Morbidity profile following aggressive resection of parietal lobe gliomas.

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Abstract
Object The impact of parietal lobe gliomas is typically studied in the context of parietal lobe syndromes. However, critical language pathways traverse the parietal lobe and are susceptible during tumor resection. The authors of this study reviewed their experience with parietal gliomas to characterize the impact of resection and the morbidity associated with language. Methods The study population included adults who had undergone resection of parietal gliomas of all grades. Tumor location was identified according to a proposed classification system for parietal region gliomas. Low- and high-grade tumors were volumetrically analyzed using FLAIR and T1-weighted contrast-enhanced MR imaging. Results One hundred nineteen patients with parietal gliomas were identified—34 with low-grade gliomas and 85 with high-grade gliomas. The median patient age was 45 years, and most patients (53) presented with seizures, whereas only 4 patients had an appreciable parietal lobe syndrome. The median preoperative tumor volume was 31.3 cm\(^3\), the median extent of resection was 96%, and the median postoperative tumor volume was 0.9 cm\(^3\). Surprisingly, the most common early postoperative neurological deficit was dysphasia (16 patients), not weakness (12 patients), sensory deficits (14 patients), or parietal lobe syndrome (10 patients). A proposed parietal glioma classification system, based on surgical anatomy, was predictive of language deficits. Conclusions This is the largest reported experience with parietal lobe gliomas. The findings suggested that parietal language pathways are compromised at a surprisingly high rate. The proposed parietal glioma classification system is predictive of postoperative morbidity associated with language and can assist with preoperative planning. Taken together, these data emphasize the value of identifying language pathways when operating within the parietal lobe.

PMID: 22443504 [PubMed - as supplied by publisher]