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Case Report

Papillary squamous cell carcinoma of the mandibular gingiva

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Abstract: Papillary squamous cell carcinoma (PSCC) has rarely been reported in the oral cavity. Herein reported is a case of PSCC in the mandibular gum. A 70-year-old man consulted our hospital because of a papillary tumor in the left mandibular gum. Physical examination revealed an exophytic papillary tumor of the left mandibular gum, and an excision of the tumor was performed. Grossly, the tumor was exophytic and papillary, and measured 1 x 1 x 0.8 cm. Microscopically, the tumor showed exophytic papillary proliferation with fibrovascular cores and consisted of atypical squamous epithelial cells. The tumor cells showed hyperchromasia, nuclear atypia, mitotic figures, apoptotic bodies, cancer pearls, and individual keratinization. Mild stromal invasion was seen. Immunohistochemically, the tumor cells were positive for pancytokeratin AE1/3, pancytokeratin CAM5.2, p63, p53, and Ki-67 (labeling index=40%), but negative for human papilloma virus (HPV). HPV in situ hybridization revealed no signals. Therefore, PSCC was diagnosed. The lateral and vertical margins are negative for tumor cell. The pathological diagnosis was PSCC. The patient was healthy and free from tumor three months after the operation.

Keywords: Papillary squamous cell carcinoma, oral cavity

Introduction

Papillary squamous cell carcinoma (PSSC) is a rare variant of squamous cell carcinoma (SCC). PSCC is characterized by papillary proliferation of SCC cells. PSCC is very rare in the oral cavity; only a few cases have been reported [1-6]. Herein reported is a case of oral PSCC with immunohistochemical studies.

Case report

A 70-year-old man consulted our hospital because of a papillary tumor in the left mandibular gum. Physical examination revealed an exophytic papillary tumor of the right mandibular gum, and an excision of the tumor was performed. No metastases were found by various imaging techniques. Grossly, the tumor was exophytic and papillary, and measured 1 x 1 x 0.8 cm. Microscopically, the tumor showed exophytic papillary proliferation and consisted of atypical squamous epithelial cells (**Figure 1**). The papillary proliferation was accompanied with fibrovascular cores (**Figure 1**). The tumor cells showed hyperchromasia, nuclear atypia, mitotic figures, apoptotic bodies, cancer pearls, and individual keratinization (**Figures 2A** and **2B**). Mild stromal invasion was seen. An immunohistochemical study was performed with the use of Dako EnVision method, as previously described [7, 8]. Immunohistochemically, the tumor cells were positive for pancytokeratin AE1/3 (**Figure 3A**), pancytokeratin CAM5.2, p63, p53 (**Figure 3B**), and Ki-67 (labeling index=40%) (**Figure 3C**), but were negative for human papilloma virus (HPV). HPV in situ hybridization revealed no signals. Therefore, PSCC was diagnosed. The lateral and vertical margins are negative for tumor cells. The pathological diagnosis was PSCC. The patient was healthy and free from tumor three months after the operation.

Discussion

Grossly and microscopically, the present tumor showed exophytic papillary structures. Microscopically, the present tumor is obvious SCC

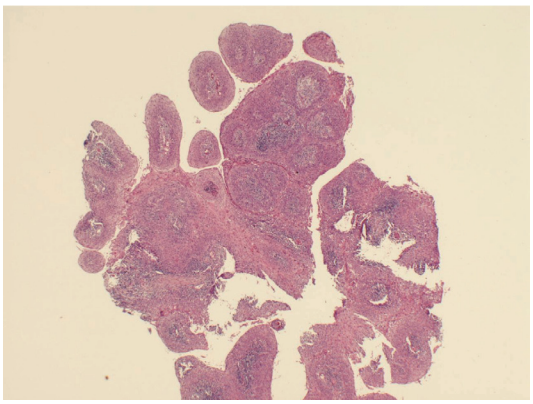

Figure 1. Low power view of the part of the excised tumor. Papillary proliferation of atypical squamous epithelium is obvious. HE, x50.

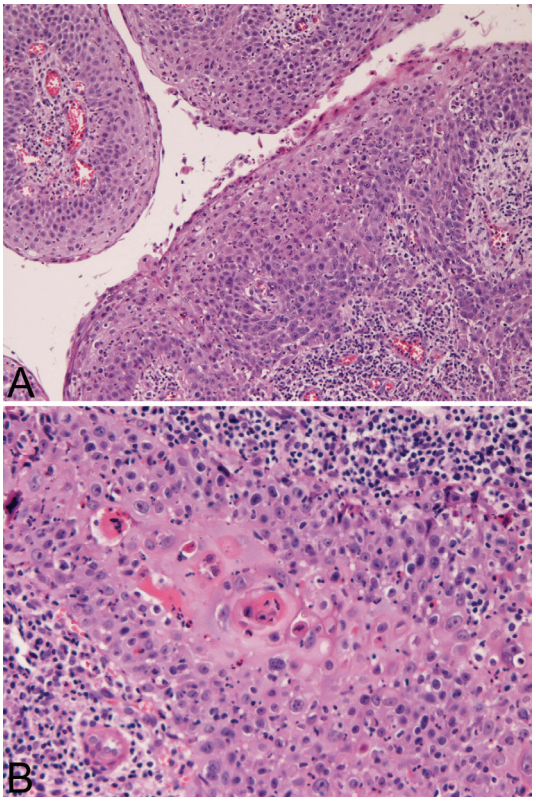

Figure 2. Higher power view of the tumor. A: The tumor shows exophytic papillary structures. The atypia is severe and regarded as papillary squamous cell carcinboma. HE, x200. B: The tumor cells focally shows cancer pearls, individual keratinization, mitotic figures and nuclear atypia. HE: x200.

with keratinization and fibrovascular cores. Immunohistochemical study showed p53 and high Ki-67 labeling, indicating that the present tumor is malignant. The present tumor is not

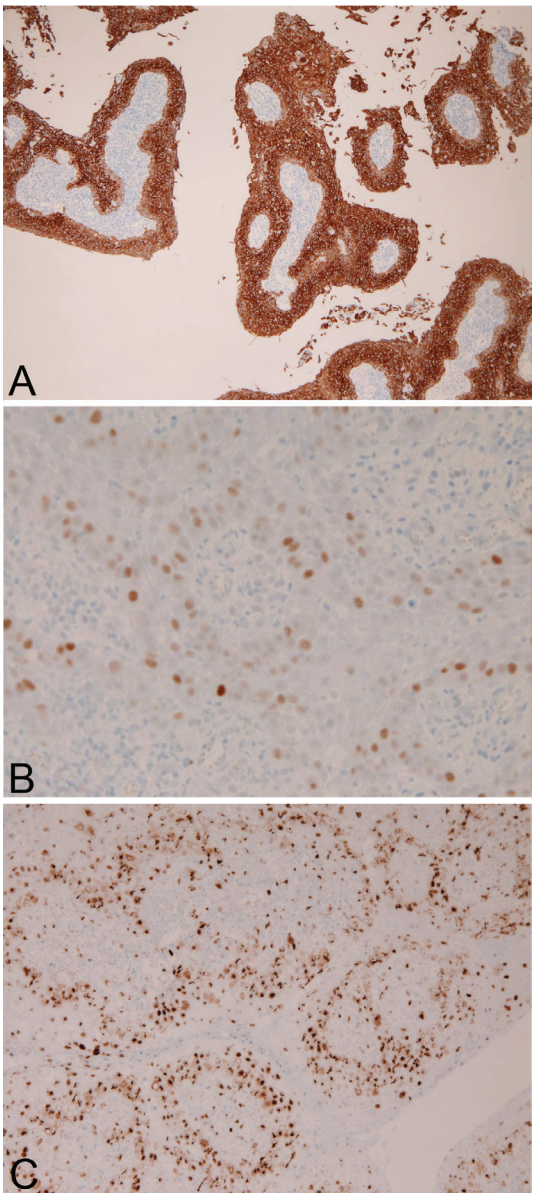

Figure 3. Immunohistochemical findings. A: The tumor cells are positive for pancytokeratin AE1/3, which highlight papillary nature of the tumor. Immunostaining, x10. B: The tumor cells are positive for p53. Immunostaining, x200. C: The tumor cells shows high Ki-67 labeling index (40%), immunostaining, x100.

different from verrucous carcinoma. Verrucous carcinoma shows verruca-like proliferation and lacks papillary proliferation with fibrovascular cores. In addition, verrucous carcinoma show little cellular atypia and no invasion. Thus, the present tumor fulfills the criteria of PSCC. The present tumor is not verrucous carcinoma (VC). VC usually consists of mild atypical cells and

does not show invasive features [9, 10]. The current tumor showed severe atypia and showed mild invasion; thus the present tumor is not VC but PSCC. PSCC is though to be probably caused by human papilloma virus (HPV); however, there have been no studies on HPV of oral PSCC [1-6]. The present tumor lacked HPV protein immunoreactivity, and showed no signals in HPV DNA in situ hybridization, suggesting that the present PSCC is not associated with HPV infection.

In conclusion, the author reported a very rare case of PSCC of the oral cavity.

Conflict of interest statement

The author has no conflict of interest.

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