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Tongue Ulcer in a Teenage Girl Diagnosed As Squamous Cell Carcinoma: Diagnostic Tip-Off by Exfoliative Cytology

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Case Report

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Abstract: Ulcers on the tongue in teens are not a rarity, they commonly occur due to trauma, as a manifestation of recurrent aphthous ulcers, infection and rarely due to malignancy like squamous cell carcinoma. Squamous cell carcinoma (SCC) is the common malignancy involving oral cavity but usually affects elderly males. This case report presents an uncommon case of squamous cell carcinoma in 17-year old female occurring on lateral border of tongue. There was absence of deleterious habits. Exfoliative cytology procedure gave a hint about dysplastic epithelial cells and biopsy was done to prove the suspicion of malignancy. A brief review of literature regarding occurrence of SCC in young individuals is also included.
Keywords: Squamous cell carcinoma, oral cavity, tongue, young adult, etiology.

INTRODUCTION

Tongue ulcer in the oral cavity especially on the tongue can be due to trauma, infection and rarely due to malignancy in the teenage group. Squamous cell carcinoma (SCC) accounts for approximately 90% of the Head and neck cancers. It usually occurs in men above the age of 50 years. Patient gives a history of tobacco use or alcohol consumption [1]. In recent years there has been an increasing incidence of occurrence of Squamous cell carcinoma (SCC) in individuals less than 40 years of age [2,3]. Rarity of the lesion in younger age group, limits the understanding on aetiology, natural history and treatment modalities[4]. In this article, we report an interesting case of SCC in 17 year old girl, the importance of exfoliative cytology and microscopic investigation of the lesion for diagnosis. In addition we would like to emphasize that SCC, even though rare, must be considered as a differential diagnosis for a non-healing ulcer in young individuals.

CASE REPORT

A 17-year old female patient reported to department of Oral Medicine complaining of an ulcer on the right side of tongue since two years. The ulcer has not been healing. The patient revealed that she had visited an ayurvedic doctor for treatment of the same and found no relief with it. Patient revealed no habits of tobacco or any significant dental or medical history.

On clinical examination, an ulceroproliferative growth 1.5 x 2cm was seen on the lateral aspect of tongue extending to the ventral surface of the tongue. The lesion was indurated. (Figure 1A) Provisional diagnosis of traumatic ulcer or granulomatous ulcer was suggested. With an informed consent from the patient, cytology smears were prepared.

Cytological smears stained with haematoxylin and eosin, and papanicolou stains showed sheets of epithelial cells with cellular pleomorphism and altered nuclear cytoplasmic ratio. The hyperchromatic nuclei were pleomorphic, with few vesiculated nuclei containing prominent nucleoli (Figure 1B). It was diagnosed as Class IV smear and incisional biopsy was advised.

Following incisional biopsy, a single bit of tissue was submitted, whitish brown in colour, firm in consistency, and measuring 0.6cm x 0.8cm x 0.6cm. Microscopically, parakeratinized stratified squamous epithelium and connective tissue was seen. The connective tissue showed presence of dysplastic epithelial cells in the form of cords, nests, and sheets. The dysplastic features seen were altered nuclear cytoplasmic ratio, pleomorphism, prominent nucleoli,

increased and abnormal mitoses, and individual cell keratinization. Tumour giant cells were also seen in the connective tissue. The dysplastic epithelial cells were infiltrating into the muscles. Collagen fibres, fibroblasts, chronic inflammatory cells with few eosinophils were also present. These findings were suggestive of moderately differentiated squamous cell carcinoma (Figures 1C-E). The patient did not return for further treatment.

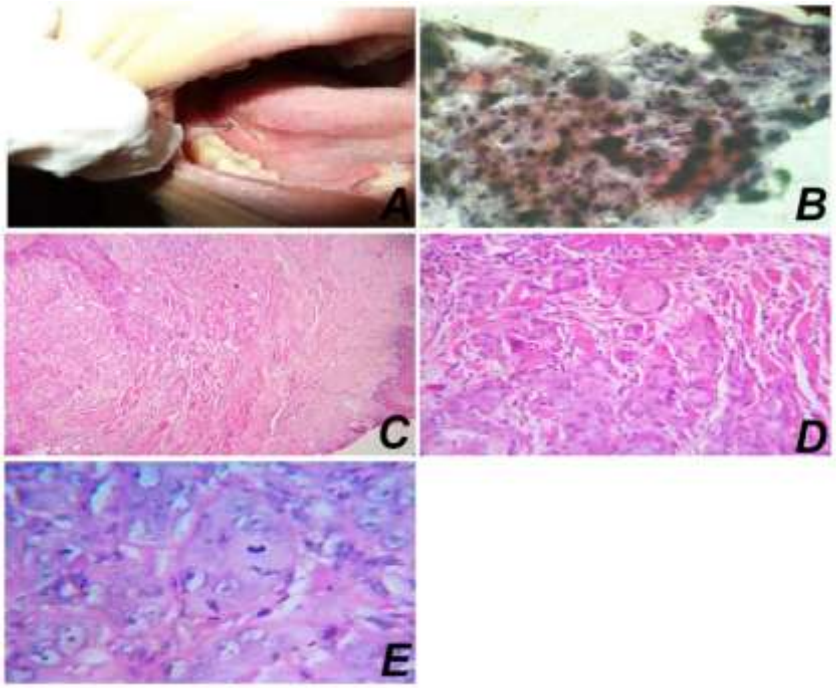

Fig-1A: Ulceroproliferative lesion on right lateral border of tongue is seen. B: Micrograph showing pleomorphic cells in cytology smear (Papanicolou stain, X400 magnifications). C: Micrograph shows the presence of dysplastic islands invading the muscles (Haematoxylin and eosin, X100 magnifications). D: Micrograph shows dysplastic islands invading muscle. Chronic inflammatory cells surrounding the dysplastic islands were also seen. (Haematoxylin and eosin, X400 magnifications). E: Micrograph shows cellular and nuclear pleomorphism as well as abnormal mitosis. (Haematoxylin and eosin, X1000 magnifications)

DISCUSSION

SCC of oral cavity and oropharynx in individuals under 40 years of age is rare with an incidence of 1-6% [5,6]. Average age of occurrence in the literature is 30.8 to 34.2 years [1,7]. In the present case it occurred in a 17 year old girl.

SCC in young individuals shows a male preponderance. The male to female ratio reported in various studies differ accounting for variations in geographic location and lifestyle. The ratio range from 1.6:1 to 6.7:1 [8].

The most common site of involvement in literature is tongue [8]. In the present case, the site of occurrence is lateral border of tongue. Clinical presentation of SCC shows similar features to SCC occurring in older age group [9]. In the present case the lesion presented as an ulcero-proliferative growth.

Differential diagnosis will be granulomatous infection such as tuberculosis, deep mycoses, and primary syphilis cancrum. Tuberculosis is ruled out if systemic signs of weight loss, haemoptysis, cough, and fever are absent. In addition, histological findings reveal caseating granulomas with langhans giant cells and presence of acid fast bacilli[10]. Clinically, deep mycotic infections are not indurated and histologically show granulomatous reaction with the presence of fungal organisms. For the present case tuberculosis was considered as differential diagnosis. In the present case, patient did not have the classical signs and symptoms of tuberculosis.

Etiological factors associated with SCC are debatable as only few cases are associated with short exposure of tobacco or alcohol consumption. For the remaining set of individuals the probable risk factors include genetic predisposition, previous viral infection (Epstein Barr virus, Herpes simplex virus and Human papilloma virus), dietary factors, immunodeficiency, socioeconomic condition and poor oral hygiene [4,9]. In the present case patient did not give any history on consumption of tobacco or alcohol. Use of ayurvedic medicines was mentioned by her.

Some authors claim that SCC in young individuals is an aggressive disease with higher local or

regional recurrences and shorter survival rates, thus they suggest an aggressive treatment modality. On the other hand, some authors found no difference in the recurrence rate and recommended the same treatment modality as done for older age group individuals [8]. In the present case, patient was lost during the follow up for excisional biopsy.

CONCLUSION

Oral SCC is rare in young patients, and observation of cases such as that described here should involve a thorough clinical study, a simple chair side procedure like exfoliative cytology can help to rule out dysplastic changes in the epithelium, along with an analysis of etiologic factors associated with the disease and a biopsy for histopathologic confirmation of the clinical suspicion.

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