



Well-Differentiated Squamous Cell Carcinoma of the Lower Lip in Aden, Yemen: A Case Report Highlighting Importance of Early Detection

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ABSTRACT

Squamous cell carcinoma of the lower lip is a rare malignancy often associated with risk factors such as tobacco use, chronic sun exposure, and immunosuppression. However, cases in individuals without traditional risk factors are uncommon and present a diagnostic challenge. This report discussed a 52-year-old patient presented with well-differentiated SCC of the lower lip. This particular case had no obvious risk factor such as tobacco use or immunosuppression apart from chronic sun exposure. However, cases in individuals without other traditional risk factors are uncommon and present a diagnostic challenge. This report emphasizes the significance of early detection, clinical vigilance, and multidisciplinary management in achieving favorable outcomes.

Keywords: Squamous Cell Carcinoma, Lip, Oral Cavity Cancer, Aden, Yemen

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INTRODUCTION

Squamous cell carcinoma (SCC), the second most common type of skin cancer, arises from the malignant transformation of keratinocytes (1). While most cases of lip SCC are linked to factors like smoking (2,3,4), ultraviolet (UV) radiation exposure (5), or a history of actinic keratosis (6,7,8), it is rare to encounter cases without these known risks (9). SCC of the lower lip accounts for about 15% of oral cancers and can become aggressive if not identified and treated in time (10).

Oral cancers, including lip and oral cavity cancers, are less common in Yemen than other cancer types; according to data from the Global Cancer Observatory (GLOBOCAN) for 2020, the age-standardized incidence rate (ASR) of lip and oral cavity cancer in Yemen was about 1.3 per 100,000 population, which is lower than the ASR of cancers like breast, colorectal, and stomach cancer. This is likely due to a combination of factors, including a lack of risk factors in the population and possible underdiagnosis brought on by difficulties in accessing healthcare (11).

This report outlines a case of well-differentiated SCC of the lower lip in a non-smoker with no significant

risk factors. It highlights the importance of being vigilant in clinical practice, even when dealing with low-risk individuals, and stresses the value of early diagnosis and timely treatment in preventing disease progression.

CASE PRESENTATION

A 52-year-old male presented with a persistent, non-healing lesion on the lower lip that had been present for approximately six months. Initially small and painless, the lesion gradually increased in size over time. The patient denied any history of tobacco use, alcohol consumption, excessive sun exposure, or a family history of malignancy. He also reported no associated pain, bleeding, or systemic symptoms. On inspection, the lesion measured approximately 1.5 cm and appeared as an ulcerated plaque with an indurated border located on the vermilion border of the lower lip. The lesion was irregularly shaped, with raised edges and a red, inflamed base, displaying areas of crusting and possible bleeding. The surrounding skin was normal in color. Examination of the oral cavity and oropharynx revealed no other abnormalities (Fig. 1)



Fig 1. A male 52-year-old patient had lower lip with a large, ulcerated lesion. The lesion appears to be irregular in shape with raised edges a red, inflamed base, there are also areas of crusting and possible bleeding

A contrast-enhanced CT scan of the head and neck revealed no signs of lymph node involvement or distant metastases. Gross examination of the excised lesion showed an ulcerated, reddish-pink tissue measuring 1.5 cm × 1.0 cm, with the ulcer extending into the submucosa and surrounded by granulation tissue. Laboratory results, including a complete blood count and metabolic panel, were within normal limits. Histopathological analysis an incisional biopsy confirmed the diagnosis of well-differentiated SCC with keratinization. Microscopic analysis revealed

clusters of abnormal squamous cells, displaying hyperchromatic and pleomorphic nuclei, forming sheets and nests. Keratin pearl formation, a characteristic feature of well-differentiated SCC, was also observed (Fig. 1-3). The tumor was classified as grade II well-differentiated SCC of the lower lip. The absence of lymphovascular or perineural invasion indicated a localized tumor, supporting a favorable prognosis with appropriate treatment. The patient response to treatment was excellent.

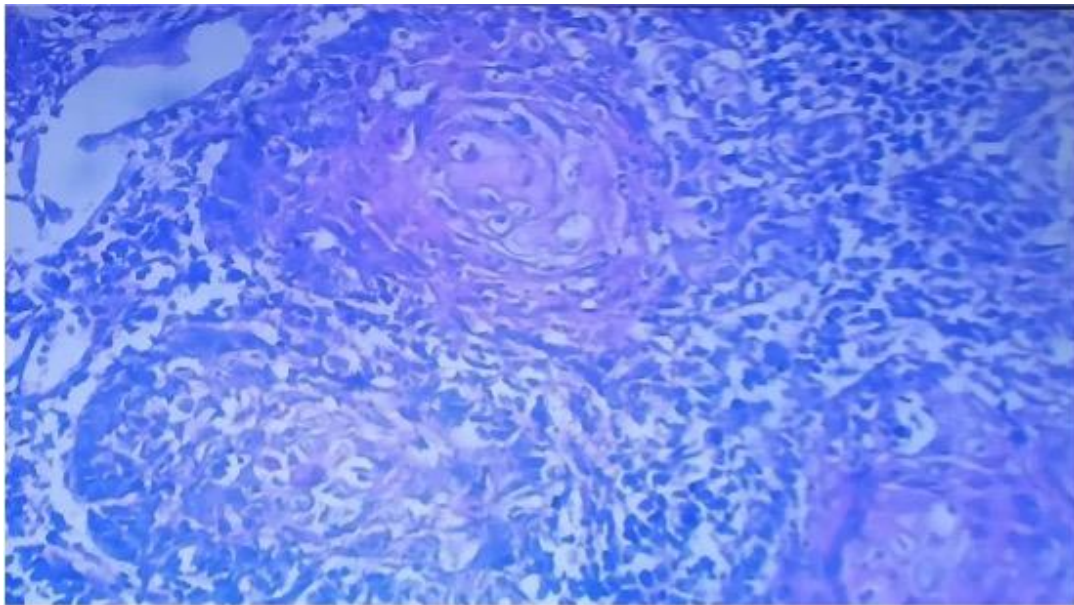


Fig 2. 20X diffuse chronic inflammatory cells, cell nests, and keratin pearls, it suggests a histopathological pattern that may represent a more complex lesion, possibly a well-differentiated squamous cell carcinoma

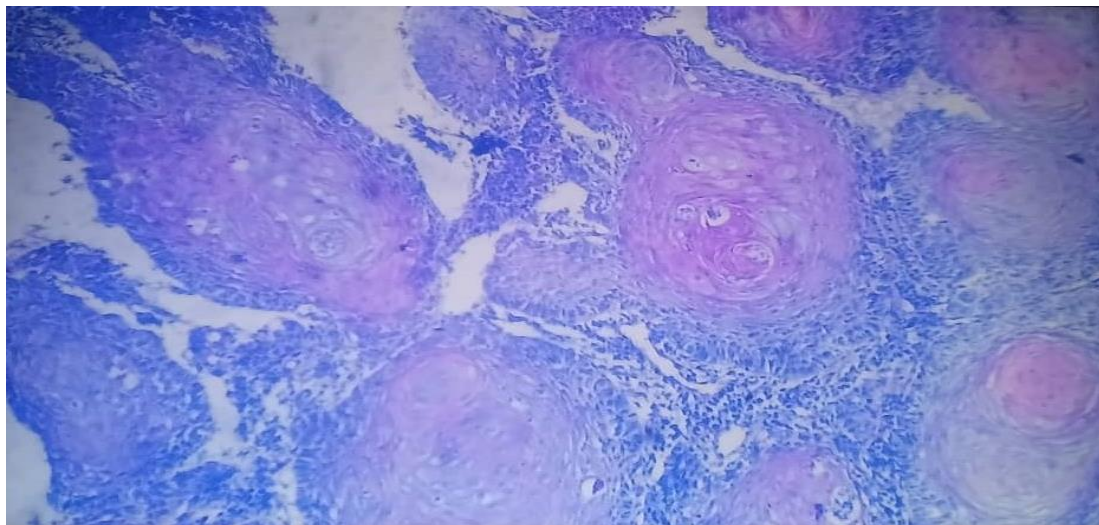


Fig 3. 40X keratin pearls, indicating a well-differentiated squamous cell carcinoma

DISCUSSION

A unique clinical situation is presented by this nonsmoker's case of well-differentiated SCC of the lower lip (12, 13). The absence of these risk markers in this patient highlights the need for increased clinical vigilance, (12, 13) even though SCC is typically associated with well-known risk factors such as alcohol consumption (14), tobacco use (3), and immunosuppression (15). Chronic sun exposure was determined to be the most likely cause in this case, which is in line with research showing UV radiation to be a major cause of lip SCC, especially in areas with high levels of sun exposure or among people who spend a lot of time outside (16).

Histopathological examination reveals keratinization and keratin pearl formation, which are diagnostic of a well-differentiated variation, histopathological investigation confirmed the diagnosis (17). A circumscribed tumor with a favorable prognosis, especially when treated with early intervention (18), is suggested by the lack of lymphovascular and perineural invasion (19). In order to prevent the progression cancer more aggressive types and potential cancer metastases, early-stage detection is still crucial (20, 21).

Yemen's low incidence of oral cancer, reported by GLOBOCAN 2020 as 1.3 per 100,000 population, may be attributed to cultural factors such as lower alcohol and tobacco use. However, underdiagnosis due to limited access to healthcare and diagnostic tools, particularly in rural and deprived areas, could contribute to underreported cases. While alcohol consumption and smoking are established global risk factors for oral cancer, Yemen's lower rates of these activities might partly explain the lower incidence. Additionally, sun exposure for outdoor workers may also be a contributing factor (11, 22, 23, 24).

CONCLUSION

The results highlight a number of important points: first, even in low-risk groups, routine screenings and clinician awareness are critical for early detection. Second, lowering the effect of SCC in underprivileged areas requires public health initiatives including increasing access to healthcare and educating the

people about UV protection. The treatment plan for such cases is adequate surgical excision with adjuvant chemotherapy with or without radiotherapy. The prognosis is good for early stage disease. Finally, in groups with unusual risk factors, more research is required to investigate genetic or environmental factors that contribute to SCC.

Acknowledgments

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Ethical Issues

The case report obtained an ethical approval from the University of Science and Technology. The patient's consent was also obtained for publication of the photograph and the literature.

Conflict of Interest

The authors declare that no conflict of interests.

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