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Case Report

TRAUMATIC ULCERATIVE GRANULOMA WITH STROMAL EOSINOPHILIA (TUGSE)-A PRECURSOR OF ORAL SQUAMOUS CELL CARCINOMA?

ABSTRACT

Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE) is a benign, chronic, reactive and self-healing lesion. It is composed of abundant eosinophils and small lymphocytes. Several studies have shown varying observations on the relation of tissue eosinophilia with the prognosis of oral cancer. Here, we present a case of a 65-year-old male who presented with a non-healing ulcer on the lateral border of the tongue, which was suggestive of TUGSE on histopathological examination. The patient was kept on strict monthly follow up and the second re-biopsy was suggestive of moderately differentiated squamous cell carcinoma. Literature does not support the transformation of TUGSE to oral squamous cell carcinoma; however, our experience suggests a close vigilance of such lesions due to its high clinical resemblance to malignancy. Hence, repeat biopsies on a regular basis are mandatory in cases where the clinical picture is highly suspicious.

Keywords: Oral cancer, squamous cell carcinoma, eosinophilia, tongue cancer, prognosis, lymph node.

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INTRODUCTION

TUGSE is an uncommon, chronic reactive lesion affecting the oral cavity with a self-healing nature.[1] It occurs commonly on the tongue and trauma is a significant contributing factor. TUGSE manifests clinically as a solitary non-healing ulcer with raised and indurated margins. Because of this misleading clinical appearance, TUGSE is often misdiagnosed as oral malignancy.[2] However, microscopic features of TUGSE are definitive and comprise of dense, polymorphic inflammatory infiltrate of abundant eosinophils and lymphocytes with the absence of dysplastic tissue changes.[3] The advancing front of oral squamous cell carcinoma may also show eosinophilic infiltration and poses a diagnostic challenge for the pathologists. TUGSE is a benign condition and literature does not support its transformation to oral malignancy at any stage. However, our clinical experience with the present case cautions about the possibility of TUGSE being a precursor of oral squamous cell carcinoma. Here, we report the first-ever case of TUGSE, eventually turning into malignancy in a three-month duration.

CASE REPORT

A 65-year-old male presented to the Department of Oral Medicine and Radiology, Manipal College of Dental Sciences, Manipal, India, with a complaint of a non-healing ulcer on the tongue of one-month duration. The ulcer was associated with mild pain. Personal history revealed that he was a chronic smoker and had quit the habit for three months. On intraoral examination, there was an ulceroproliferative growth with irregular and indurated margins on the right lateral border of the tongue with the classic clinical appearance of oral malignancy (Figure 1).

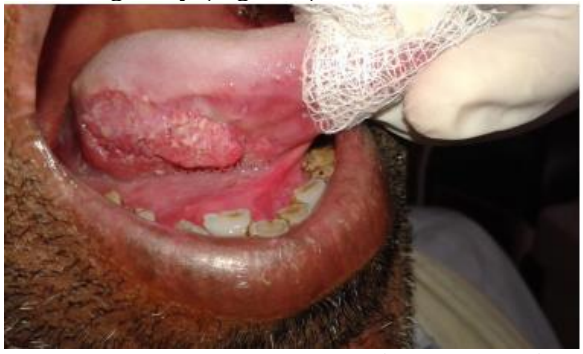

Figure 1. Initial clinical presentation of the ulceroproliferative growth on the right lateral aspect of the tongue

There were no sharp cusps of teeth adjacent to the lesion. Signed informed patient's consent was obtained and an incisional biopsy of the tongue lesion was performed under local anaesthesia. Histopathological examination of the lesion showed para keratotic stratified squamous hyperplastic epithelium with ulceration along with few inflammatory cells. The stroma exhibited dense polymorphic inflammatory cell infiltrate with abundant eosinophils, lymphocytes and neutrophils. The inflammatory infiltrate was extending from the subepithelial stroma to the deeper stroma comprising of muscle tissue. Numerous vascular spaces lined by plump endothelial cells and nerve bundles were noted. These features were suggestive of TUGSE (Figure 2), thus ruling out malignancy.

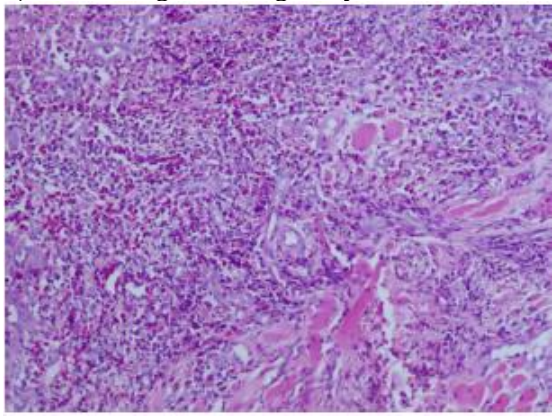

Figure 2. Photomicrograph (hematoxylin and eosin staining, original magnification × 100) depicting tissue eosinophilia

As the clinical picture was not matching with the benign nature of the lesion as suggested by the histopathological report, we advised a repeat biopsy, which reconfirmed the diagnosis of TUGSE. The patient was kept on strict monthly follow up. The growth showed mild regression of the exophytic component.

Figure 3. Follow up photograph after 2 months showing regression in the size of the growth

Re-biopsy after one month again demonstrated tissue eosinophilia without malignant features. On a three-month follow-up, there was a sudden increase in the endophytic component of the lesion. This warranted a re-biopsy and histopathology demonstrated malignant changes suggestive of moderately differentiated squamous cell carcinoma. The patient underwent right partial glossectomy with radical neck dissection followed by post-surgical radiotherapy and is kept on three monthly follow up. This case portrays the gradual progression of TUGSE, a benign reactive lesion into an established oral squamous cell carcinoma.

DISCUSSION

TUGSE is also known as eosinophilic ulcer, ulcerative eosinophilic granuloma and eosinophilic granuloma of soft tissue. It is a chronic, benign and reactive lesion with a self-limiting course.[1] The pathogenesis is unclear, with trauma being a significant contributing factor. It commonly presents as a solitary ulcer on the tongue with raised and indurated margins resembling oral squamous cell carcinoma (OSCC). OSCC usually occurs in males above 40 years of age, on the tongue and buccal mucosa followed by other intra-oral sites and is strongly associated with the use of tobacco (smoking and smokeless tobacco).[4,5,6]

Microscopically, TUGSE comprises of dense, polymorphic inflammatory infiltrate composed of abundant eosinophils and lymphocytes extending into the underlying muscle along with scattered large atypical histiocyte-like cells. The role of eosinophils is unclear and hypothesized that they could represent tissue response to some antigen introduced via mucosal injury.[2]A retrospective review by Hirshberg *et al.*[7] suggested that the lesion is self-healing with the duration ranging from several weeks to one year. Observations by Rahrotaban *et al*.[8] revealed the anti-tumour role of eosinophils with a positive correlation between the degree of tumour differentiation and tumour-associated tissue eosinophilia (poorly differentiated tumours had lesser tissue eosinophilia). Bankur *et al.*[9] performed a quantitative study on tumour-associated tissue eosinophils with various histological grades of oral squamous cell carcinoma and suggested that tissue eosinophilia is higher in well-differentiated squamous cell carcinoma compared to other grades.

Jain S *et al.*[10] conducted a study on 35 patients with OSCC and examined the tumour as well as the lymph node status for tumour-associated tissue eosinophilia and found a weak positive correlation between mean eosinophils count in tumour and lymph nodes. Yellapurkar *et al*.[11] noted that haematoxylin and eosin staining of tissues showed significantly better visualization of eosinophils than Congo red staining and that tissue eosinophil counts were higher in cases of well-differentiated SCC with lymph node involvement and cases with no recurrence. Falconieri *et al*.[12] concluded that stromal invasion and metastatic lymph nodes were noted in all cases of eosinophil-rich OSCC.

Several studies have shown varying observations on the relation of tissue eosinophilia with the prognosis of oral cancer. Lowe *et al.*[13] suggested that tumour associated tissue eosinophilia alone has a better prognosis than those without, while tumour-associated blood eosinophilia is associated with tumour spread and a poor prognosis. A study by Dorta *et al.*[14] suggested that an independent favourable prognostic factor for oral cancer was intense Tumour Associated Tissue Eosinophilia (TATE). Whereas, Rakesh *et al.*[15] noticed a significant association between intense tissue eosinophilia and locoregional recurrence.

CONCLUSIONS

Literature does not support the transformation of TUGSE to oral squamous cell carcinoma; however, our experience suggests a close vigilance of such lesions due to its high clinical resemblance to malignancy. Hence, repeat biopsies on a regular basis are mandatory in cases where the clinical picture is highly suspicious.

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CONFLICT OF INTEREST

No conflicts of interest to disclose

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