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Short communication

## Paradoxical imaging findings in cerebral gliomas

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### Abstract

Gliomas represent approximately one-third of all intracranial tumors in adults and commonly present clinically with seizures. We report two seizure patients with paradoxical imaging findings on preoperative grading of their cerebral gliomas. A 53-year-old man with a history of temporal lobe epilepsy originating from a mass in the right medial temporal region (patient 1) and a 44-year-old man with a history of predominantly left sided sensory seizures with a mass in the right posterior parietal region (patient 2) underwent presurgical evaluation including MRI and glucose PET, followed by surgery to remove cerebral tumors associated with seizure onset. Preoperatively, patient 1 had a homogenous non-enhancing lesion on MRI and hypometabolism on PET imaging, suggesting a low-grade tumor. Postoperative histopathology was consistent with a glioblastoma multiforme (grade IV). Patient 2 had a heterogeneous lesion with cyst formation, edema, and contrast enhancement on preoperative MRI imaging, and interictal hypermetabolism on PET scan, thus suggesting a high-grade tumor. Postoperative histopathology was consistent with an oligodendroglioma (grade II) without anaplastic features. We conclude preoperative grading of cerebral gliomas may be inaccurate occasionally even in cases with concordant structural and functional imaging findings. This should be considered when counseling patients.

**Keywords:** Primary brain tumors; MRI, PET; Surgical therapy-tumor; Epilepsy surgery

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