Pedunculated Squamous Cell Carcinoma on the Tip of the Tongue

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Abstract

Tongue cancers are the most frequent types of malignant tumors of the oral and maxillofacial regions, and their prognosis is usually worse than that of other oral cancers. Most tongue cancers occur on the lateral borders of the tongue, and their occurrence on the tip of the tongue is rare. Moreover, squamous cell carcinomas rarely show pedunculated growth, in contrast, oral verrucous carcinomas, which show external growth, are a distinct type of squamous cell carcinoma.

This report describes a rare case of pedunculated squamous cell carcinoma on the tip of the tongue in a 68-year-old woman. This pedunculated tumor with induration, tenderness, and an irregular surface was approximately 35 mm × 35 mm in size and could easily hemorrhage. The lesion was histopathologically diagnosed as a well-differentiated squamous cell carcinoma. A lichen planus-like white lesion was adjacent to the left of the tumor and was pathologically diagnosed as a carcinoma in situ.

Keywords: Pedunculated squamous cell carcinoma; Tip of the tongue; Verrucous carcinoma; Carcinoma in situ

Introduction

Oral tongue cancers are the most frequent type of malignant tumors of the oral and maxillofacial regions, with a prognosis not commonly better than that of other oral cancers. These tumors can also induce functional disorders of the stomatognathic system [1-5]. Many tumors occur on the lateral borders of the tongue, whereas their occurrence on the tip of the tongue is rare [6-9]. Moreover, oral squamous cell carcinomas rarely show pedunculated and tuberous growth, although oral verrucous cell carcinoma are a distinct type of squamous cell carcinoma [6,10-13].

This report describes a rare case of pedunculated squamous cell carcinoma on the tip of the tongue in a 68-year-old woman, as well as showing the progress with treatment.

Case Report

A 68-year-old woman was referred to our department for a contact pain at the tip of her tongue. She had noticed a slight pain when the tip of her tongue touched her partial denture about 20 days earlier. She visited a local clinic, which identified the tongue lesion and referred her to our hospital. Her history included a fracture of the lumbar vertebra, but she showed no difficulty walking. The patient's father had died of stomach cancer.

Upon admission, her height was 142 cm and her weight was 44.4 kg. Her general condition, laboratory parameters, and extraoral findings were normal. A tender and indurated pedunculated tumor, approximately 35 mm × 35 mm in size, was observed on the right side of the tip of the tongue. The surface of the tumor was quite irregular and it could easily hemorrhage. The indurated area was limited to the tumor, and could not be felt elsewhere in the region. A white, lichen planus-like lesion, approximately 25 mm × 10 mm in size, was observed adjacent to the left side of the tumor (Figures 1A and 1B). Computed tomography (CT) of the tumor showed a homogeneously enhanced area on the tip of the tongue. Multiple lymph nodes were observed in the bilateral submandibular and submental regions, but none was suspected of being a metastasis from the original lesion (Figure 2). The patient was clinically diagnosed with a malignant tumor on the tip of the tongue (T2N0M0).

The lesion was biopsied to determine the final diagnosis and the right lower first premolar, which was in contact with the tumor, was extracted. The histopathological diagnosis was squamous cell carcinoma. Tumor cells showing dysplasia were found to proliferate and to infiltrate the stroma. Two weeks later, the patient underwent surgery under general anesthesia. Prior to excision of the tumor, the left lower second incisor and canine teeth were removed. The tongue tumor was excised en-bloc with margins of 10 mm, along with the white lesion.
borders of the tongue, especially the region corresponding to the external growth [1-4]. Most of these lesions occur on the lateral borders and ventral surface of the anterior two-thirds of the tongue, with only one-quarter occurring on the posterior third [17].

Likely causes of tongue cancer include smoking, drinking alcohol, syphilis, poor oral hygiene, and chronic mechanical stresses caused by dentures and sharp teeth. The chronic mechanical stress experienced by our patient may have been caused by the right lower first premolar and the left lower second incisor and canine teeth, all of which had considerable calculus and were highly mobile.

Discussion

Histopathological analysis demonstrated that the lesion in our patient was not a verrucous carcinoma but a typical well-differentiated squamous cell carcinoma. Although pedunculated tumors are rare on the tongue [18], histopathology showed that the lesion in our patient was a carcinoma in situ. These lesions are precancerous, with malignant cells limited to the epithelium, but without proliferation or infiltration into the lamina propria under the epithelium. Verrucous carcinomas are papillomatous or calculiform polypoid lesions, with club-shaped growth of well-differentiated epithelium [10-12]. These tumors are rare on the tongue [18]. Histopathology showed that the lesion in our patient was not a verrucous carcinoma but a typical well-differentiated squamous cell carcinoma. Although pedunculated forms of basaloid squamous cell carcinoma and spindle cell carcinoma, as well as adenocarcinoma and pleomorphic adenoma, have been observed on the tongue [19-23], squamous cell carcinoma is more likely [6].

Our patient also showed a white, lichen planus-like lesion on the tongue mucosa adjacent to the tumor. Histopathologic examination showed that this lesion was a carcinoma in situ. These lesions are precancerous, with malignant cells limited to the epithelium, but without proliferation or infiltration into the lamina propria under the epithelium [24]. Previous cases have also shown carcinoma in situ or epithelial dysplasia around squamous cell carcinomas of the oral, cervical, and esophageal mucosae [25,26]. Moreover, in the absence of leukoplakia, epithelial dysplasia was detected in seven of 37 patients with tongue and floor of the mouth squamous cell carcinoma with surgical margins over 5 mm [27]. Therefore, removal of these lesions should include surgical margins of at least 3 mm.

Conclusion

The prognosis of tongue cancer generally depends on the stage of the original tumor and on metastasis to cervical lymph nodes, on the character of the tumor, and on the differentiation of tumor cells [1-4,17]. The 5-year survival rate was found to be significantly lower in patients with tumors on the tip of the tongue being rare [14]. Adenoid malignant tumors previously reported on the tip of the tongue include adenocarcinoma [7], squamous cell carcinoma of the oral, cervical, and esophageal mucosae [25,26].

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Conclusion

The prognosis of tongue cancer generally depends on the stage of the original tumor and on metastasis to cervical lymph nodes, on the character of the tumor, and on the differentiation of tumor cells [1-4,17]. The 5-year survival rate was found to be significantly lower in
patients with cancers on the back third than on the forward and central thirds of the tongue, indicating that patients with tumors arising in the back third of the tongue have a very poor prognosis [14]. Our patient likely had a good prognosis, because the tumor was a pedunculated, well-differentiated carcinoma and arose in the forward third of the tongue. However, because the incidence of multiple oral carcinoma was about five-fold higher in tongue carcinoma patients with than without leukoplakia [28], careful and periodic follow-up is required.

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