

## Ipsilateral ethmoid sinuses metastasis and proptosis: Rare presentation of metastatic prostate cancer

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### SUMMARY

Metastatic paranasal sinuses and orbital cancer is very rare. The patient with sinusitis and orbital symptoms warrants a detailed history, complete physical examination and serial radiological tests (sinus radiographs and CT scan) to rule out any metastatic disease and prompt treatment. We present a case of 65 years old patient with metastatic prostate cancer who presented to us with left ethmoid sinuses and orbital metastasis causing ipsilateral proptosis.

**KEY WORDS:** Metastatic Prostate Cancer, Ethmoid Sinuses, Proptosis.

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### CASE REPORT

The bone is the most common site for metastasis secondary to prostate cancer. Orbital and paranasal sinuses metastases from prostate cancer are very rarely documented.<sup>1-5</sup> Our patient was a 65 years old male resident of Baluchistan already established case of metastatic prostate cancer with bone metastasis presented with one month history of nasal congestion and obstruction intermittent type. He had been treated by local physician with antibiotics, antihistamines and nasal decongestants but without any improvement. Over the next week, the patient developed rapid onset of nasal obstruction, unilateral

left sided proptosis and diplopia and was referred to department of oncology. Physical examination findings were left unilateral proptosis with orbital cellulitis and chemosis (Fig-1). On palpation there was mild tenderness. Pupils were round, reactive to light while accommodating vision was slightly blurred in left eye. The nasal examination revealed slightly hypertrophied inferior and middle turbinates. No palpable lymph nodes were found. Systemic examination was unremarkable.

Baseline hematology and chemistry tests were within normal limits. Computed tomography (CT) scan showed opacification of left ethmoid sinuses and retro-orbital mass pushing the left eye ball forward

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Fig-1: Left eye proptosis and orbital cellulitis during physical examination.

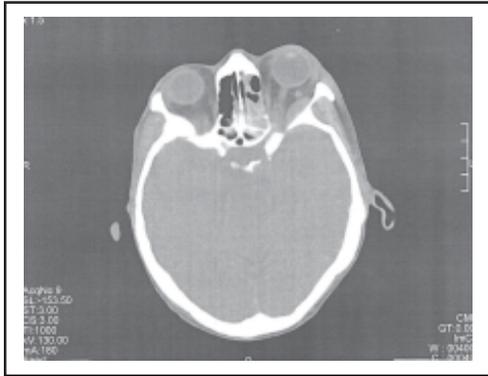


Fig-2: Computed tomography scan revealing the opacification of left ethmoid with left retro-orbital mass causing left eye proptosis.

(Fig-2). The endoscopic nasal biopsy was consistent with metastatic poorly differentiated adenocarcinoma of prostate origin (Fig-3). Serum prostate specific antigen (PSA) level was 347ng/ml. Previous prostate biopsy was high grade adenocarcinoma Gleason score 5+4=9. Skeletal scintigraphy showed metastasis in skull, ribs, dorsal vertebrae and pelvic bones. Medical record showed previous radiotherapy to pelvis for pain control.

The patient was started on palliative radiotherapy that consisted of 3000 cGy in ten fractions mixed beams of 6MV photons and 15MeV electrons over two weeks. His pain resolved during the course of radiotherapy but persistent peri-orbital edema. Currently patient is alive and receiving hormonal therapy and intravenous bisphosphonates for bone metastasis.

## DISCUSSION

The orbital and paranasal sinuses metastases are extremely rare. Renal cell carcinoma has been found the most common malignancy that is metastasized to paranasal sinuses and orbit.<sup>6</sup> However metastasis to paranasal sinuses and orbit from prostate cancer is very rare; metastasis to ethmoid sinuses is further rarest only few case reports have been published so far.<sup>7</sup> Orbital and paranasal sinuses metastasis present with symptoms of nasal obstruction, pain, epistaxis and proptosis. Our patient also presented with similar symptoms however he did not complaint of epistaxis. The possible route of spread to these sites in prostate cancer is by hematogenous spread through vertebral veins.<sup>8</sup>

The diagnosis of metastatic carcinoma to paranasal sinuses and orbit may not be easy. The differential diagnosis may include sinusitis, orbital cellulitis, Wegener's granulomatosis, midline granuloma and

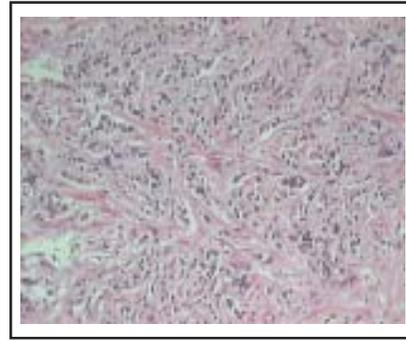


Fig-3: Metastatic moderately differentiated adenocarcinoma from prostate in ethmoid biopsy.

primary malignant neoplasms.<sup>9</sup> Failure to respond to antibiotics, antihistamines, decongestant shows alarming sign for the physician and warrants sinus radiographs and CT scan. The treatment of choice for metastatic paranasal sinuses and orbit is the radiotherapy with or without chemotherapy.<sup>10</sup> The role of surgery is limited only to get tissue diagnosis or debulking. Our patient was treated with mixed beam photons and electrons with good results.

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