

The Significance of Clinical Examination in Diagnosing Oral Squamous Cell Carcinoma

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Abstract

Oral squamous cell carcinoma (OSCC) is a malignant tumor that arises from the squamous epithelium in the oral cavity. Timely identification of this condition is essential for effective treatment and improved patient outcomes. In this regard, clinical examination plays a pivotal role in the accurate detection and diagnosis of oral lesions, particularly OSCC located on the lateral border of the tongue. This case report aims to underscore the significance of a thorough clinical examination as an effective method for screening and diagnosing OSCC on the lateral border of the tongue. A precise and systematic clinical examination is crucial for the early detection of OSCC on the lateral border of the tongue, achieved through diligent visual assessment and careful palpation of suspicious areas. Emphasizing this approach by dental professionals enhances early diagnosis rates, leading to improved clinical outcomes and prognosis for patients affected by this severe condition.

Keywords: Oral Squamous Cell Carcinoma; Mouth Neoplasms; Tongue.

Introduction

Accurate disease diagnosis is a cornerstone of medical and dental practice. In dentistry, clinical examination is essential for identifying and diagnosing a range of pathologies. One notable challenge is the diagnosis of oral squamous cell carcinoma (OSCC), particularly on the lateral border of the tongue, due to its relatively high incidence and characteristics that may resemble other oral lesions¹.

OSCC is a malignant neoplasm that originates from the squamous epithelium of the oral cavity. Timely identification is crucial for effective treatment and enhanced patient prognosis. Various risk factors for oral cancer include tobacco use, age, gender, alcohol consumption, and human papillomavirus (HPV) infection^{2,3}.

This type of cancer is the most prevalent form of oral malignancy, primarily affecting chronic smokers and drinkers of both genders, with a higher incidence observed in males, particularly during their sixth and seventh decades of life⁴.

Clinically, OSCC may present as either exophytic or endophytic lesions. Exophytic manifestations are characterized by a vegetative increase in volume with hardened, papillary, and verruciform borders. In contrast, endophytic forms typically demonstrate invasive and ulcerated growth, which can appear as leukoplakic, erythroplakic, or erythroleukoplakic lesions⁵.

However, the clinical presentation of OSCC may often be misinterpreted as other benign conditions, or it may even be asymptomatic in its early stages, complicating the diagnostic process. Therefore, a biopsy is essential in any case that raises suspicion¹.

To facilitate an accurate evaluation, the clinical examination of the oral cavity should be comprehensive, systematic, and thorough, incorporating both visual observation and palpation of suspicious areas. Additionally, gathering a detailed patient history is critical to obtain information concerning personal and family medical history, lifestyle habits, and any reported symptoms¹.

Numerous studies and publications have underscored the significance of clinical examination in the early detection of malignant oral lesions, including OSCC. Recent research has pointed to the necessity of training oral health professionals to identify potentially malignant lesions and refer patients for specialized evaluation in a timely manner^{6,7}.

Timely referrals are vital, as delayed diagnosis of oral cancer can lead to poor prognoses and may even result in patient mortality. Moreover, early diagnosis can help avoid extensive surgical procedures, significantly enhancing the quality of life for affected individuals^{8,9}.

In this context, the present article aims to emphasize the importance of a detailed clinical examination as a method for screening and diagnosing OSCC on the lateral border of the tongue, illustrated by a clinical case report.

Case Presentation

A Caucasian female patient, 72-years-old, presented to the Oral Diagnosis Service at the FAOA School of Dentistry, concern regarding a lesion on the left lateral border of her tongue (Figure 1).

The patient indicated that she had previously sought care at another stomatology service, where she underwent an incisional biopsy, the results of which were inconclusive. As a result, a comprehensive medical history was obtained, followed by a detailed physical examination (including both extraoral and intraoral assessments). A new incisional biopsy was performed due to the suspicion of OSCC.

During the intraoral examination, an ulcerated lesion with indistinct borders and interspersed whitish areas was noted on the left lateral border of the tongue. The lesion presented with hardness upon palpation and extended into part of the floor of the mouth. The biopsy specimen was fixed in 10% formalin and subsequently sent for histopathological evaluation, which later confirmed the diagnostic hypothesis of OSCC.

Following this diagnosis, the patient was referred to the oncology department for appropriate treatment. The treatment plan included chemotherapy (3 sessions) and radiotherapy (37 sessions). Throughout the treatment process, the patient was supported by a multidisciplinary team. During this time, she experienced several adverse effects, including oral mucositis, xerostomia, and dysphagia, which were promptly addressed at the first signs of these symptoms.

Ultimately, the patient achieved total remission of the neoplasm and is currently under regular follow-up with the multidisciplinary team (Figure 2).

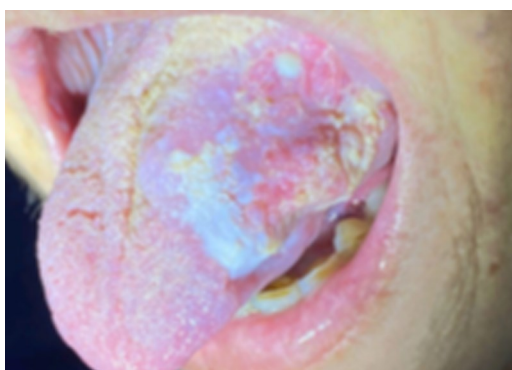


Figure 1: Ulcerated lesion noted on the left lateral border of the tongue.



Figure 2: Remission tumor after chemotherapy and radiotherapy sessions (A: frontal view; B: lateral view).

Discussion

In this discussion, we emphasize the significance of conducting detailed clinical examinations, underscoring the relevance of identifying specific signs and symptoms, as well as supporting this approach with scientific evidence from relevant studies to enhance patient prognosis and survival rates.

The OSCC is a malignant neoplasm commonly found in the oral cavity. Its presentation on the lateral border of the tongue poses a considerable diagnostic challenge, as numerous lesions necessitate a differential diagnosis with OSCC. In this context, thorough clinical examination is essential for the early detection, accurate evaluation, and precise diagnosis of this condition¹.

Early detection of OSCC is critical for effective treatment and improved patient outcomes. When executed properly, a clinical examination can identify suspicious lesions, including non-healing ulcers, lesions with irregular borders, and persistent red or white patches.

Research indicates that clinical examinations can significantly enhance the rate of early diagnosis, facilitating more effective therapeutic interventions and thereby improving clinical outcomes for patients. The lateral border of the tongue is a common site for various oral lesions, including benign and premalignant conditions, which may complicate differential diagnosis with OSCC¹⁰.

Additionally, another study highlights that meticulous clinical evaluation, in conjunction with comprehensive patient history and risk factor assessment, is vital for accurately differentiating these conditions and making informed treatment decisions. Conducting thorough clinical examinations necessitates specific skills and knowledge from oral health professionals¹¹.

It is crucial for dentists to be trained to recognize warning signs and symptoms and to refer patients for specialized evaluations when warranted. Research has demonstrated that ongoing education for oral health professionals is essential for the early diagnosis and effective management of OSCC. Furthermore, complementary methods and technologies can be employed to enhance diagnostic accuracy for OSCC¹².

This analysis clearly illustrates that an effective clinical examination is fundamental in the early detection and diagnosis of oral squamous cell carcinoma on the lateral border of the tongue. By recognizing specific signs and symptoms and ensuring that oral health professionals receive appropriate training, we can improve clinical outcomes and prognosis for patients affected by this condition. The integration of auxiliary technologies can further enhance diagnostic accuracy, enabling timely and appropriate therapeutic interventions. Consequently, a thorough and systematic clinical examination is an invaluable asset in dental practice and contributes positively to patient health¹.

Conclusion

To summarise, the clinical examination serves as a vital tool for the early detection of oral squamous cell carcinoma of the tongue. It is essential for dentists to be knowledgeable about identifying suspicious oral lesions and to conduct regular examinations to detect changes in the oral cavity at an early stage. Understanding the signs and symptoms of this disease is critical to facilitating early diagnosis, ensuring appropriate treatment, improving prognosis, and enhancing survival rates for patients diagnosed with OSCC.

Conflict of Interest

The authors declare no conflict of interest.

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