INTRAVENTRICULAR MENINGEAL HEMANGIOPERICYTOMA CT DIAGNOSIS.

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ABSTRACT

A report case of hemangiopericytoma detected by CT scan in a 59-year old patient was performed. The tumor was partly in left posterior horn of the lateral ventricle and partly in the deep left parietal lobe. The tumor was lobulated and solid. The density was isodensity with central low density. The enhancement was dense at the isodensity area. The left choroidal vessel at the medial part of the mass, facing the posterior horn was dilated. There was a moderate degree of peritumoral white matter edema. Meningeal hemangiopericytoma should be kept in mind if the appearance of the CT scan was similar to this case and the pathological report was that of meningioma. More aggressive treatment and follow up should be offered to the patient.

Key words Meningeal, hemangiopericytoma, CT scan.

Meningeal hemangiopericytoma was first described by Stout and Murray in 1942(1). This tumor was actually classified in 1938 by Cushing and Eisenhardt as angioblastic meningioma(2). Despite the difference in opinion regarding the terminology, meningeal hemangiopericytoma has a propensity for both local recurrence and extraneural metastasis(3). Hemangiopericytomas arise from the pericytes of blood vessels. They adhere to the meninges with a smooth but unencapsulated surface and contain areas of hypocellularity, necrosis and cyst formation (4). Meningeal hemangiopericytomas account for 2.4% of all meningiomas and less than 1% of all CNS tumor (3). Reports of this tumor by imaging were not present often. We report a case of the tumor, originating from posterior horn of the lateral ventricle, displayed by CT scan.

CASE REPORT

A 59-year-old male patient was presented to the Ramathibodi Hospital with the complaint of right hemiparesis for 2 weeks. The patient had severe headache for 3 months. He had fever, alteration of consciousness, nausea and vomiting for 3 days. Physical examination showed right sided motor weakness, grade 0, right papilledema, presence of right Babinski's sign and right sided clonus.

Plain CT scan of the brain showed an iso plus low density solid mass, size 5 x 6 x 6 cm at deep part of the left parietal lobe, obliterating left posterior horn. There is surrounding white matter edema, involving left putamen, left thalamus, left internal capsule, left occipital lobe, left parietal and temporal lobe and splenium of corpus callosum.

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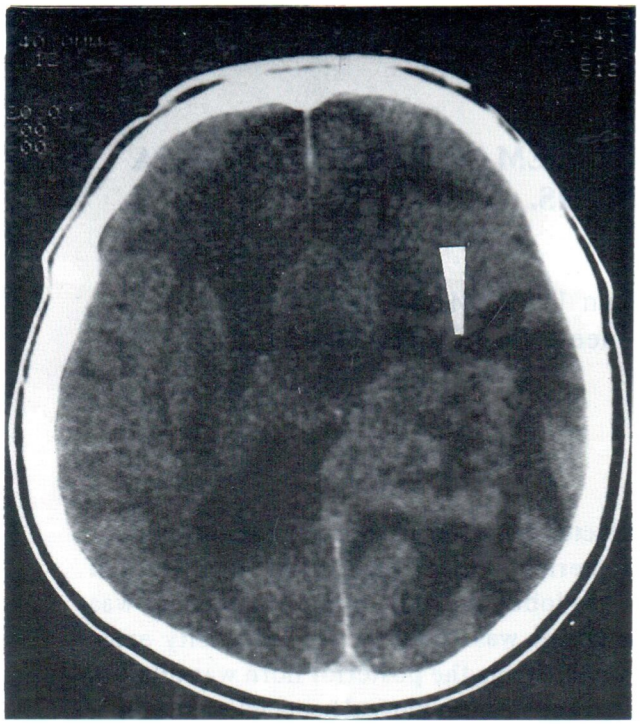

Fig. 1. Non-contrast CT scan of the brain showed a mixed iso and low density mass at deep left parietal lobe with surrounding white matter edema.

Subfalcine herniation was noted with midline shift of the lateral ventricle to the right for 1.7 cm. (Fig.1). The enhancement CT scan showed dense inhomogenous enhancement with tendency to enhance more at the peripheral aspect of the mass. The left choroidal vessel to the peripheral-medial aspect of the mass was enlarged(Fig. 2).

Operation was performed and the mass was nearly totally removed. The Histology was shown to be hemangiopericytoma with massive necrosis.

CT scan 11 months later showed recurrence of the tumor to nearly the same size as that before the operation. His complaint this time was severe headache, unable to walk, poor memory, bilateral papilledema, and right hemiparesis (motor power, grade III).

DISCUSSION

In 1989, Guthrie(5) reported 44 cases of meningeal hemangiopericytoma. It was found that the tumor is extremely vascular and appears to arise from the meninges, to which it tenaciously adheres. The patients were predominately male(55%) and the average age at the diagnosis (38-42 years) is younger than that of patients with meningiomas (early

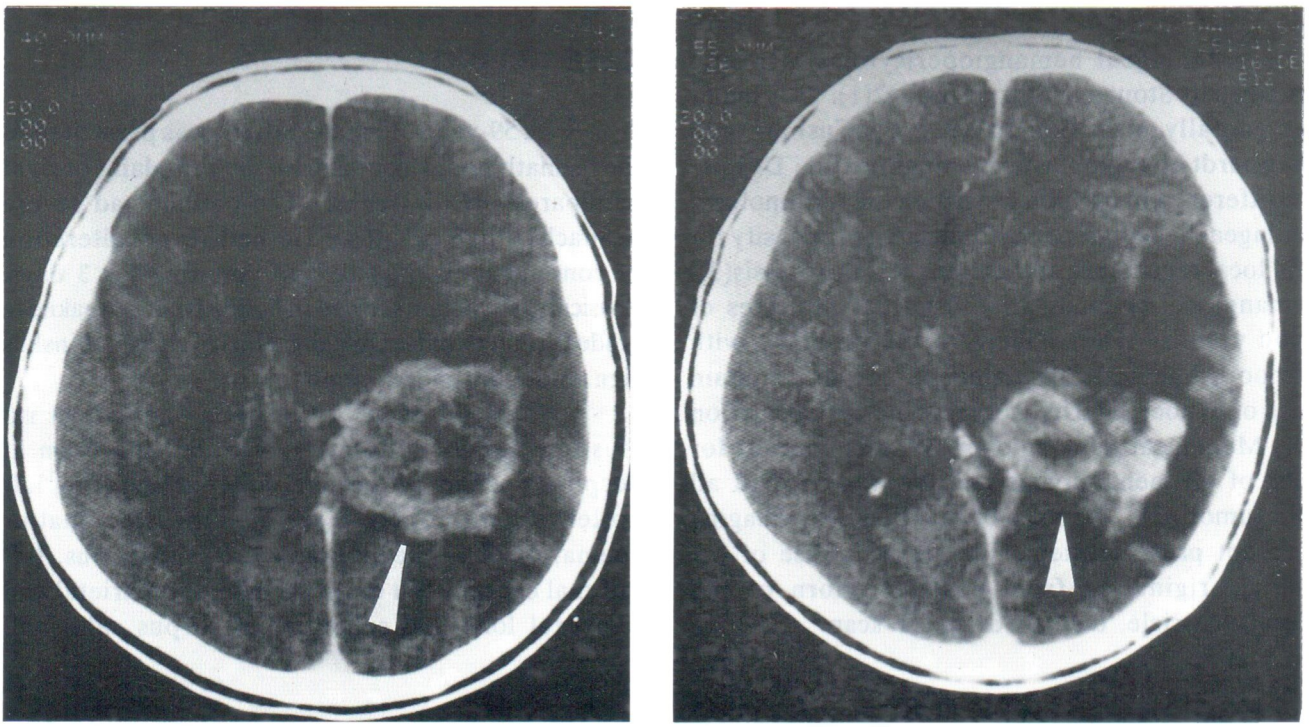

Fig. 2. I.V. enhanced CT scan of the lesion showed nodular and ring enhanced area in the mass. The choroidal vessel to the medial aspect of the mass was enlarged. The left posterior horn blended with the mass.

fifties). The average survival period is 84 months, shorter than that for ordinary meningioma (more than 100 months)(6,7). The tumor behaves as if it had a moderate to rapid growth rate, and patients are plagued by its marked tendency to recur and its high rate of eventual extraneural metastasis. Recurrence is likely in patients who survive for more than 5 years. Metastasis is likely in patients who survive for more than 15 years. Guthrie(5) found that the optimum time to benefit the patient is at the first operation, subsequent operations are less successful.

The histological features of the tumor and the patient's age and sex are not prognostically significant. Tentorial tumors or those in the posterior fossa were more lethal than supratentorial tumors. Incomplete tumor removal was followed by an average survival period of 65 months, as opposed to 93.5 months following complete removal. Metastasis occurred at an extremely long interval and was a poor prognostic sign, hastening patient's death. Radiation therapy was found to significantly prolong the recurrence-free interval and to extend survival.

Guthrie(5) recommended aggressive treatment for patients who have meningeal hemangiopericytomas. Resonable effort should be made to completely excise the tumor at the first operation Radiation therapy is strongly recommended, even if no gross tumor remnants are seen, particularly if the tumor is at a difficult operative site. Doses in excess of 5100 cGy should be used, treating with a localized field that includes the primary tumor (or operative bed) plus a minimum margin of 2 cm, similar to recommendations for radiation of intracranial meningiomas (8). Follow up of the patient should be vigilant, with frequent assessment for local recurrence. Chest x-ray at 6 to 12 month intervals should be obtained for as long as the patient survives, and any complaint of bone pain should be prompt to workup for metastasis.

Radiologically, the appearance of meningeal hemangiopericytomas varies. They are included among the angioblastic meningiomas in the discussion (9). Unlike fibroblastic and transitional meningiomas, angioblastic and syncytial meningiomas display heterogeneous attenuation with low density cystic areas, poorly defined tumor margins, marked peritumoral edema, absence of calcium aggregates, and heterogeneous enhancement with nonenhancing cystic areas (10). Angioblastic meningiomas, including meningeal hemangiopericytomas, are generally larger and more heterogeneous, with more cystic areas than the syncytial type. Our case showed similar CT appearance to that mentioned by Vasilouthis (10).

Radiotherapy was not given in this case, because the pathologist's first report of the tumor was meningioma and hemangiopericytoma was only a retrospective review after the 2nd operation for the recurrence.

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