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Case Report

Traumatic Ulcerative Granulomatosis with Stromal Eosinophilia Related to Sharp Broken Tooth Mimic Squamous Cell Carcinoma: A Case Report

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Abstract

Introduction: Traumatic ulcerative granulomatosis with stromal eosinophilia (TUGSE) is a rare, benign, reactive and self-limiting lesion always be presented in the mucosa of oral cavity

Aim: Reporting a case of traumatic ulcerative granulomatosis with stromal eosinophilia related to sharp broken tooth mimicking squamous cell carcinoma

Case presentation: 61 years old , female patient , medically free, refer to oral medicine clinical because she complaint for lesion in lateral side of tongue since 3 month, the clinical examination shows nodular lesion with rolled margin cover by fibrin membrane

Clinical differential diagnosis: traumatic ulcerative granulomatosis and squamous cell carcinoma Biopsy was taken and result shows the final diagnosis it was traumatic ulcerative granulomatosis with stromal eosinophilia, extraction of the broken tooth was done and topical corticosteroid (clobetasol proponite .05%) was given 1 time a day for 5 days to apply it over the lesion, follow up after 7 days show rapid regression for the lesion and almost complete healing shown in area of the lesion

Conclusion: The present case shows oral ulcerative lesion that mimic squamous cell carcinoma, finial diagnosis confirmed by biopsy and it was Traumatic ulcerative granuloma with stromal eosinophilia related to Sharp Broken Tooth, the extraction was done for Brocken tooth and topical corticosteroid given to improve the healing of the lesion

Keywords: Traumatic ulcer, TUGSE , squamous cell carcinoma

Introduction

Traumatic ulcerative granulomatosis with stromal eosinophilia (TUGSE) is a rare, benign, reactive and self-limiting lesion always be presented in the mucosa of oral cavity [1]. The tongue is the most effected cite followed by the buccal and vestibular mucosa, palatal mucosa, retro molar area, gingiva, and the floor of the mouth [2].

Clinically, TUGSE usually presented as a rapid growth ulcerative lesion with raised or rolled margins [3]. It can be presented in both condition it may be presented asymptomatic lesion or associated with mild to severe pain, the clinical appearance of the lesion mimic the malignancy most likely squamous cell carcinoma [4]. TUGSE has an unclear etiology, and although trauma from foreign body is considered the most frequent cause, the pathological evidence of atypical CD30-positive mononuclear cells within the eosinophil-rich granulation tissue suggests a possible underlying lymphoproliferative disorder [5].

TUGSE most commonly involves the surface of the tongue, but it can be presented also in another site of oral cavity, such as buccal mucosa, floor mouth, retro molar area and lips [6].

Bordignon NCT., *et al*. were found 38 documented cases of TUGSE in the oral tissues between 2010 and 2022, including the current case. The mean age of the patients was 55.5 ± 20.3 years, and the median was 59 years. Most of the patients were above 40 years-old (76.3%). The most affected site in oral cavity was the tongue (56.6%) and pain was reported in 44.73% of the cases [7]. All those data were in accordance with those previously described by Shen., *et al*. in a series of 34 cases of TUGSE reported between 2003 and 2009 [6].

Aim of the Study

Report the case of traumatic ulcerative granulomatosis with stromal eosinophilia related to broken tooth that can be mimic squamous cell carcinoma.

Case Report

61 years old, female patient, medically free, referred to oral medicine clinic because she was complaining of lesion in lateral side of tongue for 3 months, the clinical examination shows exophytic nodular lesion with rolled margin cover by fibrin membrane as shows in figure 1, the lesion also indurated during palpation, during dental examination also there was sharp broken tooth near to the presented lesion.

Figure 1: *Clinical picture shows nodular lesion with rolled margin covering by fibrin membrane measure 1.5*1 cm in diameter located in the right lateral side of the tongue.*

Clinical differential diagnosis for presented lesion were traumatic ulcerative granulomatosis and squamous cell carcinoma.

Biopsy was taken from the lesion and has been send to histopathology evaluation, the histopathology result show edge shape biopsy lining by keratinized stratified squamous epithelium as shown in figure 2, another section of histopathology evaluation shows ulcerative area as shown in figure 3 and deep section reveled eosinophilic cells in skeletal muscle area, so the final result for lab test was traumatic ulcerative granulomatosis with stromal eosinophilia as shown in figure 3 and 4.

The patient was referred to extract the broken tooth and topical corticosteroid (clobetasol propionate .05%) was given 1 time a day for 5 days to apply it over the lesion, follow up after 7 days show rapid regression for the lesion and almost complete healing shown in area of the lesion as presented in figure 5.

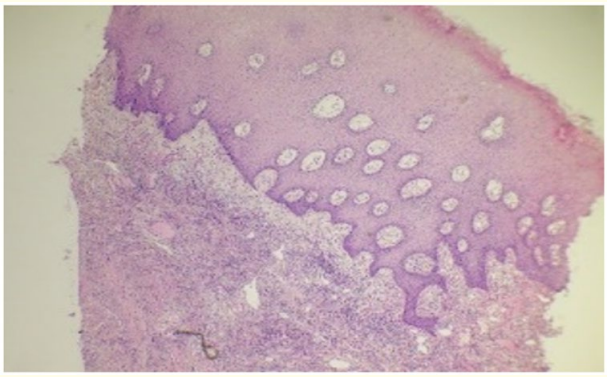

Figure 2: *Histopathological picture shows wedge shape of biopsy lining by keratinized stratified squamous epithelium.*

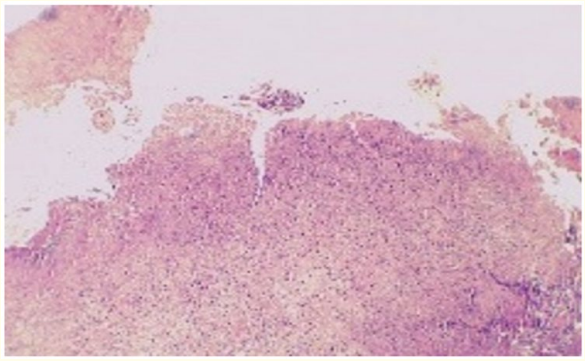

Figure 3: *Histopathological picture shows the area of ulcer.*

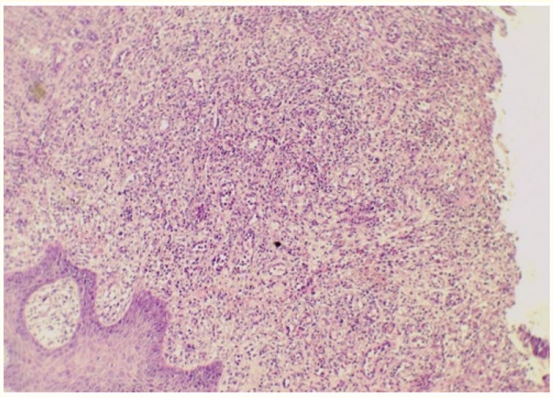

Figure 4: *Histopathological picture shows mix inflammatory cells and eosinophils clearly seen in the picture.*

Figure 5: *Clinical photograph shows the site of lesion after 2 weeks from dental and medication treatment.*

Results and Discussion

Traumatic ulcerative granulomatosis with stromal eosinophilia was first described by Popoff in adult patient in 1956, and the first case was reported in 1960 [8], another terminology has been used to describe such lesion like traumatic granulomatosis of the tongue and eosinophilic granulomatosis of tissue. In infant and neonates age group the lesion has been called Riga-Fede disease as it was first clinically described in 1881 by Riga and then histologically in 1890 by Fede [9].

Traumatic ulcerative granulomatosis with stromal eosinophilia may mimic some malignancy like squamous cell carcinoma or some infectious diseases such as primary syphilis and Epstein–Barr virus mucocutaneous ulcer [10] similar to our case the lesion presented in the tongue and mimic malignant lesion in oral cavity.

TUGSE is considered a chronic slow progressive ulcerative lesion, usually presented between fourth to sixth decades was most reported [11]. Similar to our presented case the patient in sixth decades of life.

Clinically, most of the TUGSE lesion appear as a promptly budding ulcer with elevated or indurated margins [12]. Like our case the lesion was indurated with rolled margin.

Shen WR., *et al*. was report the histopathology of his study was presented as a surface ulceration with para keratinized, stratified squamous surface epithelium in association with fibrovascular connective tissue which exhibited a dense, mixed inflammatory cell infiltrate chiefly composed of eosinophils [6]. Like presented case as shown in figure 2.

Traumatic ulcerative granulomatosis with stromal eosinophilia in histological evaluation typically characterized by granulation tissue associated with inflammatory infiltrate rich in eosinophils. In some cases, the eosinophils are preferentially located around degenerated muscle fibers in the bottom of the lesion, suggesting a possible relation with muscular injury [13,14]. Like presented case the histopathology shows area of ulcer in figure 3 and mix inflammatory cells and eosinophils clearly seen in figure 4.

Once the trauma is the major etiological factor of this lesion, the patient should be referred to relieve the cause of the trauma, such as traumatic lesion caused by parafunctional habits, prosthetic device, orthodontics or other dental devices [4], sharp broken tooth is the cause of traumatic lesion in our case.

Other reasonable conservative modalities of management to improve healing time in an otherwise healthy individual include the topical use of a 0.1% triamcinolone acetonide mouthwash, electrocoagulation, and liquid nitrogen [14].

However, although surgical excision is also an acceptable form of treatment for TUGSE, providing rapid healing after excision of the lesion. Special attention needs to be given to the histopathological diagnosis of this lesion because it may present clinical features that mimic malignancy, leading inadvertently to an overtreatment [9].

In our case the main cause for the lesion has been eliminated by extracted sharp broken tooth and the topical corticosteroid has been given (Clobetasol propionate 0.05%) given once daily for 5 days, the complete healing seen as shown in figure 5.

Recurrence is not expected in cases of TUGSE. In the series of 34 cases reported by Shen., *et al*. in 2015, relapse of the lesion occurred in only one case, likely due to failure to eliminate the causative factors such as sharp tooth margins and ill-fitting prostheses [6].

Conclusion

The presented case showed oral ulcerative lesion that mimic squamous cell carcinoma, and it was related to badly broken tooth, the investigation specially biopsy is mandatory in such case to exclude malignancy. In presented case the final diagnosis confirmed by biopsy, and it was traumatic ulcerative granulomatosis with stromal eosinophilia related to sharp broken tooth, the extraction was done for broken tooth and topical corticosteroid given to improve the healing of the lesion.

Bibliography

1. Banerjee Abhishek., *et al*. "Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE): a rare self-healing oral mucosal lesion". *BMJ Case Reports* 14.8 (2021): e245097.

2. Marszałek Andrzej and Izabela Neska-Długosz. "Traumatic ulcerative granuloma with stromal eosinophilia. A case report and short literature review". *Polish Journal of Pathology* 62.3 (2011): 172-175.

3. S Shah Ashna., *et al*. "Clinical considerations associated with traumatic ulcerative granuloma with stromal eosinophilia". *International Journal of Dermatology* 61.7 (2022): e272-e274.

4. Butler Jason N and Todd T Kobayashi. "Traumatic ulcerative granuloma with stromal eosinophilia: a malignant-appearing benign lesion". *Cutis* 100.2 (2017): E28-E31.

5. Aizic A., *et al*. "Traumatic ulcerative granuloma with stromal eosinophilia: CD30 analysis and clonality for T cell receptor gene rearrangement". *Acta Histochemica* 121.8 (2019): 151450.

6. Shen Wei-Ren., *et al*. "Oral traumatic ulcerative granuloma with stromal eosinophilia: A clinicopathological study of 34 cases". *Journal of the Formosan Medical Association* 114.9 (2015): 881-885.

7. Correia-Neto., *et al*. "Traumatic ulcerative granuloma with stromal eosinophilia mimicking a squamous cell carcinoma". *Journal of Clinical and Experimental Dentistry* 16.3 (2024): e377.

8. Shapiro L and EA Juhlin. "Eosinophilic ulcer of the tongue: report of two cases and review of the literature". *Dermatologica* 140.4 (1970): 242-250.

9. Sharma BhuShan., *et al*. "Traumatic ulcerative granuloma with stromal eosinophila: a case report and review of pathogenesis". *Journal of Clinical and Diagnostic Research: JCDR* 10.10 (2016): ZD07-ZD09.

10. Benitez Benito., *et al*. "Traumatic ulcerative granuloma with stromal eosinophilia—clinical case report, literature review, and differential diagnosis". *World Journal of Surgical Oncology* 17 (2019): 1-6.

11. Alobeid Bachir., *et al*. "Eosinophil-rich CD30+ lymphoproliferative disorder of the oral mucosa: a form of "traumatic eosinophilic granuloma"". *American Journal of Clinical Pathology* 121.1 (2004): 43-50.

12. Doyle John L., *et al*. "Eosinophilic ulcer". *Journal of Oral and Maxillofacial Surgery* 47.4 (1989): 349-352.

13. SahanaPushpa Thaneraj and Rajendran Balamurugan. "Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE): a rare presentation and case report". *Canadian Journal of Dental Hygiene* 56.1 (2022): 39-41.

14. Fonseca Felipe Paiva., *et al*. "Clinicopathological and immunohistochemical analysis of 19 cases of oral eosinophilic ulcers". *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology* 115.4 (2013): 532-540.

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