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Letter to the editor. Face-off between glioma and meningioma

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ABSTRACT

Gliomas are malignant, and intrinsic cerebral tumours may cause tumour-infiltrative oedema. Meningiomas are mostly benign, extrinsic cerebral tumours that do not infiltrate the surrounding parenchyma. Meningiomas may give rise to vasogenic oedema in the peritumoral tissue.[1] The radiological diagnosis of cerebral tumours may be non-conclusive on conventional MRI in few cases, and diagnosis must rely on histopathological analysis. [2] We report a case that has an atypical clinical presentation with nonconclusive MRI brain, and finally, histopathology confirmed the diagnosis.

Keywords
angiomatous meningioma, meningioma mimicking glioma, meningioma versus glioma, glioblastoma MRI, meningioma MRI

CASE

A 56-year-old male patient presented with a nine months history of progressively increasing urinary frequency and urgency. The patient was seen by a urologist, and he operated for benign prostate hypertrophy, but his symptoms were not relieved. Then, he referred to a neurologist for further evaluation. After being admitted to the hospital, a detailed history and clinical examination were made. Higher mental function examination showed decreased attentiveness, vigilance, problem-solving and defect in motor programming with usual insight, judgment, language functions, and memory. Neurological examination showed bilateral grade III Papilledema, right spastic hemiparesis (MRC grade 4/5), and the right plantar response was extensor. MRI brain was suggestive of a large SOL with the solid cystic component is noted in the left frontal lobe, size 6.6x4.8x5.6 cm with flow voids of vessels within the lesion. There is significant surrounding oedema with a midline shift of 1.8 cm towards the right side with uncal herniation. Post-contrast sequences show moderate enhancement of solid component and wall enhancement in the cystic part. Thin enhancement is noted along the overlying dura in the left frontal lobe. Spectroscopic sequences show increased choline-creatine ratios in solid component of the lesion ranging from 2 to 4, suggestive of the neoplastic lesion. Radiological features that raise the possibility of glioma are significant perilesional oedema, hypervascularity of the tumour, difficulty to localise (intra versus extra-axial), multilobulated

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looks aggressive in nature, heterogeneous enhancement and spectroscopy findings. The patient was operated on, doing well and histopathology report suggestive of Angiomatous Meningioma.

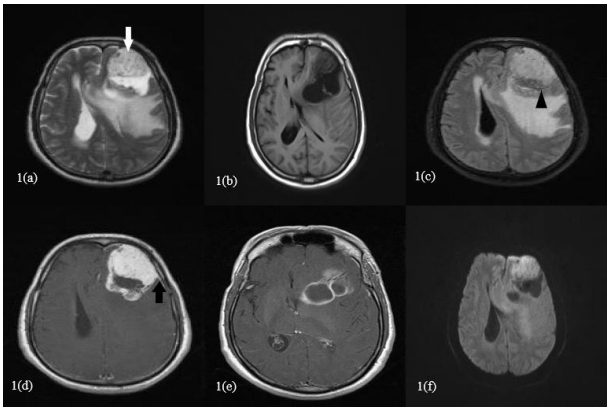

Figure 1. 1(a) T2 shows a hyperintense lesion with flow void signals of vessels inside the solid component (white arrow); 1(b) T1shows iso to hypointense lesion; 1(c) FLAIR shows CSF cleft sign (black arrowhead) and significant perilesional oedema; 1(d) T1 Contrast shows homogenous solid component enhancement with Dural Tail sign (black arrow); 1(e) T1 contrast shows cystic peripheral enhancement; 1(f) Diffusion shows mild restriction.

Discussion

Meningiomas are the commonest and around 20-30% of the primary tumour of the brain. However, Angiomatous Meningioma (AM) are very rare tumours.[3] The MRI characteristics features of AM are T1 iso to hypointense and T2 hyperintense with solid cystic components with significant perilesional oedema and flow void signals of vessels with homogenous enhancement commonly and dural tail sign. The higher brain oedema thought to be due to increased capillary permeability due to hypervascularity and vascular endothelial growth factor (VEGF) secretion.[4] The most typical site is cerebral convexity, and it is relatively more common in males and has a good prognosis.[4,5] There are few cases reported where glioblastoma can mimic meningioma on MRI with the dural tail sign (thickening and enhancement of the adjacent dura), CSF cleft sign (a perimeter of CSF between the tumour and brain parenchyma), and broad dural contact. Moreover, cerebral angiography can reveal tumour feeders commonly associated with meningioma.[6] AM is a highly vascular more than 50% vascular component, rare benign tumour with distinct radiological features.[7] To conclude, good clinical history and examination is the gold standard to localise the lesion and to avoid unnecessary iatrogenic burden to a patient and focused radiological examination will give a near accurate diagnosis.

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