



Application of Mixture of 3% Citric Acid and 2% Lignocaine Jelly for Treatment of Recurrent Ulcers of the Tongue - A Rare Case Study

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Abstract

Oral ulcers are painful sores that appear in the mouth and are characterized by defects in the epithelium, underlying connective tissue, or both. Most of them are harmless and resolve on their own, but they can be non-responsive and difficult to manage sometimes owing to their diversity of causative factors and clinical presentation. Although many treatment options are in use for their treatment, this case report describes the use of 3% citric acid mixed with lignocaine Jelly for the treatment of recurrent oral ulcers in a 70-year-old patient who was not responding to the conventional treatment.

Keywords: *Ulcers; Recurrence; Citric acid; Lignocaine jelly*

Introduction

Oral ulcers are considered as one of the most common problems that cause pain in the mouth [1]. The exact cause of mouth ulcers is still not known. But they may develop as a result of stress or anxiety, traumatic injuries, hormonal changes during pregnancy, puberty, and menopause. Deficiency diseases such as Crohn's disease, vitamin B12 or iron deficiency, or a weakened immune system may all be considered as etiological factors for oral ulcers [2]. Any ulcerative lesion that lasts for two weeks or longer, is considered chronic and any ulcer of fewer than 14 days' duration is considered Acute [3]. Recurrent ulcers usually present with a history of similar episodes with intermittent healing [4]. Most oral ulcers are usually harmless and resolve by themselves within a week or two. Sometimes, however, they can be non-responsive to conventional therapies, such as multi-vitamins and local analgesic jelly, or, in severe cases antibiotics and Analgesics [5]. The use of Citric acid (3%) has been reported to yield successful results in treating non-healing ulcers and a variety of infected wounds located at various parts of the body other than in the oral cavity [6]. Here we report a case of recurrent oral ulcers on the tongue

which was treated with a mixture of 3% citric acid with 2% lidocaine jelly. Follow up of one year showed no recurrence.

Case Report

A 70-year-old female patient reported to the Department of dentistry with a chief complaint of multiple recurrent ulcerations on the tongue for one year. The intraoral examination revealed that ulcers were present on lateral borders of the tongue bilaterally (Figure 1-3).



Figure 1: Oral ulcers on left side of tongue.

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Figure 2: Oral ulcers on Right side of tongue.

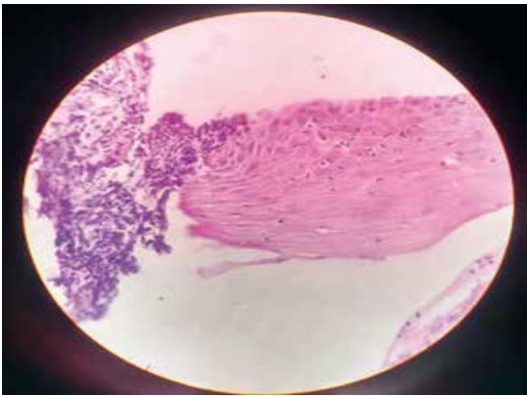


Figure 3: Histopathological examination.



Figure 4: After one year follow up.

History of present illness revealed that the patient had visited many dentists in the past year but the ulcers subsided temporarily and recurred again. The patient gave a history that she had applied antiseptic and analgesic ointment REXIDINE-M Forte Gel (lignocaine, metronidazole, and chlorhexidine) many times in the past for relief of ulcers along with chewable vitamin C tablets 3 times daily, but ulcers recurred after medications were stopped. The medical history revealed patient was Diabetic and hypertensive and on medication. Intra orally multiple mobile and non-restorable teeth in maxilla and mandible were present. In the first appointment, occlusal grinding of some posterior teeth which

were sharp was done. But after a 1-week patient reported no relief from ulcers. Now total extraction of teeth was planned and the patient was convinced for a complete denture. After total extraction also patient had no satisfactory relief from ulcers. An incisional biopsy was done and the histopathological report revealed nonspecific inflammatory changes, including ulceration of the mucosa, covered with acute inflammatory exudate. However, these changes did not help to know the cause of recurrence. Finally, Mixture of 3% Citric acid and with 2% lignocaine Jelly was prepared from the Biochemistry Department of the local medical college. It was applied three times daily on the affected areas for one week. The patient was prescribed Multivitamin tablets and a dispersible tablet of DK-50 (Diclofenac potassium) twice daily for one week for pain relief. After 1st weeks follow up Pain killers were stopped but we continued the application of ointment. In 2nd week follow up patient had no pain and ulcers had considerably reduced. In the 3rd week, follow-up ulcers were completely healed and application of citric acid was stopped. Follow-up of one year showed no recurrence of ulcers (Figure 4).

Discussion

Oral ulcerative lesions can present themselves as solitary acute or multiple, chronic solitary or multiple, and recurrent lesions. With various etiological factors like stress and anxiety, traumatic injury, viral or bacterial infections, allergy, or cancer chemotherapy [7]. Many treatment options available are the use of multivitamins like vitamin B-12, vitamin -C, use of local ointments for pain relief like lignocaine jelly, Antibiotics like Penicillin, and Metronidazole for infection control, and pain killers. Although most ulcers respond well to such therapies some ulcers do not. In this case, using a mixture of 3% citric acid and 2% lignocaine jelly for the treatment of chronic recurrent oral ulcers showed positive results, and no recurrence was observed even after one year of follow-up. It is believed that the acidic nature of citric acid lowers pH and makes the wound environment unsuitable for bacterial growth. It also keeps wound surfaces moist and prevents wound desiccation, which impairs wound healing. All of these actions increase the migration of epithelial cells from surrounding skin, encouraging re-epithelialization and wound healing [8].

Conclusion

The results of the present case report suggest that topical application of a mixture of 3% citric acid and 2% lignocaine is a good treatment option for recurrent oral ulcers which do not respond to the conventional treatment. However, it needs further studies involving a larger cohort of patients with oral ulcers to

determine the efficacy of the use of citric acid in recurrent oral ulcers.

Conflict of Interest

The authors declare that no conflict of interest was involved in the study.

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