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Traumatic Ulcerative Granuloma With Stromal Eosinophilia (TUGSE) – A Diagnostic Enigma

Shraddha Krishna*, Kavitha Prasad, Parimala Sagar, Vanishri C Haragannavar, and K Ranganath

Department of Oral & Maxillofacial Surgery, Faculty of Dental Sciences, Ramaiah University of Applied Sciences, Bangalore, India

***Corresponding author:** Krishna S, Department of Oral & Maxillofacial Surgery, Faculty of Dental Sciences, Ramaiah University of Applied Sciences, Bangalore, India, E-mail: mp.shraddha[AT]gmail.com

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Abstract

Traumatic Ulcerative Granuloma with Stromal Eosinophilia ulcer of the oral mucosa is recognized as a benign, reactive, and self-limiting lesion with an uncertain pathophysiology that appears as a solitary, rapidly developing ulcer. These lesions can appear in a variety of ways clinically, but most of these instances a complete history and clinical examination can determine both the etiology and the consequence. It is utmost important to recognize these mucosal lesions which are characterized by the presence of indurated elevated borders and mimics malignant ulcers such as squamous cell carcinoma of the mouth. Although most of times a biopsy of such lesions is not required, in certain cases it may be necessary to conduct histological investigations in order to rule out conditions which clinically resemble traumatic lesions; however, the condition tends to resolve on its own. The present case highlights the clinical aspects, etiopathogenesis and histopathology of this uncommon lesion.

Keywords: ***Traumatic ulcers, Eosinophilic ulcer, Traumatic ulcerative granuloma with stromal eosinophilia, Reactive benign lesion, non-healing ulcer, TUGSE lesions, Squamous cell carcinoma, Oral ulcer.***

1. Introduction

Oral trauma is one of the most common causes of recurrent oral ulcers, potential causes ranging from physical, mechanical, chemical, electrical trauma, or malignancy. They appear as typical ulcerations mimicking Oral squamous cell carcinoma (OSCC). We report a case of an unusual presentation of a traumatic ulcer which mimicked OSCC.

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2. Case Report

A 52 years old male patient reported to the Department of OMFS, with complain of pain and ulcer on the left side of his cheek since 20 days. Pain was, localized, mild, continuous in nature and aggravated on taking hot and spicy foods. Ulcer was small to begin with and gradually increased to its present size. Patient gave history of Bicuspid aortic valve – severe AS aortic aneurysm and Parkinson's, for which patient underwent intervention in 2014 & 2017 respectively.

On intraoral examination, a solitary ulcer was seen on the left buccal mucosa which was irregular shaped and indurated covered by greyish white slough measuring 2 x 1.5 cm in diameter, in relation to occlusal line of posterior teeth [Fig. 1]. On palpation, all the inspection findings were confirmed. There were multiple root stumps and grossly decayed 26 which was impinging on the buccal mucosa. After a thorough clinical examination, a provisional diagnosis of malignant ulcer was made, Incisional Biopsy and extraction of grossly decayed 26 was planned under local anesthesia.

Fig. 1. Ulcer in the left buccal mucosa.

Fitness for procedure was taken from cardiology and neurology. Bridging therapy was planned by stopping Clexane one day prior to the procedure, Heparin infusion was started 500 units/hr. Also, on routine blood investigation patient was seropositive for Hepatitis C.

An incisional biopsy of the lesion and extraction of the upper left first molar was done under local anaesthesia without adrenaline, by taking standard precautions. The specimen was then sent for histopathological examination.

Patient was recalled after one week for suture removal, on inspection the ulcer showed significant regression, healed extraction socket, no pain at the site of biopsy performed [Fig. 2]. There was no recurrence of the lesion in a three months follow-up.

Fig. 2. Post-op: Regressed ulcer after 3 months

3. Histopathological Examination

Histopathological examination revealed parakeratinized stratified squamous epithelium with a foci of fibrino-purulent area covered by microbial colonies and inflammatory cells. The epithelium – connective tissue interface with underlying stroma composed of dense mixed inflammatory cells chiefly composed of eosinophils and macrophages. Fibroblasts and collagen fibres, blood vessels with extravasated RBC's noted with no evidence of atypia with features suggestive of "Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE)" [Fig. 3].

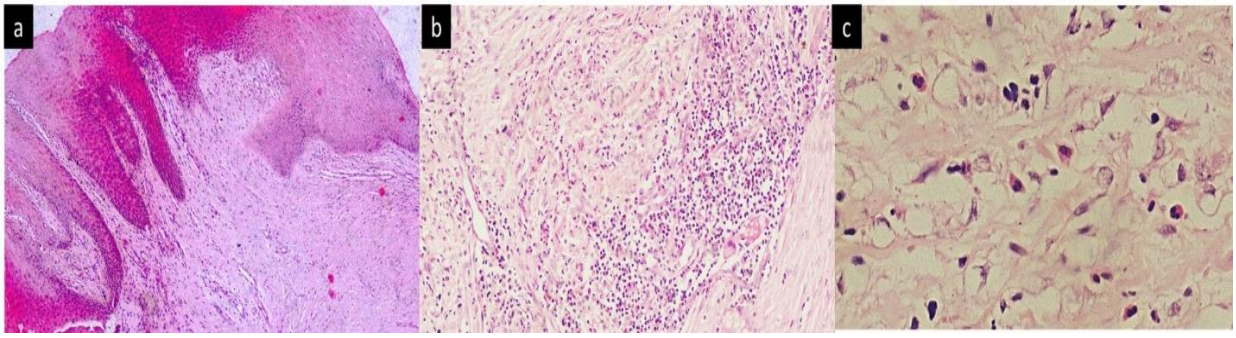

Fig. 3. Histopathological appearance.

4. Discussion

Oral cavity is susceptible to physical trauma from a variety of causes. Chronic trauma from sharp teeth, restorations, and ill-fitted dentures, may however, result in chronic ulcers. Diagnosis of such ulceration is usually challenging.

Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE) is a rare, benign condition which has an unclear nature, cause, and physiological mechanism. The etiopathogenesis of TUGSE is debatable, but localized trauma can be a significant predisposing factor. The lesion can occur in all age group, but most commonly seen in middle aged [1]. The most common site of TUGSE is tongue which is about 60%–80% of the cases, followed by the buccal mucosa, vestibular mucosa, floor of the mouth, retromolar area, gingiva, alveolar mucosa, lip, labial frenum, and palate [2].

The clinical appearance of this lesion is often misdiagnosed as oral carcinoma or specific infections like tuberculosis, primary syphilis or Epstein-Barr virus ulcer. As the lesion mimics OSCC, diagnosis must be based on clinical and histopathological investigations. [3] reported that surgical excision is the preferred treatment for TUGSE, and rapid healing has been observed after excision of the lesion.

The lesion in our instance completely resolved following incisional biopsy & extraction of 26, which is consistent with reports from globally that TUGSE frequently resolves after an incisional biopsy [4]-[10].

Literature states that TUGSE has a self-limiting nature and resolves within 2-3 weeks or in some instances up to 3 months. There are various treatment modalities for TUGSE, with the most effective being the removal of causative factor such as sharp tooth or ill fitted prostheses. In the present case, both incisional biopsy and extraction were performed together.

Although TUGSE has a good prognosis post excision, a follow-up is mandatory. In our case, there was regression of the lesion in size within one week of follow-up with no recurrence in a three months follow-up.

5. Conclusion

TUGSE is a benign, self-limiting lesion which may often be misdiagnosed clinically as OSCC by many clinicians because of its close vigilance of such lesions due to its high clinical resemblance to malignancy, for this reason, it is of the utmost importance to fully understand the nature of the lesion. The combination of clinical and histological findings aids in the diagnosis of TUGSE. Although, this lesion is a benign, self-limiting lesion it does require proper treatment or else recurrence can be expected. Long standing traumatic ulcers often mimic OSCC, such as in our case, hence a proper biopsy and histopathological examination is mandatory to confirm the diagnosis. Incisional biopsy should be performed for definitive diagnosis, other treatment modalities include correction of causative factors, such as sharp or mal-positioned teeth. Effective follow-up is necessary to ensure full healing.

TUGSE seems to be often misdiagnosed by clinicians due to limited knowledge and awareness. Thus, when dealing with similar solitary long-standing ulcers with everted and indurated margins, TUGSE should be considered as a differential diagnosis by clinicians, particularly in cases where there has been a significant history such as trauma. This is because TUGSE almost entirely mimics squamous cell carcinoma, which can lead to misdiagnosis or mistreated if not accurately documented.

6. Author Contributions

All authors reviewed and approved the final manuscript and have contributed equally to this work.

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8. Conflicts of Interest

The authors declare no conflict of interests.

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