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A - 170 Neuropsychological Findings after Treatment for Recurrent Left Fronto-Temporal Gemistocytic Astrocytoma

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Abstract

Objective: Astrocytoma tumors originate from astrocytes and are the most common brain tumors represented in adults. Gemistocytic astrocytoma is classified as a low-grade astrocytoma and data reflects that it has poorer prognosis than other matched WHO grade II astrocytic tumors. The goal of this study is to investigate the neurocognitive deficits following astrocytoma treatment.

Participants and methods: A 60-year-old male was referred for neuropsychological assessment (2017) after resection of a left fronto-temporal gemistocytic astrocytoma (2011) and after chemotherapy and photon radiation treatments for tumor reemergence (2021). Seizure was the initial symptom in 2011; increased seizure frequency (3-5/week) signaled the tumor's regrowth in 2021. Seizure frequency has reduced after treatment (1/10 days), but cognitive deficits persist.

Results: Neuropsychological testing in 2017 revealed superior general intellect, average motor abilities, attention (auditory and visual), and visual perception/discrimination - but a discrete verbal memory deficit consistent with lesion location. Reassessment in 2022 revealed declines in intellect (superior to average) with decreased visual perceptual reasoning and processing speed abilities (superior to average), confrontational naming (average to moderate), verbal fluency (average to moderate), simple auditory attention (average to mild), and both verbal and visual memory abilities (mild to severe impairment). Reliable change findings will be analyzed and discussed.

Conclusions: Though tumor regrowth was limited to the left fronto-temporal region and radiation treatments were "targeted" to that area, more generalized cognitive deficits are apparent after those treatments. This case highlights the importance of neuropsychological assessment for delineating deficits related to chemotherapy and radiation treatments for recurrent tumors.