

Right temporal lobe glioma

Fifty-six patients with right temporal lower-grade [glioma](#) were divided into glioma-related epilepsy (GRE) (n = 28) and non-GRE groups. Twenty-eight healthy subjects were recruited after matching age, sex, and education level. Sensorimotor, visual, language, and left executive control networks were applied to generate functional connectivity matrices, and their topological properties were investigated.

No significant alterations in functional connectivity were found. The least significant discovery test revealed differences only in the language network. The shortest path length, clustering coefficient, local efficiency, and vulnerability were greater in the non-GRE group than in the other groups. The nodal efficiencies of two nodes (mirror areas to Broca and Wernicke) were weaker in the non-GRE group than in the other groups. The node of degree centrality (Broca), nodal local efficiency (Wernicke), and nodal clustering coefficient (temporal polar) were greater in the non-GRE group than in the healthy group.

Different tumor locations alter different neural networks. Temporal lobe gliomas in the right hemisphere altered the [language network](#). Glioma itself and GRE altered the network in opposing ways in patients with right temporal glioma ¹⁾.

¹⁾

Fang S, Wang Y, Jiang T. Epilepsy enhance global efficiency of language networks in right temporal lobe gliomas. CNS Neurosci Ther. 2021 Mar;27(3):363-371. doi: 10.1111/cns.13595. Epub 2021 Jan 19. PMID: 33464718; PMCID: PMC7871790.

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