

## TRAUMATIC ULCERATIVE GRANULOMA WITH STROMAL EOSINOPHILIA – A CLINICAL CASE REPORT

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### Abstract:

Traumatic Ulcerative Granuloma with Stromal Eosinophilia (TUGSE) is a rare disorder that typically affects the tongue and is thought to be a reactive benign lesion of the oral mucosa. TUGSE lesions may imitate infectious illnesses like primary syphilis, tuberculosis, or Epstein-Barr virus mucocutaneous ulcers, or they can mimic malignancies like squamous cell carcinoma, CD30 positive lymphoproliferative disorder, or both. Histocytes, eosinophils, and lymphocytes are the cells that dominate histology. As a result, this entity requires close attention in order to stress the importance of accurately diagnosing indurated ulcerated lesions and communicating appropriate and efficient treatment. This unique lesion's clinical features, etiopathogenesis, and histology are highlighted in the current case.

**Keywords:** Traumatic ulcer, Traumatic granuloma, Inflammatory cells

### INTRODUCTION:

Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE) is a rare, benign, and self-limiting lesion of the oral mucosa amid a chronic course and delayed healing (1). The most frequently affected area is the tongue, but it can also affect the buccal and vestibular mucosa, palatal mucosa, retromolar area, gingiva, and floor of the mouth (2,8). Although the exact cause of TUGSE is unknown, a localized traumatic event is a strong risk factor. Other potential causes include incisional biopsies, poorly fitting dentures, and sharp tooth margins. This uncommon lesion is significant because it is sometimes mistaken as oral cancer or particular illnesses such as the Epstein-Barr virus ulcer, primary syphilis, or TB(3). Microscopically, it is identified by a diffuse infiltrate of polymorphic cells, mainly eosinophils, B and T lymphocytes, macrophages, and big atypical cells affecting the mucosa on the surface and penetrating deeply into the submucosa, leading to the underlying muscle degeneration (3). The incidence of TUGSE peaks between the fifth and seventh decade of life. The effects are almost equal for men and women. After potential microtrauma triggers are eliminated, the lesion often regresses on its own in a few weeks to months. The healing process can take up to a year in certain situations.

### CASE REPORT:

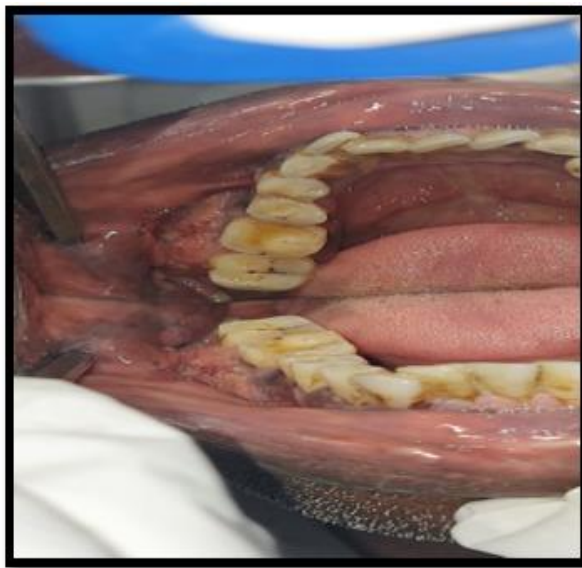
A 61 year old male presented to the outpatient department with the chief complaint of swelling and growth in the right lower back tooth region for past 1 week. He gave a history of Swelling in the lower right back tooth Region, which was sudden in onset, ruptured and went to nearby private clinic where medications and ointment were prescribed. After

application of that ointment he developed ulcer in that region & then reported to our hospital. Patient did not give any history of pain and local trauma by any adjacent teeth.

On clinical examination a diffuse swelling is evident in the right side of the mandible region extra orally. Facial symmetry is normal. No evident of bleeding and edema is present, tender palpable Level IB lymph node on the right side is involved. Intra orally and ulcerative lesion of size 4×2 cm evident on right mandible alveolus extending antero posteriorly from distal aspect of 45 to 47 region, superiorly to the gingival margin and inferiorly to the vestibule region. On palpation obliteration of Buccal vestibule is evident and the growth is irregular in shape with everted edges and indurated borders. No evidence of bleeding/ pus discharge.

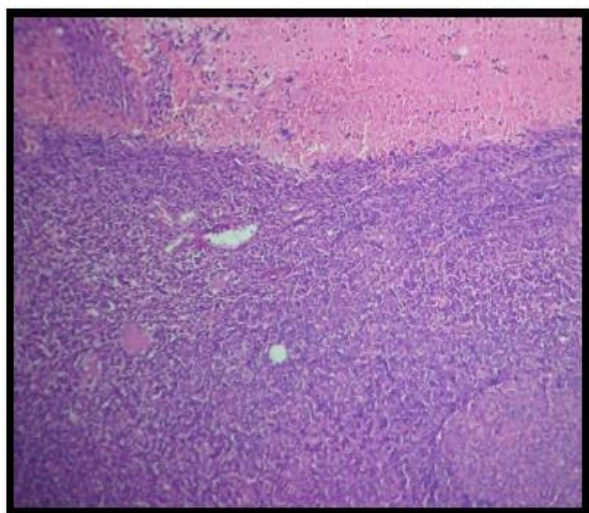


**FIGURE:1**

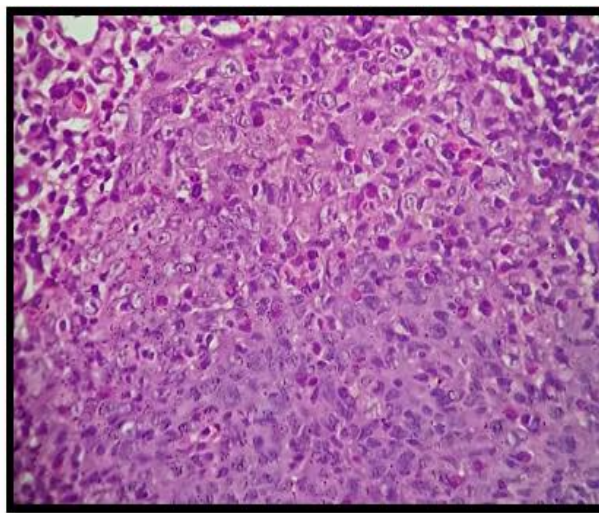


**FIGURE:2**

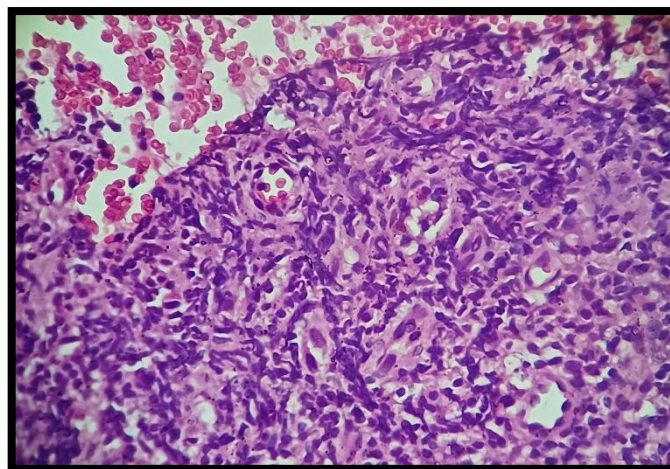
Provisional diagnosis is given as oral squamous cell carcinoma and incisional biopsy is taken under local anaesthesia and sent for histopathological examination. Microscopic examination shows stratified squamous lining epithelium exhibiting pseudoepitheliomatous hyperplasia and ulceration. The underlying fibromuscular stroma contains diffuse polymorphous inflammatory infiltrate of lymphocytes, plasma cells, macrophages and numerous eosinophils. Also seen are collections and nests of polyhedral cells with epithelioid morphology having abundant eosinophilic cytoplasm and ovoid to round vesicular nuclei with conspicuous nucleoli admixed with lymphocytes, eosinophils and occasional foreign body giant cells. Focal areas show melanin pigment incontinence. No evidence of dysplasia or frank invasive malignancy in the sections studied.



**FIGURE:3A(4X)**



**FIGURE:3B(10X)**



**FIGURE:3C(40X)**

**FIGURE:3A,3B&3C** – Section Shows stratified squamous lining epithelium exhibiting pseudoepitheliomatous hyperplasia and ulceration. Collections and nests of polyhedral cells with epithelioid morphology having abundant eosinophilic cytoplasm and ovoid to round vesicular nuclei with conspicuous nucleoli admixed with lymphocytes, eosinophils and occasional foreign body giant cells.

Based on clinico- pathologic features a final diagnosis of **RIGHT BUCCAL MUCOSA AND ALVEOLUS-TRAUMATIC ULCERATIVE GRANULOMA WITH STROMAL EOSINOPHILIA (TUGSE)** is given.

## **DISCUSSION:**

Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE) is a rare, benign, and self-limiting lesion of the oral mucosa amid a chronic course and delayed healing (1). The disease usually affects the tongue and presents as an isolated ulcer that may be asymptomatic or cause mild to severe pain. The incidence of TUGSE rises between the fifth and seventh decade and during the first two years of life, mostly in relation to teething. Nearly equal numbers of men and women are impacted, with a slight female predominance (2,7,9).

Elzay first used the word TUGSE in 1983(14). TUGSE was first reported histologically by Fede in 1890 and clinically by Riga in 1881(10,11). The terms "sublingual granuloma," "traumatic granuloma," "eosinophilic granuloma," "eosinophilic ulcer," and "ulcerative eosinophilic granuloma" have all been used to refer to this lesion (12,13). Atypical histiocytic granuloma, proliferative myositis, primary syphilis, salivary gland tumors, lymphoma, lymphphangioma, traumatic neuroma, and metastases are a few examples of the clinical differential diagnosis(4). Although the primary idea linking TUGSE to trauma is still unclear, damage is only found in less than half of the cases. In its development, theories about viral or poisonous agents and unintentional bites have also been included.

Histologically, the findings are typically granulomatous tissue alterations, occasionally resembling a jigsaw. The lesion has a diffuse polymorphic inflammatory infiltration that is primarily made up of activated T-lymphocytes, eosinophils, and histiocytes (4). In our case, the underlying fibromuscular stroma contains diffuse polymorphous inflammatory infiltrate of lymphocytes, plasma cells, macrophages and numerous eosinophils. Also seen are collections and nests of polyhedral cells with epithelioid morphology having abundant eosinophilic cytoplasm and ovoid to round vesicular nuclei with conspicuous nucleoli admixed with lymphocytes, eosinophils and occasional foreign body giant cells. These histopathological features were in correlation with our present case.

Although there is ongoing discussion over the pathophysiology of this lesion, a local traumatic event has been proposed as a significant contributing element. TUGSE bears usually for a few weeks and heals without any treatment. The lack of transforming growth factor alpha (TGF- $\alpha$ ) and transforming growth factor beta 1 (TGF- $\beta$ 1) production by infiltrating

eosinophils may be the cause of the delayed healing of oral traumatic ulcerative granuloma with stromal eosinophilia (1,5,6).

The most common type of therapy is straightforward surgical excision. Conservative measures for treating traumatic ulcerative granuloma with stromal eosinophilia include curettage, topical steroids, topical antibiotics, and mouthwash. Since lesion resolution might happen in a matter of weeks, months, or even a year, routine surveillance or incisional biopsy can be used to determine the exact nature of the disease (7). It is advised to monitor on a quarterly basis for the first six months, then twice a year for the next two, and finally annually(1). Persistent micro-trauma or punctate haemorrhage could occur. Despite being recorded, the recurrence of lesion is usually absent. TUGSE is one of the differential diagnosis for oral carcinoma as it mimics the clinical features.

## CONCLUSION

The concrete pathogenesis for TUGSE remains unclear particularly if the patient presents in the absence of risk factors or a history of trauma as in this case. TUGSE is diagnosed based on clinical and histological findings. Because TUGSE can mimic viral infections or cancer, a complete clinical evaluation should be done in addition to the required biopsy (2). It is necessary to regularly screen for infectious disorders, primarily syphilis, Epstein-Barr virus, and HIV infections. This condition has a benign course and is typically self-healing.

## ANONYMITY:

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