CENTRAL NEUROCYTOMA : A CASE REPORT

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Introduction

Central neurocytomas are slow growing primary brain tumors of neuronal origin. They develop predominantly in young adults , most frequently in the lateral ventricles.1,2 We report a 24 years old man who had a large brain mass with mass effect on foramen monro and third ventricle in MRI. After partial resection, pathological diagnosis was central neurocytoma.

Key words: central neurocytoma, brain tumor, IHC

Case report

A 24 years old man presented with a history of progressive headache and loss of visual acuity and tonic clonic seizures for about 2 months. Brain MRI, revealed a 40 *40 mm mass lesion in central and right paracentral aspect of the brain, with mass effect on foramen monro and third ventricle. The tumor had been resected incompletely. We found minimal decreased force of left upper and lower limb and facial paresis on physical examination. Pathological diagnosis of tumor was central neurocytoma. We reviewed pathology and IHC in our center. It was compatible with central neurocytoma (WHO grade 1) too. He recived 54 Gy cranial radiatin.

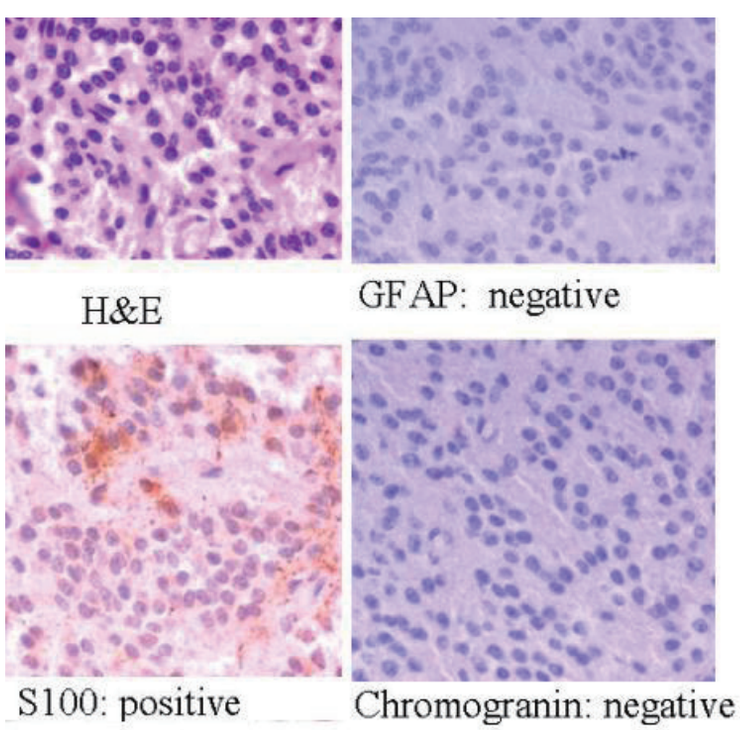
Histopathological examination

Cellular tumor consisting of very uniform small sized cells. There were marked predominance of uniform round nuclei with stippled chromatin, some with small nucleoli. There was no mitotic activity ,Vascular or endothelial proliferation.

IHC: IHC evaluation was as below

GFAP: negative, S100: positive, Chromogranin: negative,

Synaptophysin (at IBTO): positive



Discussion

Central neurocytomas, are rare neuronal tumour of the CNS accounting for 0.25% to 0.5% of all CNS tumours. They are characteristically located in the supratentorial ventricular system. They typically present with signs and symptoms of increased intracranial pressure induced by obstructive hydrocephalus.3 In the present case, radiological findings of the tumour were similar to those of central neurocytomas.

Histopathologically, the nuclei of these neurocytes are round or oval with finely

speckled “salt and pepper” chromatin. Neurocytes are typically not immunoreactive for GFAP .2,4 The diagnosis must be based on immunohistochemistry for neuronal antigens such as synaptophysin and neuron-specific enolase (NSE) .

Central neurocytomas have good prognosis. The best treatment is complete surgical resection. Patients with incomplete excision may benefit from radiotherapy.3 In contrast with the more aggressive atypical neurocytomas, well-differentiated neurocytomas are associated with an excellent long-term survival. Our patient is alive without any recurrence (mor than 3 years survival). After both complete resection and incomplete resection, radiotherapy significantly improved local control, but not survival.

The decision to proceed with irradiation needs to be made on the patient’s risk tolerance for needing another craniotomy and considerations of potential radiation toxicity, which may be influenced by tumor location. A total dose of 54 Gy appears sufficient.

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