An Unusual Presentation of Prostate Adenocarcinoma Metastatic to the Oral Cavity

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The lymph nodes and bones are the most common sites of metastases in advanced prostate cancer. However, an unusual clinical presentation or one that mimics another entity may make diagnosis difficult. We report a male patient with metastatic prostate cancer who presented with a primarily localized buccal tumor. Prostatic origin was highly suspected only after positive results of prostate-specific antigen staining from biopsy pathology. We share our clinical experience and review the literature.

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1. Introduction

The lymph nodes and bones are the most common sites of metastases in advanced prostate cancer. However, an unusual clinical presentation or one that mimics another entity can result in a difficult diagnosis. We report a male patient with metastatic prostate cancer who initially presented as a localized buccal tumor. Because buccal cancer is the fourth leading cancer of men in Taiwan, primary buccal cancer was impressed at first. Finally, buccal lesion biopsy showed adenocarcinoma with positive PSA, which confirmed the final diagnosis. Adequate immunohistochemical study was helpful and made the differential diagnosis clearly, from primary oral cavity cancer to prostate cancer metastasis.

Metastasis to the gingiva from prostatic adenocarcinoma has been previously reported. However, buccal mucosa metastasis for a primary tumor is rare. We report here an unusual case and review the literature.

2. Case Report

A 76-year-old Taiwanese man presented to our center with a 2-month history of a toothache and painful swelling of the left cheek. He did not smoke or chew betel nut. A physical examination revealed a shallow ulcerative mass with no bleeding (Figure 1), which was 3.5 × 1.5 cm, around the left premolar tooth. In addition, no significant lymphadenopathy was found. Magnetic resonance imaging of the head and neck indicated a destructive bony lesion with prominent extraosseous soft tissue at...
the left mandible (Figure 2). Therefore, a buccal tumor with extensive bony invasion was our first impression, and radical surgery was considered. However, the pathology report from a simple biopsy indicated that it was an adenocarcinoma (Figure 3), which was strongly positive for prostate-specific antigen (PSA) and negative for both CK7 and CK20. Therefore, metastasis may have been the reason why this patient had positive PSA staining on buccal pathology. Radical surgery was delayed, and we searched for the primary source.

A tumor marker screening test showed high serum PSA levels (maximum, 168 ng/mL), and a stony-hard prostate was palpated. The pathology from transrectal ultrasound-guided prostatic biopsy revealed an adenocarcinoma with a Gleason score of 4+4. The clinical stage was cT3N0M1c. The patient underwent androgen deprivation therapy with maximal androgen blockage. The clinical response was good, and the buccal lesion almost completely healed. The most recent PSA measurement was 0.252 ng/mL after 16 months of treatment.

3. Discussion

Oral cavity tumors in Taiwan are a significant public issue mainly because of the local culture. A proportion of the residents habitually smoke cigarettes, consume alcohol, and chew betel nut, which are risk factors for oral cavity tumors.1,2 According to national statistics, oral cavity cancer, which is of great concern, became the sixth most common malignancy with a mortality rate of approximately 7.8% in 2008 in Taiwan. In clinical practice, an oral cavity tumor in a patient is considered a primary malignancy. However, this was not the case in our patient. He presented with a toothache and an ulcerative buccal tumor, with the unusual pathology of an adenocarcinoma with positive PSA staining. Therefore, we withheld treatment of radical surgery for a buccal tumor to define the primary source.

To our knowledge, advanced prostate cancer inevitably progresses to metastasis even after aggressive treatment. The axial skeleton is the most common site of distant metastases. That is why the stage workup for advanced prostate cancer should always include a radionuclide bone scan. However, metastatic lesions to the oral cavity from distant tumors are uncommon, accounting for only 1% of all oral malignancies,3–5 and they usually involve bony structures. Hirshberg et al. claimed that the oral cavity is an uncommon site for metastases and that histological diagnosis should be given for differentiating primary intraoral malignancies from metastatic tumors.6 Although it is not common, cancers metastatic to the oral cavity have been reported, including cancers of lung, kidney, and liver in men and cancers of breast, genital organs in women.6 Our case had metastases to the soft tissue (buccal mucosa) and to bony structures at the initial presentation. The stage was cT3N0M1c.

Prostate cancer was the fifth most common cancer in men in 2007 and is the seventh leading cause of cancer death in men in Taiwan. However, only a few cases have been reported to have oral cavity metastases. Prostate cancer that metastasizes to the gingiva has been reported, but it may have been an extension of bone metastasis involving the jawbone. Immunohistochemistry for PSA is helpful in making a diagnosis. A thorough physical examination, including a digital rectal exam, should also be performed for male patients.

Metastatic prostate cancers respond relatively well to hormone therapy.7,8 The buccal tumor had resolved by the 8th month of complete androgen blockage therapy and no de novo lesions were noted after 16 months of follow-up.

4. Conclusions

A common disease with an uncommon presentation is always a challenge. A diagnosis of prostate cancer initially from a metastatic site is not uncommon, and it may even metastasize to soft tissues in the oral cavity, mimicking...
Prostate adenocarcinoma metastasis

a different primary or benign disease. Therefore, it is im-
portant to consider prostate cancer as a possibility when
an elderly man without typical risk factors of oral cancer
presents with a buccal tumor as the chief complaint.

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