*Images in Clinical Medicine*

# Locally Aggressive Glioma in a 55-Year-Old Female

Received: November 3, 2018 Accepted: December 24, 2018
doi: https://doi.org/10.3329/jemc.v9i1.39909

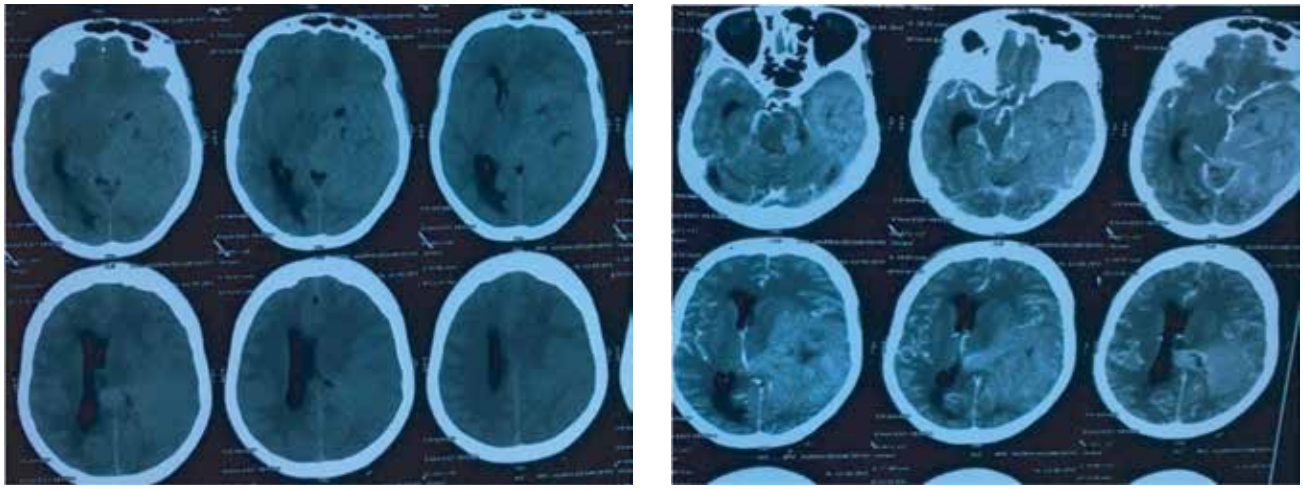

Fig 1. Pre- and post-contrast axial CT scan showing an enhancing mass in left temporo-parietal lobe

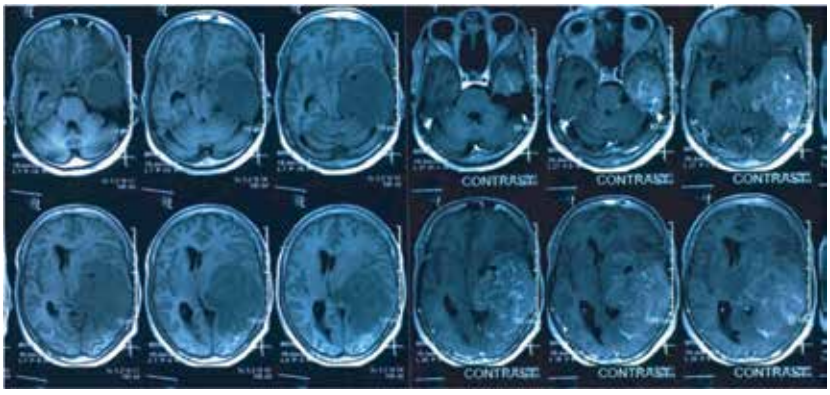


Fig 2. Pre- and post-contrast axial T1WI showing a fairly large mild to moderate lesion with mass effect

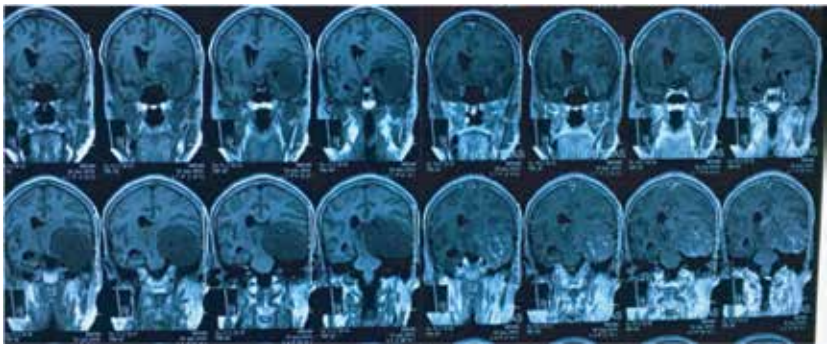

Fig 3. Pre- and post-contrast coronal T1WI showing herniation of the mass to contralateral hemisphere behind 3rd ventricle

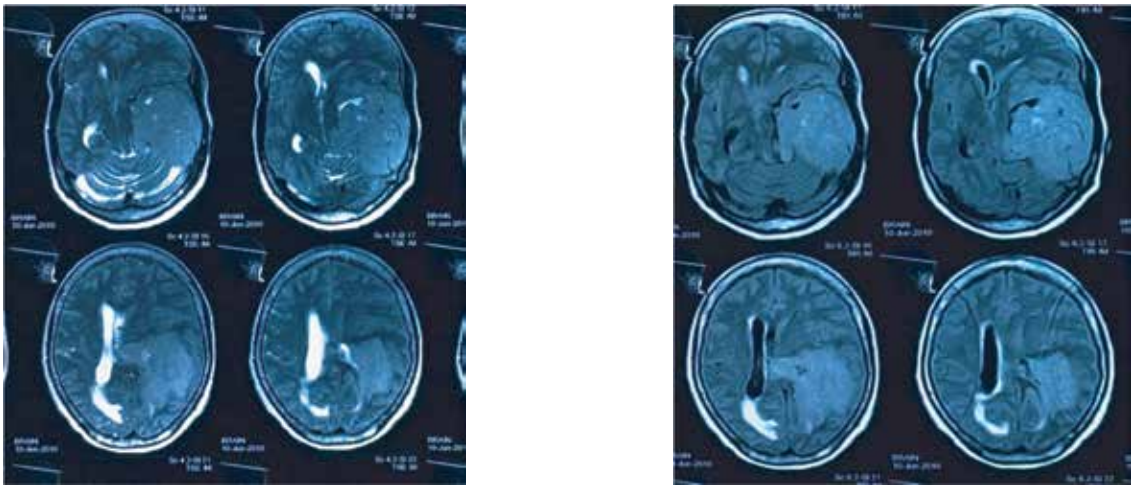

Fig 4. T2WI and FLAIR image showing few hyperintense foci within the mass indicating necrosis

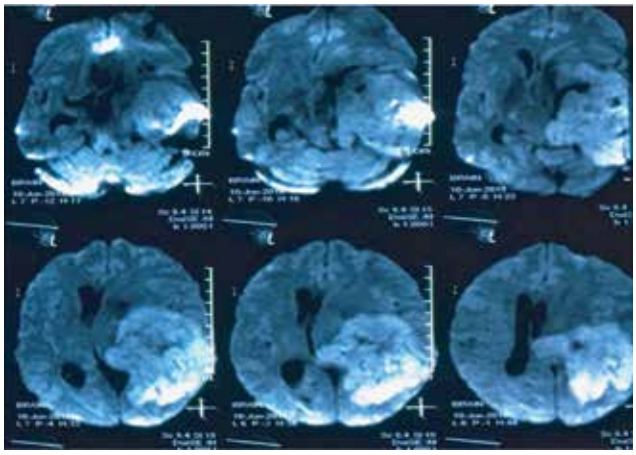

Fig 5. DWI showing restriction of diffusion within the mass

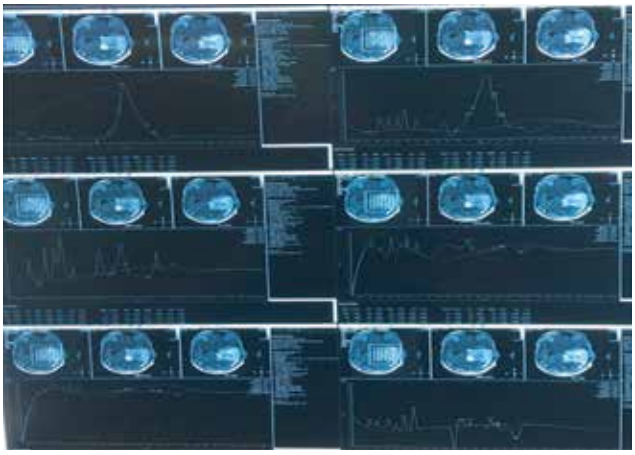

Fig 6. MRS showing mild alteration of choline-creatine ratio

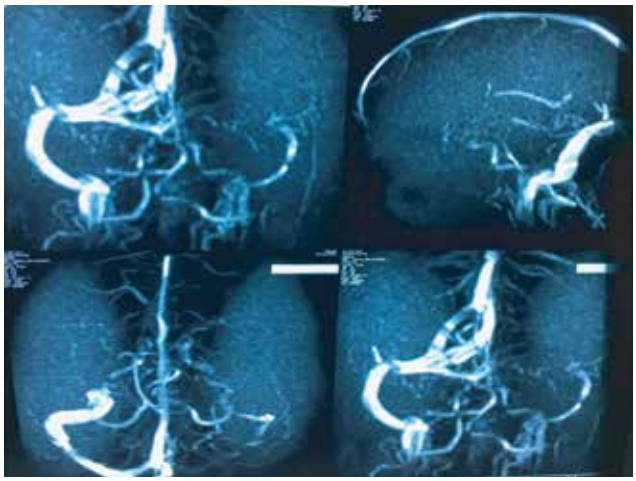

Fig 7. MRV showing hypoplastic left transverse and sigmoid sinuses

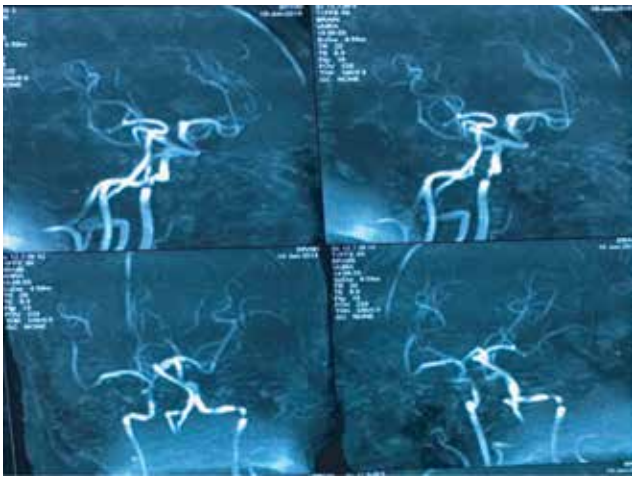

Fig 8. MRA showing compressed and displaced MCA and ACA by the mass, but no invasion or encroachment of the vessels

A 55-year-old woman attended the Department of Radiology & Imaging in Enam Medical College & Hospital for MRI of brain with the history of convulsion and memory loss for 15 years and unconsciousness for last 2 months. MRI reveals a fairly large (86 cm × 74 cm × 66 cm) enhancing well circumscribed T1WI hypointense, T2WI isointense and FLAIR hyperintense mass involving left temporo-parietal lobe with midline shifting towards right side. Few T1WI hypo, T2WI and FLAIR hyperintense foci were seen within the mass indicating mild necrosis. There was no evidence of calcification and perilesional edema. The mass caused effacement of left lateral ventricle, 3rd ventricle, adjacent sulci-gyri with dilatation of right lateral ventricle. There is herniation of the mass into contralateral hemisphere behind 3rd ventricle. There is no evidence of invasion of the mass into adjacent brain parenchyma and ventricles. DWI shows no restriction in diffusion. MRS shows mild alteration of choline-creatine ratio. MRA shows that MCA and ACA are compressed and displaced but no invasion and encroachment of vessels. MRV shows hypoplastic left transverse and sigmoid sinuses. This mass was diagnosed as well-circumscribed locally aggressive glioma with mass effect. Differential diagnoses included lymphoma and meningioma.

Gliomas are the malignant tumors of glial cells growing along white matter tracts and have tendency to increase in grade with time. They are classified on the basis of the cells of origin. They account for 30–40% of all primary intracranial tumors.[1] These brain tumors are often diagnosed in older adults, depending on the type of glioma. Brain tumors are slightly more likely to occur in males. Most gliomas that occur in children are of low grade. While many of benign brain tumors are gliomas, almost 80% of malignant brain tumors are gliomas. These tumors tend to grow and infiltrate into the normal brain tissue, which makes surgical removal very difficult or sometimes impossible and complicate treatment.[2] The most common symptom is headache affecting about half of all people with a brain tumor. Other symptoms can include seizures, memory loss, weakness, loss of muscle control, visual symptoms, language problems, cognitive decline, and personality changes. These symptoms may change according to part of the brain affected.

Gliomas are characterized by subtypes and by a numerical grading system. Grade I tumors grow slowly and can sometimes be totally removed by surgery, while grade IV tumors are fast-growing, aggressive and are difficult to treat.[3] According to the current World Health Organization (WHO) scheme, malignant astrocytomas are classified and graded as follows:

Grade I gliomas include pilocytic astrocytomas and are more common in children.

Grade II tumors are diffuse astrocytomas and are of low grade.

Grade III gliomas are diffuse and called anaplastic astrocytoma. They are considered as high grade.

Grade IV glioblastoma are considered as high grade.[4]

Diagnosis is confirmed by CT scan and MRI features and biopsy. The main types of treatment are surgical resection, radiotherapy, chemotherapy and targeted therapy. Prognosis is poor in fast growing tumors such as high-grade gliomas especially for older patients.

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