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ORIGINAL ARTICLE

Oral traumatic ulcerative granuloma with stromal eosinophilia: A clinicopathological study of 34 cases

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Background/Purpose: Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE) is a special oral ulcerative lesion that shares many clinical features of an oral squamous cell carcinoma. This study reports the clinicopathological features of 34 oral TUGSE lesions in Taiwanese patients.

Methods: Thirty-four TUGSE cases were retrieved from the files of the Department of Oral Pathology and Oral Diagnosis, National Taiwan University Hospital from 2003 to 2009. Their clinical data and histopathological features were examined, collected, and analyzed.

Results: The study group included 22 male and 12 female patients (64.7% and 35.3%, respectively) with oral TUGSE. The mean age of the patients was 49 years (range, 8 to 80 years). The most common site for oral TUGSE lesions was the tongue (23 cases, 67.6%), followed by the buccal mucosa (6 cases, 17.6%), retromolar area (2 cases, 5.9%), floor of the mouth and lingual sulcus (2 cases, 5.9%), and lip (1 case, 3.0%). For 23 tongue cases, 19 occurred on the dorsum and the tip (82.6%) and 4 on the ventral surface (17.4%). Of the 34 oral TUGSE lesions, 13 (38.2%) had a mild, 11 (32.4%) a moderate, and 10 (29.4%) a severe eosinophilic infiltrate.

Conclusion: Oral TUGSE lesions occur more frequently on the dorsal surface and the tip of the tongue and in male patients between 41 and 60 years of age. The eosinophilic infiltrates in oral TUGSE lesions show a scattered or clustered pattern, and their density varies from case to

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case. Oral TUGSE is a self-limiting lesion, and aggressive surgical treatment is usually not required.

Introduction

Traumatic ulcerative granuloma with stromal eosinophilia (TUGSE) is a rare, benign ulcerative lesion of the oral mucosa. Although the tongue is the most commonly location involved,[1–3] oral TUGSE lesions can also occur on other oral mucosal sites including buccal mucosa, retromolar area, floor of the mouth, vestibular mucosa, gingiva, and palatal mucosa.[1–4] Clinically, an oral TUGSE lesion manifests as a slow-healing ulcer with an elevated or rolled border, mimicking a squamous cell carcinoma. The duration of healing ranges from 1 week to 1 year.[2–4] Delayed healing of TUGSE lesions has been reported to be associated with the lack of secretion of transforming growth factor (TGF)-α and TGF-β by eosinophils infiltrating the lesions.[5] The etiology of TUGSE is still not clear, but traumatic irritation is considered to be the most likely cause.[1,4]

Histologically, TUGSE is characterized as a lesion with surface ulceration and underlying granulomatous tissues showing an inflammatory infiltrate rich in eosinophils. The same histological manifestation in infants is called Riga-Fede disease, in which the lesion usually occurs on the ventral surface of tongue and is caused by irritation of erupting mandibular incisors.[3] Oral TUGSE is generally considered to be a reactive lesion.[4] However, CD30+ cells and a monoclonal rearrangement of the T-cell receptor γ (TCR γ) chain gene similar to those found in primary cutaneous CD30+ lymphoproliferative disorders have been reported in part of TUGSE lesions.[1,4,6–9] Therefore, some authors even suspected that TUGSE may be the oral counterpart of primary cutaneous CD30+ lymphoproliferative disorder.[6]

To the best of our knowledge, there was no series of oral TUGSE lesions reported in Taiwanese patients. In this study, we described the clinical and histopathological features of 34 oral TUGSE lesions in Taiwanese patients and compared our findings with those from previous studies of oral TUGSE lesions.

Materials and methods

The study group consisted of 34 cases of TUGSE retrieved from the files of the Department of Oral Pathology and Oral Diagnosis, National Taiwan University Hospital from 2003 to 2009. Nineteen specimens (55.9%) were obtained from incisional biopsy, and 15 (44.1%) from excisional biopsy. Demographic data, including the sex and age of patients as well as the location, clinical diagnosis, symptoms and signs, treatment, and recurrence of the lesions were obtained by reviewing the dental and medical charts.

The specimens were fixed with 10% neutral formalin for at least 12 hours, dehydrated in graded alcohol, and then embedded in paraffin. Tissue sections (4 μm thick) were cut and stained with hematoxylin and eosin. Histopathological diagnosis of TUGSE was based on examination of hematoxylin and eosin-stained tissue sections without the help of immunohistochemistry. In addition to the collection of histopathological features of each TUGSE case, we also counted at least three foci of the densest eosinophilic infiltrates for each case, and determined the mean level of the eosinophilic infiltrates using a 40× high-power field. The mean level of eosinophilic infiltrates was defined according to the following criteria: mild (0∼20 eosinophils per high-power field), moderate (20∼40 eosinophils per high-power field), and severe (more than 40 eosinophils per high-power field).

Results

Clinical features

Demographic and clinicopathological data of the 34 oral TUGSE lesions are shown in Table 1. There were 22 male

Table 1 Demographic and clinicopathological data of 34 patients with traumatic ulcerative granuloma with stromal eosinophilia (TUGSE).

	Case number	Percentage (%)
Sex		
Male	22	64.7
Female	12	35.3
Age (y)		
1—20	5	14.7
21—40	5	14.7
41—60	14	41.2
61—80	8	23.5
81—100	2	5.9
Location		
Tongue	23	67.6
Buccal mucosa	6	17.6
Retromolar area	2	5.9
Floor of mouth or lingual sulcus	2	5.9
Lip	1	3.0
Clinical diagnosis		
TUGSE	13	38.2
Ruled out cancer	11	32.4
Traumatic ulcer	5	14.7
Chronic ulcer	5	14.7
Mean level of eosinophilic infiltrates		
Mild	13	38.2
Moderate	11	32.4
Severe	10	29.4