

LIPOBLASTIC MENINGIOMA

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ABSTRACT

A case report of a lipomatous meningioma originating from falx cerebri at right frontoparietal convexity, in a 47 year-old female patient was performed. Nonenhanced CT scan showed a low density mass (31 H.U.). The enhancement was homogeneously dense. A broad-base attachment to the convexity was observed. The surrounding brain edema was minimal.

INTRODUCTION

A lipoblastic or vacuolated meningioma is a variant of meningiomas characterized by the formation of conspicuous vacuolization of the tumor cells.^{1,2} It has an unusual histologic appearance which may mimic chordoma, liposarcoma or metastatic adenocarcinoma.

CASE REPORT

A 47 year – old female patient from Bangkok had seizure of left upper extremity for one week. The first episode was 11 months ago, about 8 times for the whole previous year. No loss of consciousness was noted . At physical examination, the patient had good consciousness and was cooperative. Grade IV motor weakness of left extremities were noted and the rest of the examination appeared normal. EEG showed spike wave discharges in both frontal areas.

Plain films of the skull revealed no abnormality. Noncontrast –enhanced CT scan of the brain showed a hypodensity mass(31 H.U.), size 5.5 cm in diameter at high right frontoparietal lobe (Fig.1). Contrast-enhanced CT scan of the mass showed densely and homogeneously enhanced

pattern (Fig.2). Broad-base attachment to the right parietal convexity and closely relation to the superior sagittal sinus was shown (Fig.2,3). Mild peritumoral edema was noted and there was 1 cm midline shift to the left.

At operation, the tumor originating from right side of the falx cerebri at right frontoparietal region was noted and total tumor removal was performed with the accidental tearing of the superior sagittal sinus.

At pathology, the specimen consisted of a well encapsulated mass, measuring 5 cm in diameter. The cut surface showed brown and soft surface with yellow foci. At histology, the specimen consisted of collagenous tissues of possible dural mater and admixture of lipocytes and several blood vessels and scattered pleomorphic cells in the stroma. No abnormal mitosis could be identified in any sections. From images, operative findings and histological description, the lipomatous meningioma was compatible. The differential diagnosis includes pleomorphic lipoma, and angiolipoma by histology.

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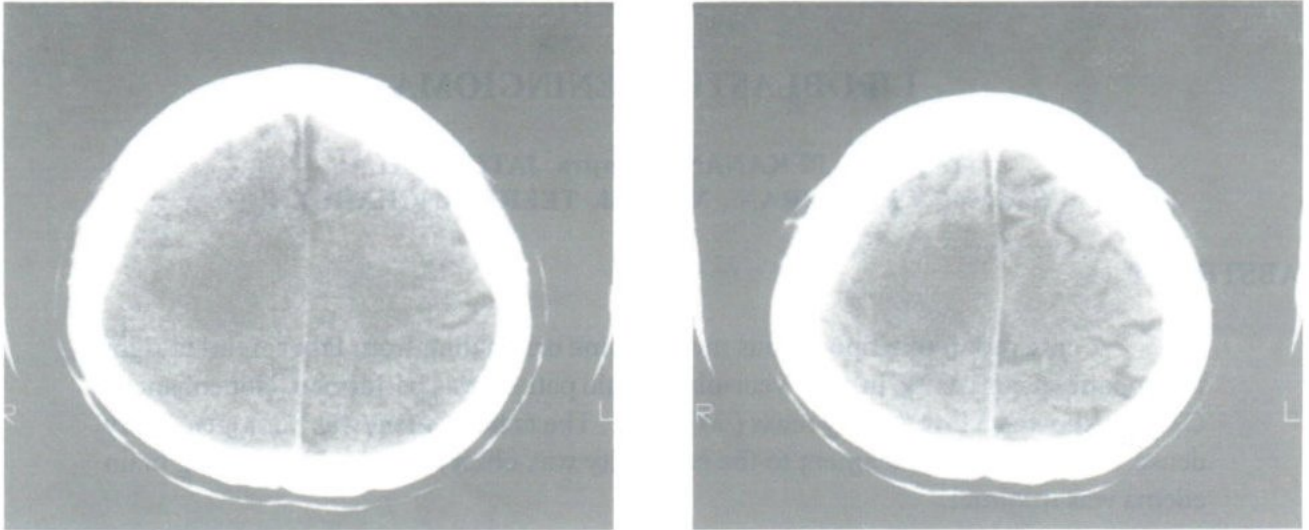


Fig. 1 NCE CT scan of the near vertex of the brain showed an indistinct border low density mass at right frontoparietal lobe, mild pressure on the adjacent falx was shown.

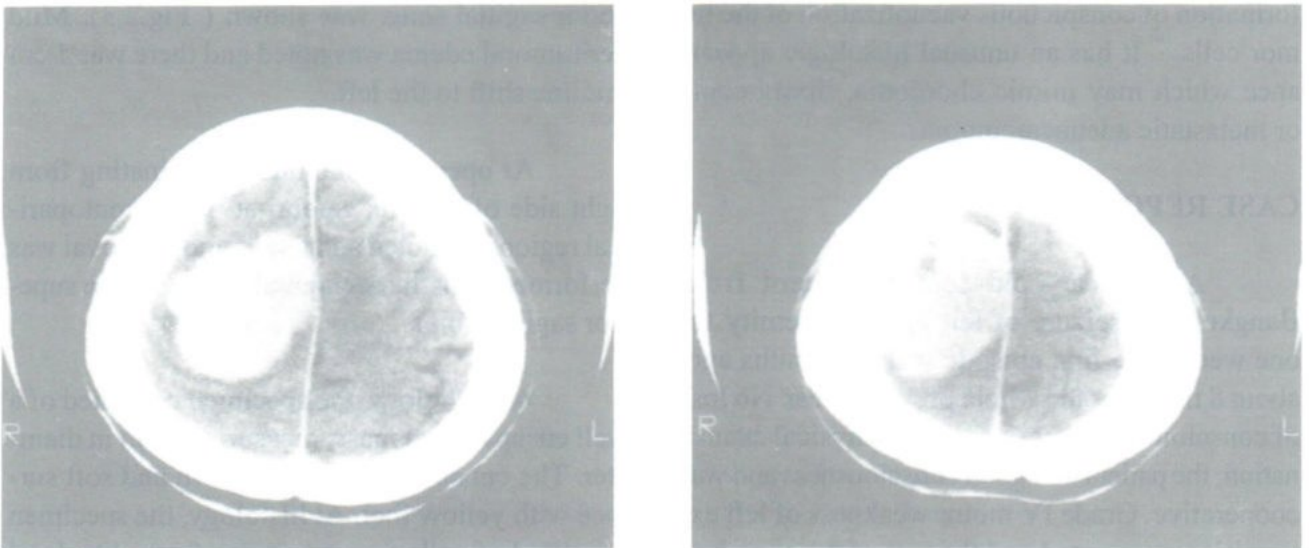


Fig. 2 CE axial CT scan of the brain at the mass showed that the mass was densely and homogeneously enhanced. Part of its borders attached to the right frontoparietal convexity and the falx.

NCE = Noncontrast enhanced.
CE = Contrast enhanced.

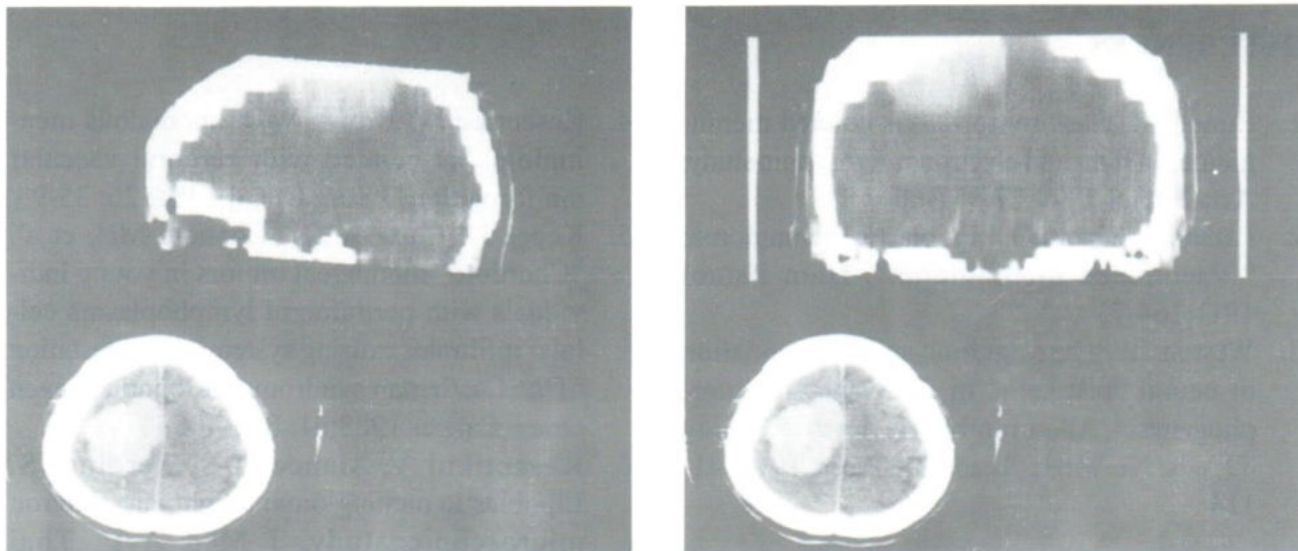


Fig. 3 Reconstructed CT images of the mass in sagittal and coronal view, demonstrating the attachment of the mass to the convexity and the falx.

DISCUSSION

Leptomeninges are derivatives of the neural crest which may differentiate into many cell types including bone, cartilage, and adipose tissue. It is, therefore, not surprising to encounter lipomatous tissue in meningiomas. This type of meningiomas had been reported to occur in the patients of age range between 8 years to 90 years. Most of the patients had good prognosis and no recurrence was observed for 1 to 18 years, post surgery. Kasantikul et al reported a case of lipoblastic meningioma who showed a low density extra-axial mass at right frontal convexity on non-contrast CT scan of the brain and dense homogeneously enhancement post intravenous contrast injection. Another case of lipomatous meningioma, also reported by Kasantikul et al showed a large low density mass in the region of right frontal lobe with surrounding tissue edema. Contrast administration increased the staining

around the rim of the mass medially and posteriorly. However, in the latter case, there was an association with cerebral vascular malformation in the brain nearby. Recognizing this rare variant of meningioma is important because it can prevent an erroneous diagnosis of liposarcoma or metastatic carcinoma particularly when a rapid diagnosis by frozen section is relied on.

Similar findings of the CT images of our case and the two cases of Kasantikul are 1) The location at high right frontoparietal convexity 2) Low density of the entire mass on nonenhanced CT scan (31 H.U. in our case and the measurement of the density was not mentioned in the cases of Kasantikul) 3) Densely enhancement of the mass in two cases(rim enhancement in one case) 4) Mild surrounding brain edema. Reports of such cases in the Radiology-literatures are considered rare.

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