agony.

For prompt treatment, Oracare gel should be administered twice or three times daily to the ulcer region.

LOZENGE:

Lozenges are flavour-enhanced pharmaceutical dosage forms that are meant to be sucked and kept in the mouth or throat. They typically include one or more medications in a sweetened foundation. Lozenges are used to treat oropharyngeal symptoms, which are frequently brought on by local infections. If the medication is adequately absorbed via the buccal linings or when it is eaten, they may also have a systemic impact. Patients who are unable to swallow solid oral dose forms or drugs that need to be delivered gradually to maintain a steady level in the mouth or to saturate the throat tissues with the drug solution can utilise lozenges. Analgesics, anaesthetics, antimicrobials, antiseptics, antitussives, aromatics, astringents, corticosteroids, decongestants, and demulcents are among the medications that are frequently included in lozenges. (7)

Lozenges are flavour-infused medication dosage forms that are meant to be sucked and kept in the mouth or throat and contain one or more active ingredients. This is by no means an entire list, though, as many different medications may be delivered via lozenge. According to the requirements of the individual patient, compounded lozenges can be made from a single component or a variety of ingredients. (7)

**Advantages**

Lozenges provide a lot of benefits. It is simple to manufacture, requires little equipment and preparation time, and is excellent for patients who have trouble swallowing. It is also simple to deliver to elderly and paediatric populations. It prolongs the duration that a medication spends in the oral cavity to have a specific effect. (7)

Disadvantages:

The non-universal dispersion of the medication inside saliva for local therapy and the potential for drug and saliva to flow from the mouth cavity to the stomach are disadvantages of medicated lozenges. (7)

Evaluation Test:**1. Microbial test for lozenges:**

This involves examining raw materials, completed goods, machinery, cooling tunnels, ambient factors, and storage drums for any bacterial, mould, or spore contamination. The following counts should be included in laboratory microbiological testing:

Salmonella, yeast, mould, total coliforms, e. coli, staphylococcus, total plate, and total coliforms

2. Stability testing of product:

The following conditions are used to assess the stability of lozenges:

1-2 months at 60°, 3-6 months at 45°,

9-12 months at 37°,

36-60 months at 25° and 40°.

Lozenges are exposed to the following conditions for stability testing under the following circumstances:

25° at 80% relative humidity for 6–12 months

37° at 80% relative humidity for 3 months

25° at 70% relative humidity for 6–12 months

Some Herbal Remedies (8):**1. Honey:**

Honey is natural product obtained from honey comb of bees *apis mellifera*. Family: *apidae*.



Mechanism of Action:

Honey has antibacterial and anti-inflammatory characteristics, therefore when applied to mouth ulcers, it reduces inflammation and kills oral germs. By reducing inflammation, the ulcer will immediately heal.

Uses

It has antioxidant properties that are used to cure mouth ulcers, antibacterial properties that get rid of microorganisms in the mouth, and anti-inflammatory properties that lessen mouth irritation.

Mint:



The MOA:

When mint leaves are put to mouth ulcers, they have a cooling action that lessens discomfort from the ulcer while also releasing a pleasant scent.

Uses:

- It protects against microorganisms that live in cold environments.
- It has an antibacterial action, making ulcer therapy possible.

Indian Jasmine:



Mechanism of action:

Because jasmine has anti-inflammatory and antibacterial properties, applying it to an ulcer will cause it to heal more quickly and consequently cause less discomfort.

Uses

- It has anti-inflammatory properties and is used to lessen ulcer-related inflammation.

It is used as a pain reliever during cancer therapy as well as to lessen discomfort brought on by mouth ulcers.

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