



Isolated Sixth Nerve Palsy As The First Manifestation Of Clivus Metastasis From Primary Papillary Carcinoma Of Thyroid

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Abstract

The patient presented to our out patient department with the complaint of binocular diplopa. The medical history revealed that he was diagnosed as a case of papillary thyroid carcinoma. Following required analyses, biopsy from cervical lymph node was performed which revealed oncocyctic variety of papillary thyroid carcinoma. The patient had undergone treatment with Lenvatinib, followed by radiotherapy. Diplopia charting indicated a Abducens nerve palsy. MRI imaging revealed metastasis to the clivus. Patient was prescribed Fresnel stick on prims to correct the diplopia.

Keywords: Abducens nerve plasy, clivus metastasis, diplopia

Introduction

We report a case of a 66-year old man, who presented with diplopia as the only sign of clival metastasis of previously diagnosed papillary thyroid carcinoma. We will discuss the symptoms, work-up, and management in this cases of cerebellar metastasis from PTC. Metastatic lesions to the clivus have been reported in numerous cancers including lung cancer, breast cancer, prostate carcinoma, skin melanoma and hepatocellular carcinoma. There has been only a few reports of papillary thyroid carcinoma presenting with isolated clivus metastasis.

Case Report:

A 66 year old male patient presented to the outpatient department of Dr.D Y Patil Hospital with chief complaints of binocular diplopia since 3 months with a diagnosis of papillary thyroid carcinoma for which he underwent multiple rounds of chemotherapy and radiation therapy. He did not have any other systemic

illness the patient did not have any history of use of glasses. A comprehensive ophthalmological evaluation of the patient was carried out along with a complete evaluation of the squint and diplopia. Patient had a slight head turn to the right. While reading from the Snellen's chart a mono ocular eye closure of the right eye was noted. Visual acuity on the Snellen's chart was 6/6 for both eyes and

N6 for near vision on the Jaegers chart with +3.00 dsp.

Pupils of both eye were central circular and reacting to light.

Hirschberg test revealed a esotropia of 15 degrees in the right eye and cover/ uncover test showed alternating esotropia. Extra ocular movements were found to be full and

free in the left eye and -1 restriction for right eye on abduction.

Diplopia charting revealed Abducens nerve palsy.

Prism bar cover test for distance was 35 prism dioptres and 18 prism dioptres for near vision.

Primary deviation was 25 prism dioptres base out and secondary deviation was 30 prism dioptres base out.

Dilated evaluation revealed a normal fundus. Considering the possibility of a distant metastasis, MRI Brain was performed, imaging revealed a lytic lesion was isolated at the clivus on the right side was noted.

A diagnosis of Abducens nerve palsy due to clivus metastasis secondary to papillary carcinoma of thyroid was made.

Discussion:

This patient developed Abducens nerve palsy as a result of nerve compression from a clival metastasis. Chief complaint being diplopia, which was caused by a right cranial nerve VI palsy, a common cranial nerve finding in patients with clival tumours (seen in over 40% of cases).⁽¹⁾ Our patient had an isolated sixth cranial nerve palsy that could be explained by the clival extension of the skull base mass. Metastasis to the clivus is rare from any tumour, and from papillary thyroid cancer it is extremely rare.⁽²⁾ An extensive world literature review revealed only 15 cases of spread to the clivus from papillary thyroid cancer.⁽³⁾ Distant metastasis from differentiated thyroid carcinoma needs to be considered in the differential diagnosis of destructive skull base lesions, regardless of the patient's age.⁽⁴⁾ A review of literature showed a study which stated that only 10 cases with clivus lesions due to cancer was reported. The most common symptoms of skull base metastasis from Papillary thyroid carcinoma were headache and cranial nerve palsies. The differential diagnosis of a clival mass includes metastatic lesions, lymphoma, chordoma, meningioma, pituitary adenoma. Metastatic lesions to the clivus have been reported in various cancers like lung cancer, prostate carcinoma, and hepatocellular carcinoma. Abducens nerve palsy is uncommon in patients with clival metastasis. Due to the proximity to the clivus and the cavernous sinuses, a metastatic lesion to the clivus may be responsible for unilateral

or bilateral abducens nerve palsy. In our case, the patient presented with chief complaint of diplopia and mono ocular eye closure. Further history which revealed that the patient was recently diagnosed with papillary carcinoma of thyroid which was confirmed on cervical lymph node biopsy. This warranted an examination of the MRI Brain which showed a metastatic lesion at the clivus. Our patient was prescribed stick on fresnel prisms to correct his diplopia.

Conclusion:

After a comprehensive evaluation of the patient and keeping in mind the chief complaint of binocular diplopia, along with MRI Scan of brain a diagnosis was made of Abducens nerve palsy caused due to secondary metastasis (lytic lesion) to the Clivus. Considering that the presenting complaint of binocular diplopia was before the diagnosis of papillary thyroid carcinoma, it highlights the importance of a detailed ophthalmic evaluation and the importance of imaging technique to rule out more sinister causes of diplopia. Our patient was treated with Fresnel prisms for the correction of diplopia. A normal head posture along with marked improvement of the ocular complaints was reported.

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the skull base. Laryngoscope. 2007;117:1146– 1152.

Figure 1: 9 Gaze photo: 6th nerve palsy.

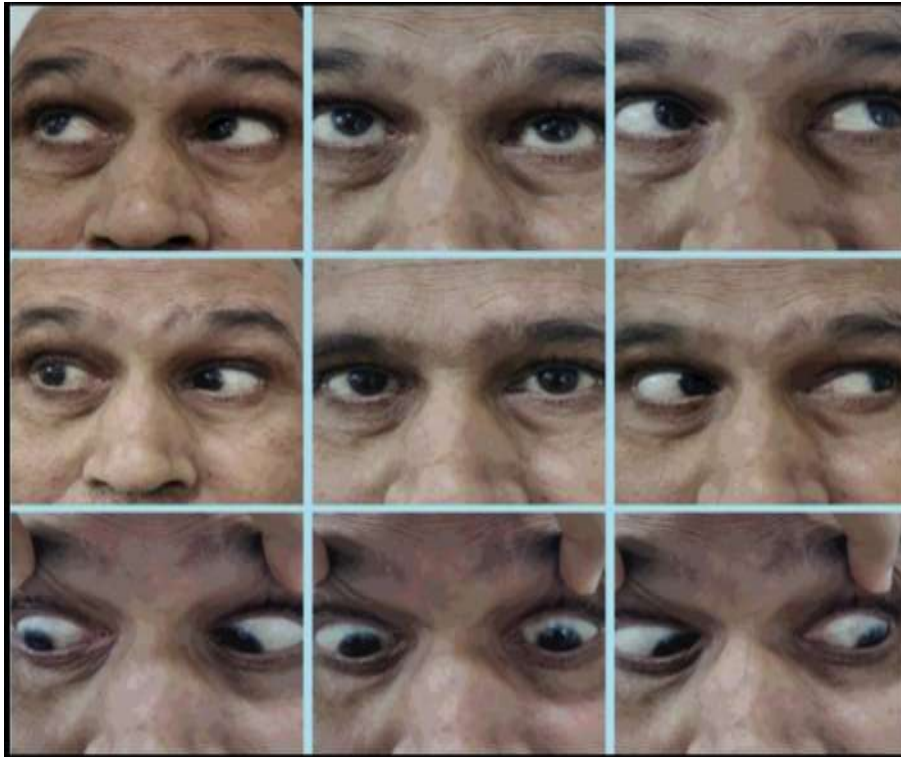


Figure 2: Patient displaying mono ocular eye closure while reading.



Figure 3: Axial T2 MRI revealing a metastatic lesion at the clivus.

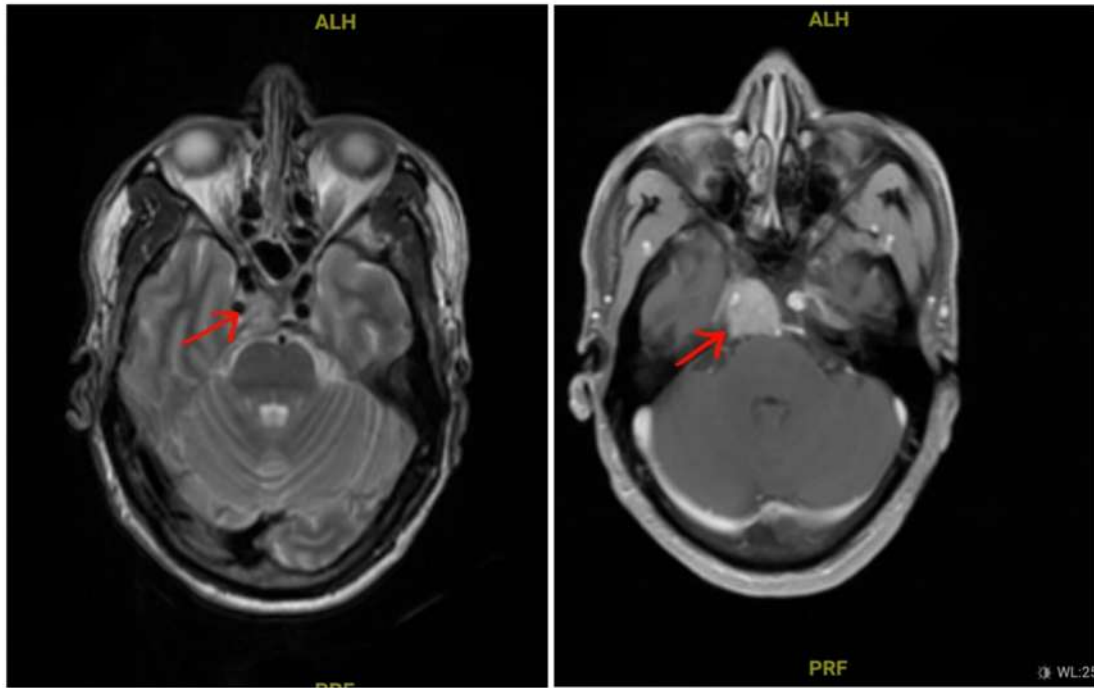


Figure 4. Head tilt, mono ocular eye closure and diplopia eliminated after use of prisms.

