

Case Report

A Case of Sphenoid Sinus Metastasis From Prostatic Adenocarcinoma

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Abstract

We experienced a very rare case of sphenoid sinus metastasis from prostatic adenocarcinoma. A 68-year-old Japanese man consulted the ophthalmology department in our hospital for diplopia since the day before as his chief complaint and was diagnosed as left abducens and oculomotor nerve palsy. He was referred to our Department of Otorhinolaryngology. CT scan showed a soft tissue lesion in the bilateral sphenoid sinus. The patient had received chemotherapy for prostatic adenocarcinoma 30 months previously. Therefore, we immediately performed sinus endoscopy under general anesthesia for drainage and biopsy. Pathology examination of the mass suggested a malignant tumor by H&E staining. As a result, sphenoid sinus metastasis from the prostatic adenocarcinoma was diagnosed by immunohistochemical staining (prostatic specific antigen: +).

Introduction

While metastatic tumors of the nose and paranasal sinuses overall are unusual, metastasis to the sphenoid sinus is exceedingly rare [1]. Omori [2] described that the most common location of the primary tumor for metastasis to the sphenoid sinus was renal cell carcinoma, but prostatic adenocarcinoma is extremely rare in Japan. Petersson [3] reported that occult prostatic carcinoma to the head and neck region was unusual and metastasis to the sphenoid sinus was rare, with only 9 documented cases in the English literature. We experienced a case with sphenoid sinus metastasis from prostatic adenocarcinoma; we present the clinical findings, imaging examination and diagnosis.

Case Report and discussion

A 68-year-old Japanese man consulted the ophthalmology department in our hospital for diplopia since the day before as his chief complaint and was diagnosed as left abducens and oculomotor nerve palsy. He was referred to our Department of Otorhinolaryngology. CT scan showed a soft tissue lesion in the bilateral sphenoid sinus (Figure 1). He had received chemotherapy for prostatic adenocarcinoma 30 months previously. Therefore, we immediately performed sinus endoscopy under general anesthesia for drainage and biopsy. In the operative findings, we could observe polypoid masses of a dark-red color and mucous liquid within the left sphenoid sinus (Figure 2).

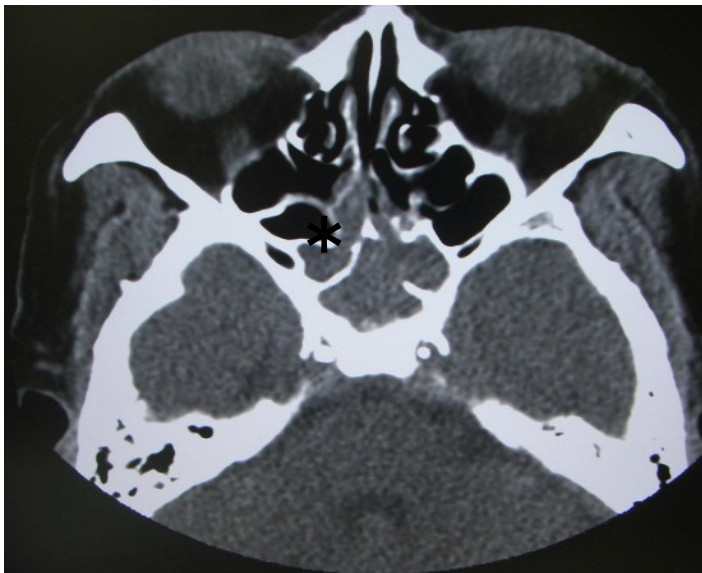


Figure 1. In CT scan, a soft tissue lesion (an asterisk) could be found in the bilateral sphenoid sinus.

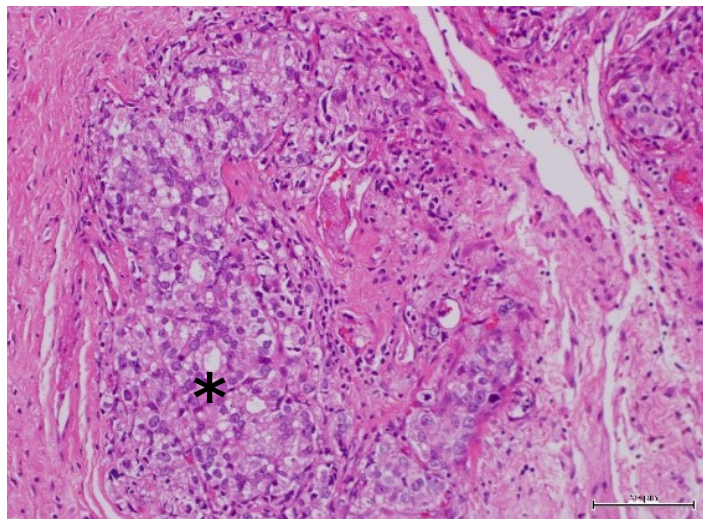


Figure 3. Histopathologic findings of specimens showed atypical epithelial cells with acidic plasma (an asterisk) (H&E staining).

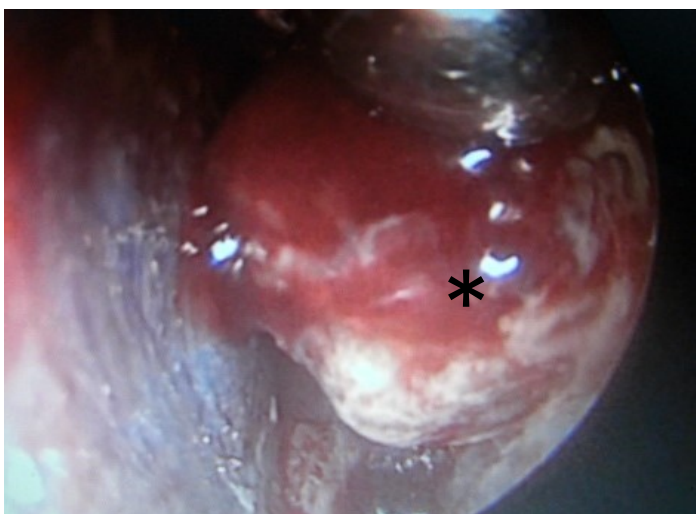


Figure 2. In endoscopic findings, polypoid masses of a dark-red color were observed in the left sphenoid sinus.

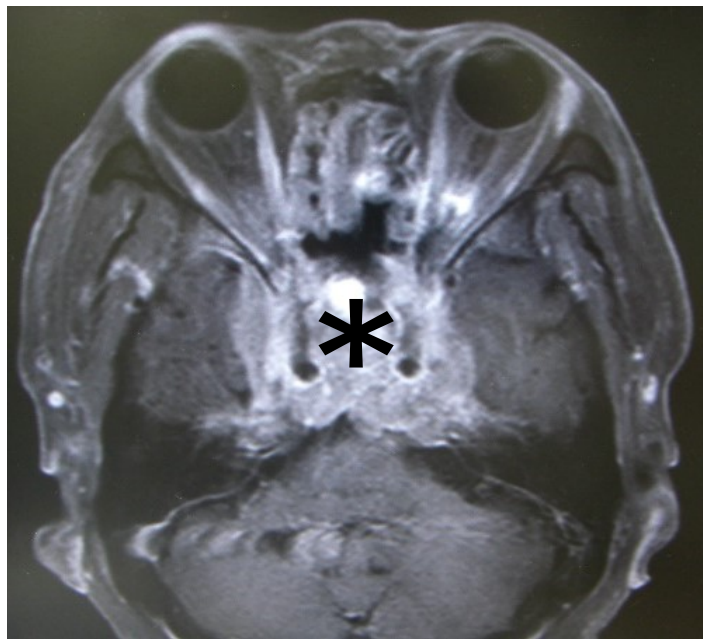


Figure 4. MRI demonstrated a metastatic tumor occupying the cavernous sinus and orbital apex. (asterisk)

The cultured liquid revealed no bacteria or fungus. Pathology examination of the mass suggested malignant tumor by H&E staining Figure 3. As a result, sphenoid sinus metastasis from prostatic adenocarcinoma was diagnosed by immunohistochemical staining (prostatic specific antigen: +). In the MRI, the tumor showed intracranial invasion including the cavernous sinus and orbital apex (Figure 4). Subsequently, he was treated by the urology department. The prostate specific antigen (PSA) level was high (44.18 ng/ml (normal range: 0.01-4.0 ng/ml)).

Bone scintigraphy demonstrated abnormal accumulations in the left sphenoid and sternum. Based on these results, the urologists' diagnosis was end-stage prostate cancer.

It has been reported that cases with cranial nerve symptoms due to metastasis of prostate cancer have a poor prognosis [4,5]. Our patient received radiation therapy (30Gy) for the skull base, but the metastatic tumor showed no change. He transferred to a palliative care hospital.

Mickel¹ suggested that, although metastasis to the sphenoid sinus is an uncommon entity, when present, the signs and symptoms related to such metastasis are frequently the first presentation of the disease. As such, patients with sphenoid sinus symptoms suggestive of sphenoid sinus malignancy should be vigorously examined for the possibility of primary

as well as metastatic tumor of the sinus. Lavasani [6] suggested that a high level of suspicion for metastatic disease from specific primary sites may help guide the pathological evaluation. As in this clinical scenario of a patient with a history of prostatic adenocarcinoma, appropriate analysis would entail sending specimens for immunohistochemical staining, such as prostatic specific antigen. In our case, examination for the primary origin of the sphenoid sinus metastasis would have been a useful immunohistochemistry study, as would immediate biopsy and image examination.

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