

Parietal lobe glioma

- [Primary intracranial immature teratoma in an adult woman: case report and literature review](#)
- [m6A-lncRNA landscape highlights reduced levels of m6A modification in glioblastoma as compared to low-grade glioma](#)
- [Fluciclovine-PET Uptake in Microcystic Meningioma Mimicking High-grade Glioma: A Case Report](#)
- [From classic models to new pathways: unraveling the anatomy and function of the inferior fronto-occipital fasciculus in language processing](#)
- [Low-grade epilepsy-associated tumors in pediatric patients: A focused review of the tumor differential and current treatment options](#)
- [Multi-Omics Analysis Unveils Nsun5-Mediated Molecular Alterations in the Somatosensory Cortex and Its Impact on Pain Sensation](#)
- [Utility of \[18F\]fluciclovine PET/MRI for identifying the optimal biopsy target region, helping to avoid underdiagnosis in patients with glioblastoma: illustrative case](#)
- [Genomic analysis revealing Lynch syndrome in a case of high-grade glioma: illustrative case](#)

see also [Parietal lobe tumor](#).

see also [Left inferior parietal lobule glioma](#)

Clinical features

The impact of [parietal lobe](#) gliomas is typically studied in the context of [parietal lobe syndromes](#).

Liouta et al., published in 2018 the first study to prospectively evaluate the [incidence](#) and nature of [parietal](#) association deficits (PADs) in patients with [parietal lobe gliomas](#). It could be that the current literature may have underestimated the true incidence of deficits. Dedicated neuropsychological examination detects a high frequency of PADs, the most common being [apraxia](#), followed by [anomia](#) and subcomponents of [Gerstmann's syndrome](#). Nevertheless, a direct correlation between the clinical deficit and its anatomical substrate is only possible to a limited extent, highlighting the need for [intraoperative cortical mapping](#) and [subcortical functional mapping](#) ¹⁾.

Treatment

Surgical resection of [gliomas](#) located in the dominant [parietal lobe](#) is difficult because this lesion is surrounded by multiple [functional areas](#). Although [functional mapping](#) during [awake craniotomy](#) is very useful for resection of gliomas adjacent to [eloquent areas](#), the limited time available makes it difficult to sufficiently evaluate multiple functions, such as [language](#), calculative ability, distinction of right and left sides, and finger recognition.

The combination of subdural electrode mapping and monitoring during awake craniotomy is useful in order to achieve preservation of function and extensive resection for gliomas in the dominant parietal lobe ²⁾.

Outcome

Neurological deterioration and improvement occur after [resection](#) of parietal lobe gliomas. Parietal lobe association deficits, specifically the components of [Gerstmann syndrome](#), are mostly associated with large tumors that involve both the superior and inferior parietal lobules of the [dominant hemisphere](#). New [hemineglect](#) or [sensory extinction](#) was not noted in any patient following resection of lesions located in the nondominant hemisphere. Nevertheless, primary parietal lobe deficits (for example, a [visual field](#) loss or [cortical sensory syndrome](#)) occurred in patients regardless of hemispheric dominance³⁾.

Case series

see [Parietal lobe glioma case series](#).

References

1)

Liouta E, Stranjalis G, Kalyvas AV, Koutsarnakis C, Pantinaki S, Liakos F, Komaitis S, Stavrinou LC. Parietal association deficits in patients harboring parietal lobe gliomas: a prospective study. J Neurosurg. 2018 Apr 1;1-7. doi: 10.3171/2017.12.JNS171799. [Epub ahead of print] PubMed PMID: 29726775.

2)

Takebayashi K, Saito T, Nitta M, Tamura M, Maruyama T, Muragaki Y, Okada Y. [Functional mapping using subdural electrodes combined with monitoring during awake craniotomy enabled preservation of function and extensive resection of a glioma adjacent to the parietal lobe language sites: a case report]. No Shinkei Geka. 2015 Jan;43(1):63-8. doi: 10.11477/mf.1436202948. Japanese. PubMed PMID: 25557101.

3)

Russell SM, Elliott R, Forshaw D, Kelly PJ, Golfinos JG. Resection of parietal lobe gliomas: incidence and evolution of neurological deficits in 28 consecutive patients correlated to the location and morphological characteristics of the tumor. J Neurosurg. 2005 Dec;103(6):1010-7. PubMed PMID: 16381187.

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