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A Case Report- Chronic Recurrent Traumatic Tongue Ulcer – Modern Treatment Approaches

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ABSTRACT

Ulcerations are characterized by defects in the epithelium, underlying connective tissue, or both. Due to diversity of causative factors and presenting features, diagnosis of oral ulcerative lesions might be quite challenging. Tongue ulcers are open sores or cuts on the tongue. Tongue ulcers can be painful and raw and can be irritated by eating and drinking. One of the most common types of tongue ulcers is the canker sore, which may arise for an unknown reason or be linked to a number of different irritants. This article is an attempt to elaborate the treatment protocols with couple of case reports.
Keywords*: Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE), RAS (recurrent apthous stomatitis), Chronic traumatic ulcer,Tongue ulcer, Dental trauma.*

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INTRODUCTION

Chronic tongue ulcers differ from ulcers in other parts of the mouth,because they tend to remain relatively unchanged for long periods. They are commonly found on the middle and posterior third of the lateral borders of the tongue, where each appears as a shallow ulceration surrounded by a raised rolled border of fibrous tissue and an outer wide zone of induration. These nonhealing indurated lesions are easily mistaken for squamous cell carcinomas, which commonly occur in the same area and can have a similar appearance. Management of chronic tongue ulcers can be demanding, because identification of the irritating factors can be difficult. If a broken cusp, fractured restoration, or interfering denture clasp can be identified and corrected, healing may take place. It is not uncommon for an ulcer to remain unhealed even after correction of the predisposing factors. This is thought to occur because of the presence of the large and continually active tongue muscles that are close to the epithelial surface. The normal constant motion of the tongue prevents re-epithelialization over the defect.

On occasion, chronic nonhealing ulcers of the tongue will have slightly different histopathologic features than ulcers in other areas. In these lesions, the granulation tissue and inflammatory reaction extends deeply into the underlying muscle. Distinguished by containing a disproportionate number of eosinophils, the lesions have been referred to as traumatic ulcerative granuloma with stromal eosinophilia (TUGSE).

Diagnosis is the most valuable part of treatment planning of any ulceration. The first decision to be made is whether the ulcerative lesion is of an acute, chronic, or recurrent nature; thereafter, the lesion(s) should be placed in one of the five subgroups. Then, the clinician can consult the list of diagnoses in the relevant category (see fig.1)

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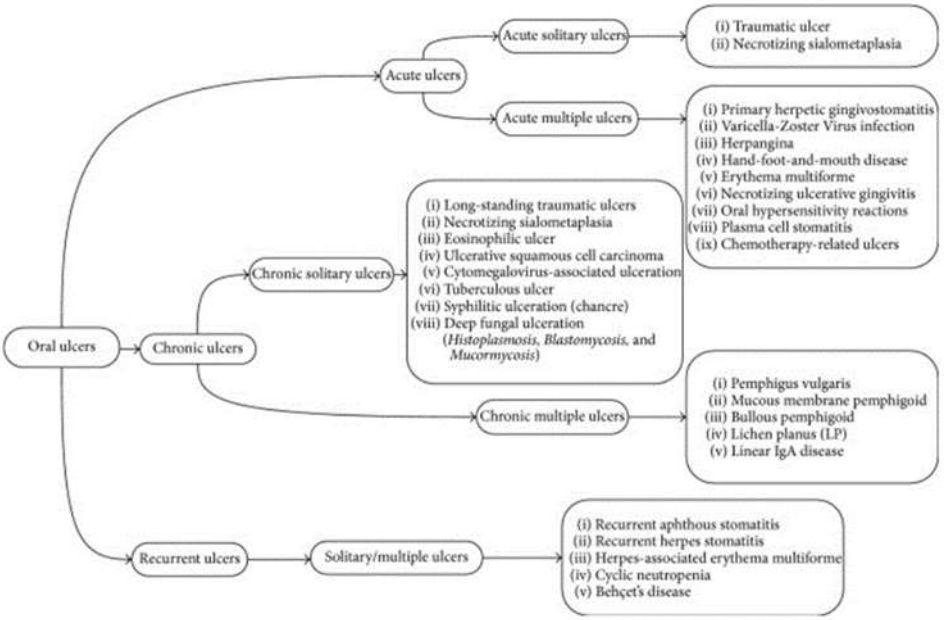

Fig 1. Decision tree of oral ulcerative lesions

Case 1:- A male patient, 46 years old came to the clinic with a complaint of chronic non-healing ulcer since 3 weeks with severe sore pain during mastication and even while speaking and the size of the ulcer remained same. He was prescribed multivitamins, antibiotics and steroid ointments and he had been using that for last 2 weeks but nothing improved. On examination I found chronic non healing solitary major apthous ulcer where rolled and elevated ulcerative areas are surrounding central removable granulomatous fibro purulent membrane, with a diameter of 1 X 0.9 cm on the lateral border of the tongue. He gave the history of frequent biting on that area for long days. First the sharp edges of the functional cusps of maxillary teeth and non functional cusps of mandibular teeth and their interference with tongue were identified. Selective grinding of sharp attrited cusps were carried out and tongue interference were checked properly with tongue and jaw movements in all directions. This was followed by pharmacological management.

Fig 2, 3. Initial presentation of the traumatic ulcer on lateral border the tongue

Case 2:- A female patient, 61 years old presented with complaining of glossodynia, red tongue, and oral bleeding. She was also prescribed multivitamins for a several days, but she was not relived at all. . On palpation, which was hard-elastic, with elevated edges, measuring 0.8×0.5 cm

The patient had a ipsilateral posterior crossbite involving maxillary first and second premolars and first molar teeth associated with maxillary hypoplasia and macroglossia were clinically evident and she had removable partial denture replacing 2nd lower with a sharp clasp.

Before pharmacotherapy, a coronal reduction (coronal plastic) on maxillary first and second premolars teeth and the clasp end was smoothened, considering that the tongue ulcer was probable caused by dental trauma. Patient was anemic 10 g/dl and deficient of iron, calcium and folic acid.

Fig 4. Traumatic ulcer on the left border of the tongue

Pharmacological management:-

1. **Non-steroidal anti-inflammatory mouthwash or spray**

Benzydamine hydrochloride 1.5mg/mL (0.15%) as mouthwash or spray (sugar-free) used four times daily as instructed (15mL as rinse or four sprays every 1.5 hours as required).

2. **Antiseptic mouthwash or spray**

Chlorhexidine gluconate 2mg/mL (0.2%) mouthwash or spray (sugar-free) used twice daily as instructed (10mL for one minute). It should not be used within 30 minutes of using toothpaste, owing to possible interaction (and it can cause an unpleasant taste in the mouth). Diphenhydramine (Benadryl) solution could be added for additional beneficial effect.

3. **Maalox (or an equivalent product)/diphenhydramine solution:**

1 to 2 tbsp of Maaloxwith 1/2 tbsp of diphenhydramine (eg, Benadryl) liquid were combined. Swish 1 to 2tsp of the solution in the mouth for 1 minute, and then spit it out.

4. **Topical and systemic Steroids**

Triamcinolone acetonide 0.1% was given to apply twice daily. Hydrocortisone sodium succinate muco-adhesive buccal tablet 2.5mg used as instructed (one tablet dissolved adjacent to ulcer four times daily). This is unlicensed for use in children aged under 12 years and should be given on medical advice only. (BNF 76. London: Pharmaceutical Press; 2018).

5. **Topical Anesthetic**

Benzocaine 20% to be applied four times daily for symptomatic relief , which is a local anesthetic that works by numbing the painful area. This product not for children younger than 2 years due to risk of serious side effects.

6. **Topical application of Doxycycline.**

Doxycycline 100 tablet was crushed and mixed with saline.

7. **Anti-inflammatory ointments:-**

5% amlexanox was instructed to apply thrice daily.

8. **Sucralfate ointment:-**

10% Sucralfate ointment was advised to apply accordingly.

9. **Antibiotics:-**

Typical oral infection is caused by mixture of aerobic and anaerobic bacteria; approximately 70% of these infections are caused by this mixed flora. This fact has major clinical implications.400 mg metronidazole 3 times daily and 500 mg ciprofloxacin twice daily were prescribed for 1 week.

10. Zinc supplements:-

Daily dosage is 15–30 mg of elemental zinc was advised to take.

11. Vitamin B12 supplements:-

Vit B12 supplements 250 mcg/day was started.

12. Iron and Folic supplements (if the patient is anemic; Case 2):-

Iron 30 mg + Folic acid 400 microgram tablets were prescribed to the patient with anemia and folic acid deficiency.

Fig 5. The complete healing of the lesion after 6 weeks (Case 1)

Fig 6. The complete healing of the lesion after 2 months (case 2)

Due to diversity of causative factors and presenting features, diagnosis of oral ulcerative lesions might be quite challenging because they tend to remain relatively

unchanged for long periods. So, the treatment is multimodal because the ulcer is multifactorial in nature. Non-steroidal anti-inflammatory mouthwash or spray and benzocaine as surface anesthetic will provide symptomatic relief. Diphenhydramine solution was postulated to have an action against eosinophilic infiltration of chronic ulcerations.

Doxycycline, a newer semisynthetic tetracycline, has been reported to have more potent anti-inflammatory and anti-collagenase properties than other tertracyclines. More specifically, it effectively suppresses prostaglandin production and leukocytes activities; inhibits the gelatinolytic effects of collagenases; and downregulates the Matrix Metalloproteinase Collagenase (MMP)-an interstitial collagenase which is thought to play an important role in tissue destruction events in RAS (recurrent apthous stomatitis). (Preshaw, 2007; Ylikontiola, 1997; Hayrinen-Immonen, 1994)

The clinical trials demonstrated the comparable clinical efficacy of 5% amlexanox oral paste in decreasing erythema, ulcer size, pain, and healing time of recurrent apthous ulcers (minor) and can be considered as a substitute to topical corticosteroid preparations in these participants, except in pain control,its efficacy is comnparable to topical 0.1% triamcinolone acetonide. (Shrivastava K, 2018) Ciprofloxacin has 6-fluoro substituent which greatly improve antibacterial potency against gram (+) and gram (–) aerobes organisms. These agents interfere with bacterial enzyme critical for DNA transcription. Side effects of ciprofloxacin such as nausea, vomiting, rash, dizziness, and headache are rare. The usual adult dose for ciprofloxacin is 500 to 750 mg orally every 12 hours. Metronidazole is effective only against anaerobic bacteria including those in the oral cavity. These agents diffused into the bacteria where nitro component is reduced. During this reduction process, chemically reactive intermediate component is formed, which inhibit DNA synthesis and/or destroying DNA resulting in disruption of DNA function. A 10% suspension of sucralfate accelerated pain relief in aphthous patients and its use is recommended as an adjunct for the treatment of RAS. The main mucoprotective effect of this drug is because of its ability to increase the activity of topical prostaglandins by augmentation of mucosal cyclooxigenase activity and direct prostaglandin release from mucosa. It can also affect fibroblast growth factor and increase mucosal blood circulation. (Alpsoy E, et al. 1999; Neal MJ. 2005)

A combination of causes of Chronic ulcers, one of which may be a local or general deficiency of zinc or a defect in metabolism, perhaps at the cellular level, related to zinc. The accepted normal serum zinc level is 95–130 µg/dl. Patients with serum Zn level <110 µg/dl are more prone to develop chronic stomatitis. (11, 13) Vitamin B12 treatment, which is simple, inexpensive and low-risk, seems to be effective for patients suffering from RAS, regardless of the serum vitamin B12 level. Use vitamin B12 as an adjunctive therapy for mouth ulcers, providing more effective pain management and improving the quality of life for patients with mouth ulcers. (Endre L. 1991)

CONCLUSION

The treatment of ulcerated lesions varies depending upon size, duration, and location. Elimination of causative pathology is the prime need of these ulcers for success; otherwise overenthusiastic long term pharmacotherapy does not work. If even after probable causative factor and pharmacological management are in vain for a definite period of time and the size is increasing associated with cachexia, pain, bleeding, tenderness and palpable lymph nodes, Biopsy is the first need.

REFERENCES

1. Muñoz-Corcuera M., Esparza-Gómez G., González-Moles M. A., Bascones-Martínez A. Oral ulcers: clinical aspects. A tool for dermatologists. Part I. Acute ulcers. Clinical and Experimental Dermatology. 2009;34(3):289–294. doi: 10.1111/j.1365-2230.2009.03220.x. [PubMed] [CrossRef] [Google Scholar]
2. Muñoz-Corcuera M., Esparza-Gómez G., González-Moles M. A., Bascones-Martínez A. Oral ulcers: clinical aspects. A tool for dermatologists. Part II. Chronic ulcers. Clinical and Experimental Dermatology. 2009;34(4):456–461. doi: 10.1111/j.1365-

2230.2009.03219.x. [PubMed] [CrossRef] [Google Scholar]
3. Greenberg M. S., Glick M., Ship J. A. Burket's Oral Medicine. Hamilton, Canada: BC Decker; 2008. [Google Scholar]
4. Bruce A. J., Dabade T. S., Burkemper N. M. Diagnosing oral ulcers. Journal of the American Academy of Physician Assistants. 2015; 28:1–10. [PubMed] [Google Scholar]
5. SAPP, J. P., EVERSOLE, L. R., & WYSOCKI, G. P. (2004). Physical and Chemical Injuries. Contemporary Oral and Maxillofacial Pathology, 366–392. doi:10.1016/b978-0-323-01723-7.50016-1
6. Mortazavi, H., Safi, Y., Baharvand, M., & Rahmani, S. (2016). Diagnostic Features of Common Oral Ulcerative Lesions: An Updated Decision Tree. International Journal of Dentistry, 2016, 1–14.
7. Preshaw PM, Grainger P, Bradshaw MH, Mohammad AR, Powala CV, Nolan A. Subantimicrobial dose doxycycline in the treatment of recurrent oral aphthous ulceration: a pilot study. J Oral Pathol Med. 2007; 36(4):236–40.
8. Ylikontiola L, Sorsa T, Hayrinen-Immonen R, Salo T. Doxymycinecyanoacrylate treatment of recurrent aphthous ulcers. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 1997;83(3):329–33.
9. Hayrinen-Immonen R, Sorsa T, Pettila J, Konttinen YT, Teronen O, Malmstrom M. Effect of tetracyclines on collagenase activity in patients with recurrent aphthous ulcers. J Oral Pathol Med. 1994; 23(6):269–72.
10. Shrivastava K, Naidu G, Deshpande A, Handa H, Raghuvanshi V, Gupta M. Comparative evaluation of the efficacy of topical amlexanox 5% oral paste and triamcinolone acetonide 0.1% oral paste in the treatment of Recurrent Aphthous Stomatitis (RAS). J Indian Acad Oral Med Radiol 2018; 30:235-44
11. Alpsoy E, Er H, Durusoy C, Yilmaz E. The use of sucralfate suspension in the treatment of oral and genital ulceration of Behçet disease: a randomized, placebo-controlled, double-blind study. Arch Dermatol 1999 May; 135(5):529-32.
12. Neal MJ. 2005. At a glance pharmacology medis. Surapsari J, Safitri A, editors. Jakarta: Penerbit Erlangga; 2006, p. 80–1.
13. M. Jusri. Treatment of recurrent aphthous stomatitis major with metronidazole and ciprofloxacin. Dent. J. (Maj. Ked. Gigi), Vol. 42. No. 3 July–September 2009: 109-113
14. MERCHANT, H. W., GANGAROSA, L. P., GLASSMAN, A. B., & SOBEL, R. E. (1977). Zinc Sulfate Supplementation for Treatment of Recurring Oral Ulcers. Southern Medical Journal, 70(5), 559–561.
15. Endre L. Recurrent aphthous ulceration with zinc deficiency and cellular immune deficiency. ral Surg Oral Med Oral Pathol 1991;72:559–61.
16. Liu, H.-L., & Chiu, S.-C. (2015). The Effectiveness of Vitamin B12 for Relieving Pain in Aphthous Ulcers: A Randomized, Double-blind, Placebo-controlled Trial. Pain Management Nursing, 16(3), 182–187.

