

Appl Neuropsychol Adult. 2024 Mar 12;1-11. doi: 10.1080/23279095.2024.2325546.

Online ahead of print.

Neuropsychological longitudinal study of patients with low-grade gliomas: Cognitive impairment

Lena Ek ¹, Marie Elwin ², Kerstin Neander ²

Affiliations

PMID: 38470840 DOI: [10.1080/23279095.2024.2325546](https://doi.org/10.1080/23279095.2024.2325546)

Abstract

This study is part of a longitudinal research program, in which patients diagnosed with low-grade gliomas (LGG: $n = 13$), as well as healthy controls ($n = 13$), were consecutively recruited and neuropsychologically followed for 7 years. The patients are followed up regardless of variations in treatment. A composite score is used (Global Deficit Score: GDS) included cognitive measures where at least five patients had a negative change: information processing speed, speed of naming, construction ability, verbal fluency, non-verbal thinking, and immediate non-verbal memory. The most important finding in this 7-year follow-up study is that two-thirds of the patients developed cognitive impairment. The remaining third of the patients showed stability in their cognitive ability and were still alive 17 years after diagnosis. Younger patients with tumors in the right frontal or posterior regions showed a more favorable development. Patients with frontal tumors and a declined GDS show also significant changes in executive functions. Given the limited number, no firm conclusions can be drawn regarding the impact of tumor localization. The impact of LGG on cognition and the survival time after diagnosis varies considerably between patients. However, most of the patients (69%) showed cognitive impairment during the seven years we followed them.

Keywords: Brain tumors; cognition; executive functions; information processing speed; low-grade gliomas; neuropsychological tests.

[PubMed Disclaimer](#)