Tongue Squamous Cell Carcinoma in a Young Patient Free of Risk Factors: A Case Report

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ABSTRACT
Tongue squamous cell carcinoma progresses from an oral premalignant lesion to invasive squamous cell carcinoma. The incidence of tongue carcinoma has been increasing markedly even in patients free of risk factors as the reporting case of a 22-years-old female complaining of small tender whitish discoloration over the left side of the tongue. First there was a dilemma in the diagnosis taking in consideration that she is young and free of risk factor, but the magnetic resonance imaging of the head and neck showed a heterogenous mass in the tongue with deep muscular invasion. After the result of positron emission tomography–computed tomography, the patient underwent left hemiglossectomy with left supraomohyoid neck dissection and histopathology report showed invasive squamous cell carcinoma. Thus, she was referred for adjuvant radiotherapy. At this point, it emphasized that early recognition is essential; as an extensive history should be obtained from the patient that includes the symptoms emerged and risk factors.

Keywords
Carcinoma, Squamous cell, Tongue neoplasms, Leukoplakia

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INTRODUCTION
Oral tongue squamous cell carcinoma (OTSCC) is common among oral and oropharyngeal malignancies. Squamous cell carcinoma (SCC) can present as an ulcer, thickened patch or plaque, white or red in color, usually on the lateral border of the tongue[1]. Although OTSCC commonly presents as a non-healing ulcer, it sometimes present as a premalignant lesions, which progress to hyperplasia and dysplasia, then into carcinoma in situ, and finally to invasive SCC[2]. Early recognition is essential for a successful treatment. Therefore, a detailed history should be obtained from the patient, including symptoms, and such risk factors as tobacco and alcohol use. A thorough physical examination of the oral cavity is also important, with particular attention to cervical lymphadenopathy.

The incidence of oral cancer in relatively young people (≤ 40 years) is increasing worldwide[3,4]. However, in Saudi Arabia, oral cancer rates apparently are more common in areas where shamma (smokeless tobacco) is a habit[5]. The present report is a case of OTSCC that occurred in a young adult female, apparently healthy and free of risk factors.

CASE REPORT
A 22-years-old Saudi female presented to the Otolaryngology Head and Neck Surgery Clinic complaining of a small tender lesion, whitish in color, on the left side of the tongue. One week later, the patient experienced ipsilateral otalgia, which she sought medical advice. There was no history of ear discharge, hearing loss, or recent upper respiratory tract infection (URTI). There was also no history of dysphagia, odynophagia, hemoptysis, hoarseness, articulation difficulties, weight loss or appetite loss. The patient had no family history of any malignancies and she denies any history of tobacco smoking or alcohol consumption. Upon examination, the patient had a left tongue leukoplakia, with a mass measuring 2.8 cm in diameter. No other abnormalities were noticed in the oral cavity. The tongue had normal protrusion movement, there were no palpable cervical lymph nodes, and cranial nerves appeared to be normal. Magnetic resonance imaging (MRI) of the head and neck showed a heterogeneous mass in the left anterior two-thirds of the tongue, with invasion of the deep musculature of the tongue, but with no involvement of the floor of the mouth (Fig. 1). A positron emission tomography–computed tomography (PET/CT) scan showed a focal area of intense fluorodeoxyglucose (18F-FDG) uptake on the left side of the tongue, with a maximum standard uptake value of 13. CT scans of the chest, abdomen, and pelvis were negative for distant metastasis. Clinically, the patient was staged as T2N0M0, based on TNM staging. The patient underwent left hemiglossectomy, with left supraomohyoid neck dissection and left free forearm flap. Histopathology revealed invasive, moderately to poorly differentiated squamous cell carcinoma, 2.5 cm in greatest diameter, with 1.8 cm deep perineural invasion (Fig. 2). All margins were free with no nodal involvement. The patient received a total of 30 sessions of adjuvant radiotherapy based on the depth of the tumor. After regular follow for two years, she had a satisfactory recovery. There was neither local recurrence nor distant metastasis observed.

DISCUSSION
The occurrence of OTSCC in a young female is rare; however, the incidence has been increasing in patients free of risk factors[6], as in the present case. Risk factors include chronic alcohol use and tobacco smoking, older age, and family history of upper aerodigestive tract cancers[6]; however, the strong association of smoking with oral cancer found

FIGURE 1.
Transverse T2-weighted magnetic resonance imaging (MRI) scans of the head and neck, showing heterogeneous mass in the left posterior one third of the tongue.
in older patients does not hold for younger age groups\(^7\). Pre-malignant lesions on the tongue include leukoplakia and erythroplakia. Leukoplakia, a predominantly white lesion of the oral mucosa that cannot be characterized as any other definable lesion\(^6\), indicates a benign change to the mucosal epithelium, including but not limited to hyperkeratosis and parakeratosis. Erythroplakia, a red velvety plaque on the mucosa, cannot be ascribed to any other predetermined condition\(^9\). Either type of lesion can be the first and only presentation for tongue cancer, as in our patient, who presented with leukoplakia.

Close monitoring and frequent clinical exam might detect changes in a lesion indicating malignancy\(^10\). However, the cancer can grow to a significant size before causing symptoms, such as mild pain and tenderness, speech and swallowing difficulties, and lingual nerve involvement that presents as a referred ear pain. A complete head and neck examination should be performed, including determination of lesion size, site, and nodal involvement. Dental evaluation should be carried out\(^11\), as well as an assessment of the patient’s nutritional status, due to possible difficulty in swallowing. Abnormal MRI results are important for evaluating tongue carcinomas, especially when correlated with abnormal pathologies. MRI can also be used to predict nodal metastasis, through correlation with tumor thickness\(^11\).

Partial glossectomy is considered as the most appropriate treatment for OTSCC\(^12\). As stated, Spiro et al., reported control rates of 85.1\% for Stage I, 77.0\% for Stage II, and 50\% for Stage III lesions after partial glossectomy\(^13\). In the cases of oral cancer with a TNM staging score of N0, as in our patient, there are many treatment options, such as selective neck dissection (ND), therapeutic ND, and prophylactic irradiation. Elective ND or prophylactic irradiation has been suggested by multiple studies\(^12,13\). Tongue tissue is high vascularized, and partial glossectomy by the ultrasonic method, using a harmonic scalpel, reduces post-operative bleeding\(^12\). Radiotherapy, following surgery, offers a high local control rate in addition to the preservation of function for patients with early tongue cancer\(^14,15\).

The present case report demonstrated that patients with OTSCC can be presented at a young age, with no identifiable risk factors. Young patients diagnosed in early stages of OTSCC might benefit from a multidisciplinary approach to management of their disease, to preserve the shape and function of the tongue. Future case studies or retrospective studies might provide insight into unknown risk factors for OTSCC, such as nutritional deficiencies, genetic mutations, and other unknown or novel carcinogens.
Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

REFERENCES


سرطان التجويف الفملي في فتاة خالية من عوامل الخطرة: تقرير حالة

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المستخلص:

سرطان الخلايا الحرشفية للقائمة، يمر بمرحلة انتقالية تسمى "ما قبل سرطان الجسم" ثم يصل إلى مرحلة سرطان الجسم عميق
الانتشار، وقد تناول حديث سرطان القائمة بشكل محدود لدى المرضى الذين ليس لديهم مخاطر الإصابة بسرطان هذا المرض، فنحن
هنا نستعرض حالة سرطان الفملي تبلغ من العمر 22 سنة، كانت تشوكي من ألم وتغير إلى اللون الأبيض في الجانب الأيسر من القائمة، وفي
البداية كان هناك مشكلة في التشخيص، إذا أخذت الاعتبار أنها صغيرة السن وإقامة من مخاطر الإصابة بسرطان القائمة،
ولكن التصوير بالرنين المغناطيسي للرأس والرقبة، أظهر كتلة غير متجانسة في القائمة مع إتاحة عمق في الجزء العضلي، وبناء
على نتيجة التصوير المقطعي بالإسقاطات البوبفيزيونو، خضع لتغييرات في التشخيص نقص الشاشة الأيسر مع إتاحة الغدد
اللمفاوية من الجهة نفسها، وأظهر الفحص البصري وجود خلايا سرطانية عميق الإتاحة من نوع الخلايا الحرشفية، وقد بدأت
الخليجية العلاج الإشعاعي لتمام هذه الحالات، وتوفرت هذه حالة أن التشخيص المبكر أمر هام وضروري، إضافة إلى تدوين
تاريخ المرض، بشكل مفصل، من حيث ظهور أي من الأعراض، أو وجود مخاطر لهذا المرض لدى الشخص المصاب.