OLGU SUNUMU CASE REPORT

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An Oral Squamous Cell Carcinoma Based on a Chronic Denture Irritation

Kronik Protez İritasyonuna Dayalı Oral Skuamöz Hücreli Karsinom

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ABSTRACT Oral squamous cell carcinoma is the sixth most common head and neck neoplasm. Since it initially arises as an oral ulcer with indurated margins, detection of any chronic ulcer during oral examination is a very important issue to which clinicians should pay a great deal attention. In this case report, a 78-year-old male patient who had been using a denture for about 15 years which had a very poor tissue compatibility was referred to our clinic with the complaint of an oral ulcer which had existed for 3 months. In intraoral examination, a 10x15 mm whitish-grey ulcer with indurated margins, localized in the right posterior region of the mandible was observed. After an incisional biopsy, histopathological examination confirmed the diognosis of oral squamous cell carcinoma. Some cases may not fit the general definition and classification, therefore clinicians should pay more attention to oral lesions that have existed for an extended period of time.

Keywords: Oral squamous cell carcinoma; oral pathology; oral ulcer

ÖZET Oral skuamöz hücreli karsinom, en yaygın 6. baş ve boyun neoplazmıdır. Başlangıçta sınırları sertleşmiş bir oral ülser olarak ortaya çıkması nedeniyle herhangi bir kronik ülserin ağız muayenesi sırasında saptanması, klinisyenlerin çok dikkat etmesi gereken çok önemli bir konudur. Bu olgu sunumunda, yaklaşık 15 yıldır doku uyumu çok kötü olan bir protez kullanan 78 yaşında erkek hasta, 3 aydır var olan oral ülser şikâyeti ile kliniğimize sevk edildi. Ağız içi muayenede, mandibulanın sağ arka bölgesinde 10x15 mm boyutlarında, kenarları sertleşmiş, beyazımsı gri ülser izlendi. İnsizyonel biyopsi sonrası histopatolojik inceleme, oral skuamöz hücreli karsinom tanısını doğruladı. Bazı vakalar genel tanım ve sınıflandırmaya uymayabilir, bu nedenle klinisyenler uzun süredir var olan oral lezyonlara daha fazla dikkat etmelidir.

Anahtar Kelimeler: Oral skuamöz hücreli karsinom; oral patoloji; oral ülser

Oral squamous cell carcinoma (OSCC), the sixth most-common head and neck neoplasm, constitutes more than 80% of all malignancies found in the oral cavity.[1] OSCC is usually seen in middle-aged and older individuals. Its prevelance in males is slightly higher than in females. Although it can occur in all sites of the oral cavity such as the mucosal sides of cheeks, lips or the palatal regions, the most common occurance area is the posterolateral ventral side of the tongue.[2]

Consuming alcohol and tobacco, long-term ultraviolet exposure, radiation, malnutrition, poor oral hygene and chronic mechanic irritations (CMI) are the main risk factors of OSCC. CMI can originate from dental, prosthetic or functional factors and cause traumatic ulcerations.[3]

Due to the fact that OSCC usually initially arises as an oral ulcer with indurated margins the detection of chronic ulcers during oral examination, is a very important issue to which clinicians should pay a great deal attention. Siegel et al. reported the lack of information about the early diagnosis of malignant neoplasia in elderly denture wearers.[4] In such patients, malignant lesions are often confused with simple

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traumatic ulcers associated with ill-fitting dentures. Consequently, the time for disease staging may increase. Consequently, this can complicate or even prevent treatment.

Here, a case in which OSCC was formed in the base of a chronic ulcer associated with denture irritation is presented.

CASE REPORT

A 78-year-old male patient was referred to our clinic with the complaint of an oral ulcer which had existed for 3 months. No systemic disease with the exception of hypertension was recorded in his medical story. In addition, there was no history of alcohol consumption or smoking. He had an ill-fitting lower partial denture that had been fitted 15 years ago but he stated that he had been unable to use his prosthesis for 1 month due to pain. Previously, he had been given antibiotics and mouthwash by a dentist, but he applied to our clinic due to his ongoing complaint. No extraoral swelling nor asymmetry were observed. In intraoral examination, a 10x15 mm whitish-grey ulcer with indurated margins that was localized in the right side posterior region of the mandible was observed (Figure 1). There were some bleeding foci on the lesion and it covered an area from the alveolar crest to the buccal mucosa. Due to the growth of the lesion, it was observed that the antagonist teeth were in contact with the lesion during occlusion. The patient stated that the pain increased as a result of contact. Furthermore submandibular lymphadenopathy was detected on the right side. A written informed consent was then obtained from the patient and an incisional biopsy was performed by an oral and maxillofacial surgeon. A pathological examination yielded a diagnosis of OSCC. Moderate differentiation and initial infiltration by tumoral cells into the striated muscle fibres were seen clearly in histopathological images (Figure 2, Figure 3, Figure 4 and Figure 5). Further examination and treatment of the patient is ongoing in a multidisciplinary manner.

DISCUSSION

The most common oral cavity cancers are OSCCs. There are 7 subsites of oral cavity that are used for

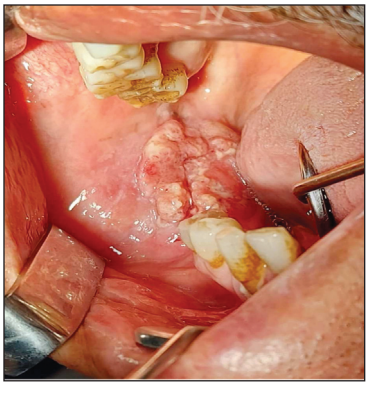

FIGURE 1: Whitish-grey ulcer with indurated margins in mandibular posterior region.

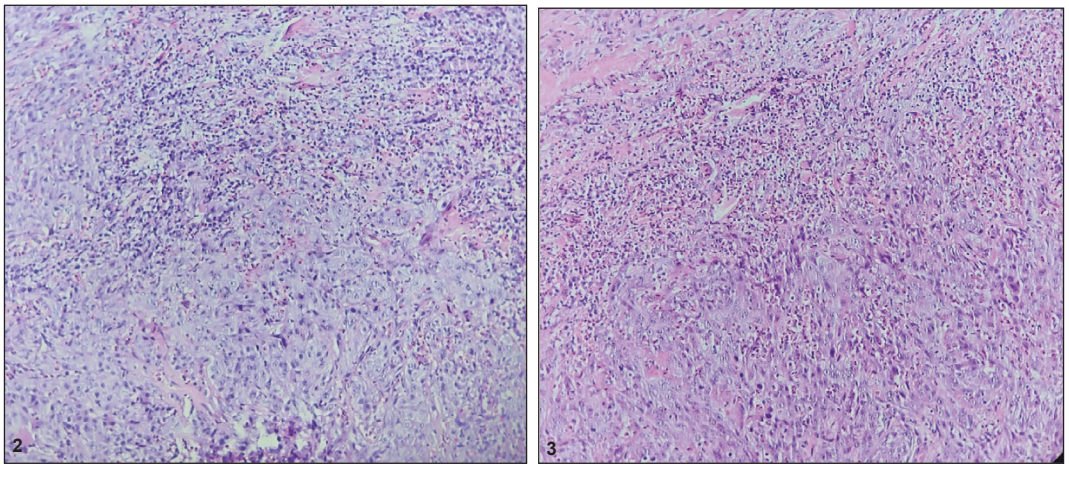

FIGURE 2,3: Atypical squamous cells invading under the epithelium (H&E, mag. x20).

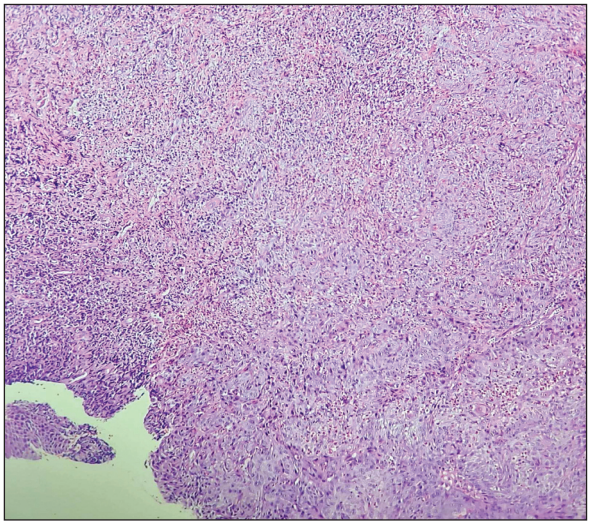

FIGURE 4: Areas where the tumor develops from the surface (H&E, mag. x10).

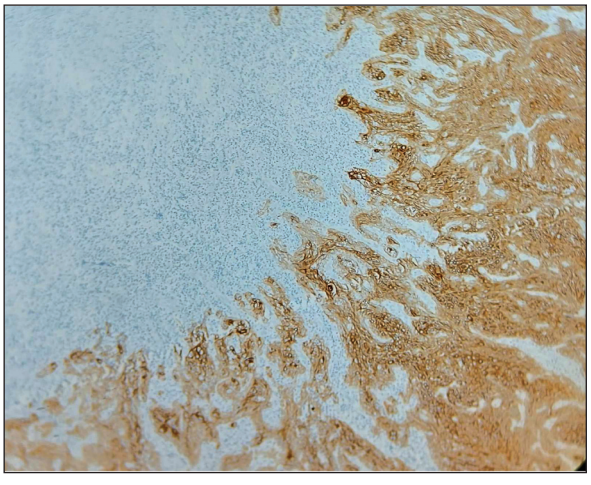

FIGURE 5: Tumoral cells, (+) stained with PANCK immunohistochemical stain (panCK, mag. x10).

the classification of oral cancer (lip, tongue, floor of the mouth, buccal, hard palate, alveolar, retromolar trigone and soft palate). Minor salivary gland malignancies, sarcomas, malignant odontogenic tumours, melanoma and lymphoma are other types of oral cavity cancers.[5]

The main aethiological factors in OSCC are smoking and alcohol which also appear to have a synergistic effect.[5] In addition, chronic irritation has also been proposed as an aetiological factor for oral cancer. Generally, defective teeth (malpositioned or with sharp or rough surfaces due to decay or fracture), ill-fitting dentures (sharp or rough surfaces, lack of retention, stability or overextended flanges) and/or parafunctional habits (e.g. oral mucosa biting or sucking), acting individually or together, could be responsible for any mechanical irritation.[6]

After a chronic injury occurs in oral mucosa, a healing process initiates that involves the migration and hyperproliferation of oral keratinocytes stem cells. These stem cells are considered as target of oxidative stress originating from chronic inflammation and from other chemical carcinogens.[7] However, the duration of an injury is an important factor in oral cancer formation. In other words, in order to create favorable local conditions for initiating carcinogenesis, a prolonged, sustained, and repeated irritation is needed.[8] In this case report, the patient had not been using any tobacco products or alcohol but had had an ill-fitting, removable partial dental prosthesis in the mandible for more than 15 years. Therefore, this long period of use increased the duration of mechanical irritation and created a situation favorable for cancer formation.

The anatomical location of the non-healing traumatic ulcers associated with OSCC can add extra complexity to diagnosis. The ventrolateral side of the tongue with its high cell proliferation capacity is more prone to malignant transformation than other sites of oral mucosa.[9] Consequently, OSCC arises most frequently in high-risk areas such as the ventrolateral tongue and the floor of the mouth.[10] However these kind of lesions could also be seen in vestibular sulcus, buccal mucosa and alveolar ridge as happened in our case.[11,12]

Clinically, OSCC can be seen in different forms ranging from white plaque to ulcers. In particular, lesions in the gingiva of the alveolar ridge may frequently resemble inflamatory lesions of the gingiva. Consequently, OSCC can often be misdiagnosed as other inflammatory lesions of the oral cavity, causing a delay in prompt treatment.[13] In addition to clinicians' efforts, histopathological examination can certainly confirm clinical diagnosis. While a number of other tools such as toluidine blue staining, autofluorescence imaging, and salivary biomarkers, are being used in diagnosis, biopsy remains the gold standard.[14]

In a case series published by Bramati et al., it was emphasized how important biopsy can be in early diagnosis.[15]

Altough OSCC causes significant mortality and morbidity, its prognosis can be good when detected at an early stage. Diagnosis starts with a simple visual and tactile examination of the oral tissues, one which can be performed in a dental appointment. Therefore, clinicians should pay more attention and be particularly suspicious of oral lesions than has been the case in the past.

Source of Finance

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Tolgahan Kara;* ***Design:*** *Tolgahan Kara;* ***Control/Supervision:*** *Tolgahan Kara;* ***Data Collection and/or Processing:*** *Merve Sarı, Berati Kalelioğlu;* ***Analysis and/or Interpretation:*** *Tolgahan Kara, Merve Sarı;* ***Literature Review:*** *Merve Sarı;* ***Writing the Article:*** *Tolgahan Kara;* ***Critical Review:*** *Berati Kalelioğlu;* ***References and Fundings:*** *Tolgahan Kara;* ***Materials:*** *Tolgahan Kara, Merve Sarı.*

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