

EPISTAXIS AND PROPTOSIS - UNUSUAL PRIMARY MANIFESTATIONS OF METASTATIC RENAL CELL CARCINOMA

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ABSTRACT

Metastasis to the paranasal sinuses is rare presentation. We report a case of a patient with metastasis to the maxillary antrum from renal cell carcinoma.

KEYWORDS: Rare metastasis, Maxillary antrum, Renal cell carcinoma.

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INTRODUCTION

Renal cell carcinoma (RCC) has unpredictable and diverse behavior. The classic triad of haematuria, loin pain and abdominal mass is found in only 4–17%.¹ About, 25–30% of patients are found to have metastases at diagnosis. A further 30–50% of patients develop metastases during the course of their illness.² Many tumors like bronchus, breast, colon and thyroid have been reported to have metastasized to the paranasal sinuses.³ Metastatic deposits of renal cell carcinoma to the head and neck region are infrequent.

CASE REPORT

A 55 year-old female who underwent left radical nephrectomy three years back for renal cell carcinoma, during her routine follow visit in March 2009, complained of epistaxis, right eye bulging and doubling of vision. She had no other symptoms. On physical examination, the patient was in good health, afebrile, with a prominent swelling of left cheek and proptosis of right orbit with right trochlear nerve palsy. The chest and abdomen examination were negative.

Baseline investigation including full blood count, urea and electrolytes, liver function tests and chest X-ray were normal. CT scan of paranasal sinuses (Figure-1) showed soft tissue mass completely filling the right maxillary antrum, measuring 4.7×2.7 cm extending into in right Ethmoidal sinus and right sphenoid sinus. Medially was extending into the nasal cavity, also eroding the nasal septum and laterally extending into infra-temporal fossa with no intra cranial extension. Differential diagnoses were a polyp, primary malignancy, least likely a metastatic deposit. The biopsy of the antral mass showed the cells with clear cytoplasm, and rich in blood vessels consistent with renal cell

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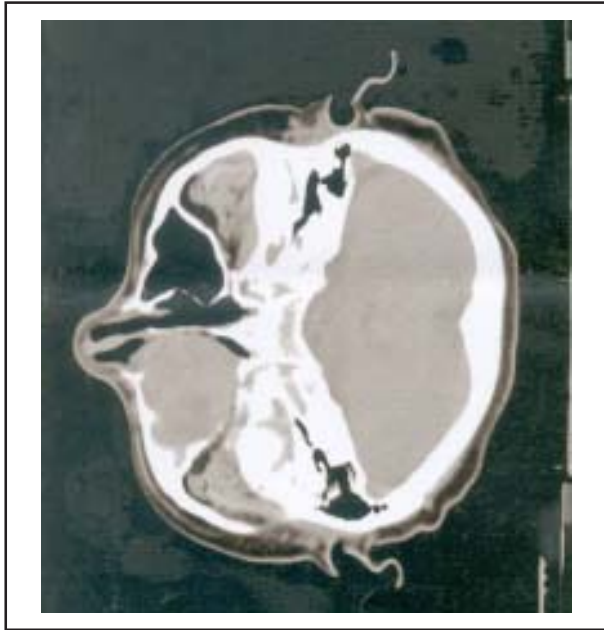


Figure-1: CT scan of face showing right maxillary antrum mass.

carcinoma (Figure2). Surprisingly, the bone scan was negative, and she was referred to radiation oncology department for palliative radiotherapy. Patient gave consent for publishing her case but refused publication of photographs.

DISCUSSION

Primary tumors of the paranasal sinuses are rare, constitute only 3% of all head and neck tumors.⁴ Metastatic tumors to paranasal sinuses are even rarer, only 0.25% to 5% of all sinus neoplasms.⁵

Due to their rare occurrence, many of the metastatic tumors are diagnosed by chance. In our patient, she already had nephrectomy done for renal cell carcinoma three years back, and diagnosis of metastasis was only made on routine follow up.

The maxillary sinus is the most common site (50%) of paranasal sinuses metastasis, followed by the ethmoidal sinuses, frontal sinuses, nasal cavity and sphenoid sinuses. In this patient, the metastasis was already extensive upon diagnosis. It was difficult to comment as to which sinus was first involved.

Presentation of symptoms varies according to the site. In our patient, epistaxis was due to the

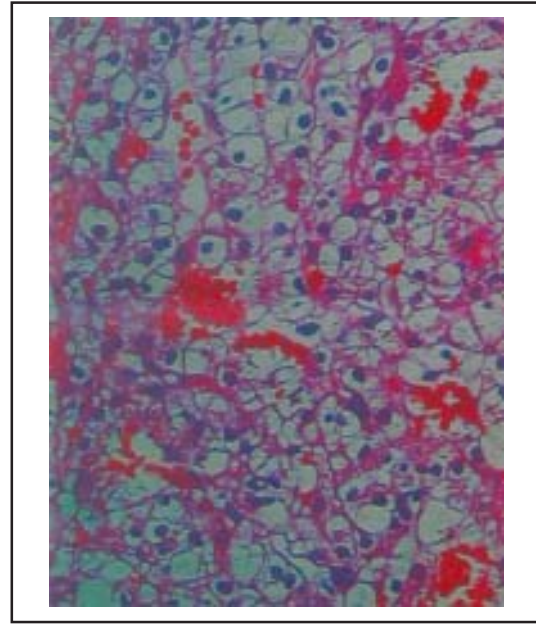


Figure-2: Histopathology of biopsy from antral mass showing abundant clear cells consisting with renal cell carcinoma.

vascularity of the tumor. Epistaxis was the chief presenting complaint of more than 70% of renal cell carcinoma metastases to the paranasal sinuses.⁶ Cranial nerve palsies (II, III, IV, V and VI) are also seen in sphenoidal metastases.⁷

The possible route for metastasis suggested is the presences of valveless interconnecting vertebral veins allow intra-abdominal metastases to bypass the heart and lungs and communicate directly with the veins of the head and neck region. The vertebral veins in turn communicate superiorly with the pterygoid plexus, cavernous sinus and superior portion of the pharyngeal plexus, hence providing a pathway for metastasis to the paranasal sinuses.

The para nasal sinuses metastasis is a poor prognostic factor with poor survival outcome 35%.⁸

CONCLUSION

Metastasis at the time of diagnosis frequently occurs in RCC; rare in paranasal sinuses. Clinicians should be aware of the possibility of metastatic malignancy in patients presenting with antral masses, therefore a careful examination is required in patients with RCC.

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