Metastatic compressive lower motor neurone hypoglossal nerve palsy: A rare complication of prostate cancer

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CASE REPORT

A 68-year-old gentleman presented with a one week history of difficulty clearing food from the left side of his mouth. He was known to have a three year history of refractory metastatic prostate cancer. Central nervous system examination revealed isolated cranial nerve XII signs including atrophy and fasciculation of the left side of the tongue and deviation of the tongue to the left on protrusion (figure 1). Tongue fasciculation (white and white) and deviation are shown in a short video (url - http://www.jcasereportsandimages.com/archive/2012/002-2012-ijcrt/009-02-2012-hussaini/009-002-2012-hussaini-full-text.php). PSA and ALP were measured at 417.0 (0 - 6.5 ng/mL) and 4232 (80 - 260 u/L) respectively. A nuclear medicine bone scan performed two months before presentation showed multiple areas of bony metastasis including the left skull base (figure 1). Claustrophobia precluded MRI imaging. He was diagnosed with metastatic left hypoglossal nerve compression. Symptoms and signs significantly improved following treatment with 20 Gy of radiotherapy to the base of the skull.

DISCUSSION

Metastasis to the skull base causes cranial nerve palsy which could be a diagnostic challenge as the patient might present to various specialties with neurological deficits [1]. Skull metastasis is seen mostly as a late complication of the advanced prostate cancer. One study suggested that prostate cancer remains the underlying cause of skull metastasis in 6% of the cases [7].

Progressive ipsilateral involvement of the affected cranial nerve is a key feature of cranial metastasis. Other symptoms include localised cranial or facial pain, headache, seizure, visual loss, diplopia, weakness, fatigue, incoordination, confusion and personality change. MRI is the most useful investigation to establish the diagnosis though isotope bone scan helps demonstrate the site of the bone lesion [2]. Radiotherapy is generally the standard treatment, while some patients with chemosensitive or hormonosensitive lesions benefit from chemotherapy or hormone therapy and selected patients benefit from surgical removal [2]. The median survival is poor probably because the skull metastasis appears late in the disease process [2].

Dysphagia is a potential symptom of cranial metastasis resulting in compression of the hypoglossal nerve. This symptom can improve with local radiotherapy [3] and endocrine therapy has also shown to improve the symptoms [4]. One case study described a patient with tumor at the frontal skull base that was treated with daily estramustine phosphate sodium. After one week the prostate was observed to soften and slightly decreased in size, the visual field defect and disturbance of urination gradually improved. The prostate decreased to normal size and no brain tumor mass could be detected on CT scan after three months of treatment [4]. Sphenoidal metastasis and clivus metastasis causing cranial nerve palsy have also been described [5, 6].
CONCLUSION

Cranial nerve palsies due to skull metastasis can result in cranial neuropathies such as hypoglossal nerve palsy. Early diagnosis is essential as local radiotherapy can improve symptoms and result in an improvement of quality of life for patients [7].

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doi:10.5348/ijbtti-2012-02-94-CI-9

Acknowledgement
We thank Dr. Daniel Allendorf for critical revisions of the manuscript.

Author Contributions
Syed Kaleemullah Hussaini – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published
Charles G Taylor – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor
The corresponding author is the guarantor of submission.

Conflict of Interest
Authors declare no conflict of interest.

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REFERENCES