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Squamous Cell Carcinoma of the Tongue, the Importance of Early Diagnosis in Danger Zone: A Case Report

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ABSTRACT

Oral squamous cell carcinoma is increasing worldwide, especially in developing countries. The etiology of Oral cancer is multifactorial, and most of the cancer deaths can be prevented through lifestyle modifications, early detection and effective treatment. A 27-year-old man who referred to the Oral Medicine Department of Semnan Dental School complaining of redness on his tongue which has been emerged for eight months. Clinical and histopathological examinations have confirmed the diagnosis of oral squamous cell carcinoma (OSCC). Since, the patient didn't have any lymph node involvement, the Clinical stage of OSCC was considered as Stage I. He was treated by an Otorhinolaryngologist and on follow up session the patient declared a chief complaint of a swelling in the sublingual fold which was diagnosed as Ranula. Surgery despite improvements, several functional and aesthetic structures of the oral cavity still sacrifice during the surgical procedures of OSCC. Since the Oral cavity has essential anatomical landmarks and OSCC will bring some morbidity for the patients; therefore, surgical treatment should be carefully considered in the risky anatomical areas of the oral cavity, and it is recommended to be performed by maxillofacial surgeons who are more proficient in oral anatomical landmarks to do not impose any complicate for the patient.

1. Introduction

People who suffered from malignant neoplasms usually feel anxious and disappointed. However, it is encouraged them to know that most of the cancer deaths can be prevented through lifestyle modification, early detection and effective treatment.[1] Squamous cell carcinoma of head and neck is the sixth most prevalent human malignancy, and the incidence of it is increasing worldwide, especially in developing countries.[2] Oral squamous cell carcinoma (OSCC) is an epithelial neoplasm which originates from the oropharynx and oral cavity.[3] Although the etiology of Oral cancer is multifactorial, the consumption of tobacco and alcohol remain the main risk factors of OSCC.[4, 5] Other important risk factors are included dietary micronutrient deficiency, chewing areca nut/betel quid, genetic heritage, Human Papillomavirus (HPV) infection and UV radiation.[1, 4, 5]

Despite the clear evidence of the role of environmental causes in the development of SCC, inherited susceptibility may be an essential possibility.[2] Mortality from oral cancer in the young has been rising in several areas of the world;[6] furthermore, the incidence of oral tongue SCC (OTSCC) has been observed to be increasing in young white individuals.[7] Here, we reported OTSCC in a young male who has the risk factors of family history, use of tobacco and alcohol, with emphasis on the timely diagnosis.

2. Case presentation

The patient was a 27-year-old man who referred to the Oral Medicine Department of Semnan Dental School complaining of redness on his tongue, which has been emerged for eight months. The patient had been referred to some doctors and dentists during this time. Still, unfortunately, only supportive treatments such as gargling salt solution were recommended, and no improvement was achieved over this long period. In the patient's history, he mentioned to his uncle's death from tongue cancer and tobacco use every other day, occasionally consuming alcohol and has a stressful job. About the lesion of the tongue, he pointed to the persistence of the redness that sometimes accompanied by burning. In the review of systems, fatty liver and increased PT and PTT were reported in the blood test, but he was healthy otherwise. Examination of the head and neck showed bilateral, multiple, Firm, non-tender, mobile submandibular lymphadenitis, which was about 1 cm. Intraoral examination revealed bilateral white Wickham's striae on the buccal mucosa, which suggested lichen planus. In the right maxillary attached gingiva, there were a white reticular pattern of lichen planus as well. On the examination of the tongue, there was a red patch measuring 2.5× 1 cm found on the posterolateral border of the tongue with white borders. Following toluidine blue staining, prominent areas with pebbly surface and the other

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regions in the anterior region of the red patch and small area beneath the tongue were stained and showed definite dysplasia, taking into account the false positive and negative cases.[8] (Figure 1.A. B).

Figure 1. A) A red patch on the posterolateral border of the tongue with white borders.

Figure 1. B) Toluidine blue staining showed definite dysplasia.

Incisional biopsy was performed, and histopathological examination showed islands in the connective tissue stroma, which consisted of neoplastic epithelial cells with a pleomorphic and hyperchromatic nucleus. Some of the tumoral cells showed vesicular nucleus with a prominent nucleolus. Abnormal mitosis, keratin pearl and extravasation red blood cells were seen in the stroma. In conclusion, the microscopic feature confirmed the diagnosis of SCC; since, there wasn't any lymph node involvement, the Clinical stage of OSCC was considered as Stage I. (Figure 2.A. B).

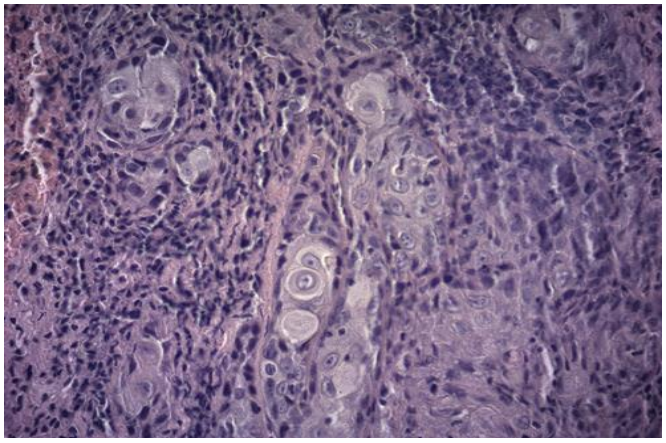

Figure 2. A) Histopathological feature which showed neoplastic squamous islands. (H&E×400).

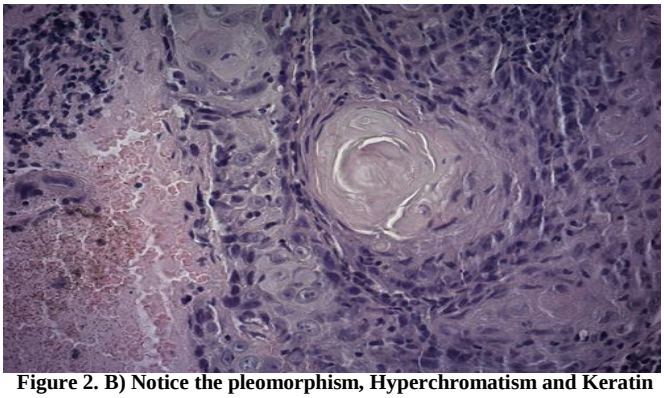

Figure 2. B) Notice the pleomorphism, Hyperchromatism and Keratin pearl. (H&E×400).

Magnetic resonance imaging (MRI) was done using the Tesla 3 technique. MRI reported a slight irregularity on the right border of the tongue and multiple adenopathies in the right submandibular area with the largest nodules measuring 10 × 6 mm. A few days after accurate diagnosis, the patient underwent to Hemi glossectomy and Neck Dissection. On follow up sessions, once every two weeks, no signs of recurrence were evident, but on one year later the patient had a chief complaint of a swelling which was occurred through chewing food and disappeared after the swallowing process. The swelling of the sublingual fold was caused because of the destruction of the ducts of the mandibular salivary glands during the surgical procedure, which was clinically diagnosed as Ranula. (Figure. 3) The patient recovered after three months and returned to healthy diet and speech. After nine months no recurrence of cancer was seen. Follow up will be continued.

Figure 3) Ranula as a swelling in the floor of the mouth.

3. Discussion

Oral cancer is a significant reason for human morbidity and mortality with a high worldwide incidence rate[2, 9], but most of them are preventable.[10] Oral cancer includes tumors of a different source. Still, it frequently denotes to squamous cell carcinoma (SCC), which is known as a malignant neoplasm derived from squamous epithelium, which can affect the oral cavity.[1, 3, 9] There is a worrying increase in the incidence of OSCC among younger people all over the world significantly in the tongue and tonsils of 20–40-year-olds.[1, 11] Our patient was a 27-year-old male who suffered from the OSCC of the posterior border of the tongue. Although the environmental and cultural differences of populations should be considered as an important etiologic

factor, the consumption of tobacco and alcohol has been the strongest risk factor in developing OSCC.[4] Nevertheless, the manifestation of familial aggregations of OSCC, especially in a younger patient, recommends the existence of predisposing genetic factors.[2]

As we know, the most of the literature declares that tongue SCC is higher in the older males; however, Llewellyn et al. have published the rising incidence of tongue SCC in young males, which probably is related to familial risk, lifestyle and immune deficiency.[11] The role of genetic abnormality is occurring the disease is required much more studies, but a predisposition to genetic instability has been theorized as a probable reason.[11] Here, we reported a case of a young patient with a familial history of Tongue SCC, using Tobacco and alcohol; compatible with the study of Johnson NW et al.[1] Jefferies S. et al.[2] Alves AM. et al.[4] and Llewellyn CD. et al.[11]. Due to the increasing stress among younger people in the population, they are probably prone to give diseases related to stress, such as SCC. On the other hand, the necessity of extensive surgeries and the loss of some parts of the body can reduce aesthetics and function in the patients. The malignant transformation rate of OEL ranges from 18% to 47%; therefore, It is essential to notice every color alternation in the oral mucosa, because it is probable that a red patch as can be considerate as a fatality.[12,13]

Cancer is a horrible event that can be occurring in one's life, but fortunately, it is preventable by modification of lifestyle and dietary pattern.[14] Bradshaw PT. et al. in their study declared that having a diet high in fruits and vegetables can decrease the risk of cancer.[14] Taking into account that people who suffered from malignant neoplasms usually feel anxious and disappointed. It is essential to aware them that by modifying their lifestyle and effective treatment, cancer mortality will be reduced. In the other hand, they need to be conscious that timely diagnosis of oral problems and referral can help patients to avoid late complications of cancer. Furthermore, the potential long-term complications are still challenging for the oncologic team as well as the patient who survives oral cancer.

Ranula is a mucus-filled cavity with a blue hue which is located in the floor of the mouth as a fluctuant dome-shaped swelling, about the sublingual gland.[15] Many studies have described that the injury to the ducts of the sublingual salivary glands following the surgical procedures such as biopsy, frenectomy or relocation of the salivary ducts.[15-18] Loney WW et al.[15] described intraoral removal of sialolith or surgical pathology of the sublingual gland as etiological factors for Ranula formation. In our case, Ranula is caused by ablative surgical treatment by a surgeon who didn't have enough knowledge about the oral anatomical landmarks; therefore, dentists should refer complicated case which needs wise attention to the anatomical landmarks to an Oral and Maxillofacial Surgeon because he/ she predominates to the anatomy of the oral cavity.

4. Conclusion

Surgery despite improvements, several functional and aesthetic structures of the oral cavity still sacrifice during the surgical procedures of OSCC. Since the Oral cavity has essential anatomical landmarks and OSCC will bring some morbidity for the patients; therefore, surgical treatment should be carefully considered in the risky anatomical areas of the oral cavity, and it is recommended to be performed by maxillofacial surgeons who are more proficient in oral anatomical landmarks to do not impose any complicate for the patient.

Conflict of Interest

The authors declared that there is no conflict of interest.

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