

Nasopharyngeal carcinoma presented as cavernous sinus tumour

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Abstract

A 32 year Libyan male presented with the complaints of headache and diplopia. He was diagnosed with a cavernous sinus meningioma on the basis of MRI findings but no initial biopsy was taken. Depending on the radiologic diagnosis the patient was treated with gamma knife surgery twice, abroad. During follow up he developed left ear deafness and left cervical lymph adenopathy. An ENT evaluation with biopsy from the nasopharynx and cervical lymph node was taken. The histopathologic diagnosis of the resected tumour showed a nasopharyngeal carcinoma with cervical lymph node metastasis (poorly differentiated lympho-epithelial carcinoma). The cavernous sinus tumour which was initially treated as a meningioma was in fact metastasis from the nasopharyngeal carcinoma, making this an interesting and rare occurrence.

Keywords: Meningeoma, Nasopharyngeal Carcinoma, Cavernous sinus, Rare metastasis.

Introduction

Patients with nasopharyngeal carcinoma and brain metastasis can present with headache or diplopia.¹⁻³ The cavernous sinus is not an uncommon location for metastases. The common primary tumour for the cavernous sinus metastasis is known to be breast cancer in women and lung cancer in men.⁴ The invasion of the cavernous sinus from nasopharyngeal carcinoma appears to be more common.⁵ The cavernous sinus invasion can be seen at the first presentation in advanced cases or in recurrent cases.¹⁻⁵ There have been cases reported where the patients were being treated for meningioma on the basis of radiological finding and later on it was found to be metastasis from the nasopharyngeal carcinoma. Flickinger et al¹ evaluated tumour control and outcome from radio surgery of meningiomas diagnosed by imaging without pathologic verification. A total of 219 patients were diagnosed with meningiomas by imaging criteria and underwent gamma knife radio surgery median

follow-up for which was 29 months (range 2-164). In 2.3% of cases diagnosis was other than meningioma. Yoshiyasu et al² evaluated the efficacy of gamma knife radio surgery for cavernous sinus metastasis and invasion in 21 patients with cavernous sinus metastasis. Nine of these patients had nasopharyngeal cancer, and 12 had distant metastasis from other cancers. The median follow-up period was 9 months. The mean survival time was 13 months.

Case Report

A 32 year Libyan male in 2007 presented with the complaints of headache and diplopia. MRI brain was done and he was diagnosed as having left side cavernous sinus meningioma causing left sixth cranial nerve palsy. Under the assumed radiologic diagnosis of meningioma gamma knife radiotherapy was carried out in Germany. A single dose of 28 Gy was applied to the tumour region. In August 2008 a recurrent tumour in the left orbital region and a second tumour in the suprasellar area were found, diagnosed again as a relapse of the same initial tumour. The patient then received stereotactic gamma knife radiation at the University of Cairo to both areas with single dose of 12 Gy (prescribed to 50% isodose). In September 2008 the patient presented to the ENT hospital at the University of Mainz Germany with complaints of left ear deafness, diminished vision in left eye and left side neck swelling (lymphadenopathy). Because of a progressing tumour in the left retro orbital region and nasopharynx, a trans nasal debulking was done and lymph node biopsy was taken. The histostological diagnosis of the resected tumour showed a nasopharyngeal carcinoma with lymph node metastasis (poorly differentiated lympho-epithelial carcinoma). A thorough review of the case was done (clinical history, radiologic films, histopathologic slide reviews) and was concluded to be a nasopharyngeal carcinoma from the outset. Therefore this condition was considered like a recurrent nasopharyngeal carcinoma (NPC), and was planned for concomitant chemo-radiotherapy. Unfortunately it was not possible to apply the high dose to this patient due to the radiation dose previously received by the patient. The recalculation of the radiotherapy doses applied; showed that the tissues in the base of the skull, the brain and the optic chiasma would tolerate a maximum dose of further 45 Gy. Since the tumour was resected prior to radiotherapy, the maximum dose of 45 Gy which could be given was considered sufficient to control the disease locally. The radiotherapy was delivered

with the technique of IMRT (Intensity Modulated Radiotherapy by Linear Accelerator) with 6 MV photons. Patient received injectable Cisplatin 20 mg/m² and 5-FU 600mg over 5 days during the first and last week of radiotherapy. Radiotherapy finished on 5th Dec 2008. Patient received two cycles of chemotherapy based on Cisplatin, 5-FU and Taxotere, as adjuvant post radiotherapy treatment to control systemic disease. Patient is now receiving B interferon and this will continue for a period of 6 months.

Discussion

The cavernous sinus is a venous vascular structure situated between the layers of the dura, bordering the pituitary fossa and the sphenoid sinus. The cavernous sinus contains several nerves, including ophthalmic and maxillary divisions of the trigeminal nerve, oculomotor nerve, trochlear and abducent nerves. There are many differential diagnoses for a cavernous sinus mass. Unilateral cavernous sinus mass can be a schwannoma, meningioma, aneurysm, chordoma, lymphoma or metastasis as in this case from a nasopharyngeal carcinoma.^{4,5} However radio surgery of meningioma diagnosed by imaging without tissue confirmation is associated with a high rate of tumour control and acceptable morbidity but carries a small risk of an incorrect diagnosis.¹⁻³

Conclusion

Radio surgery of meningioma diagnosed by imaging without tissue confirmation is associated with a high rate of tumour control and acceptable morbidity but carries a small risk of an incorrect diagnosis. It is therefore advisable to have a confirmed histologic/cytologic diagnosis before imparting any treatment.

References

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