

ABSTRACT

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Preoperative nonmedical predictors of functional impairment after brain tumor surgery.

Schiavolin S(1), Mariniello A(2), Broggi M(3), DiMeco F(3), Ferroli P(3), Leonardi M(2).

Author information:

(1)Neurology, Public Health and Disability Unit, Fondazione IRCCS Istituto Neurologico Carlo Besta, Via Celoria 11, 20133, Milan, Italy.
silvia.schiavolin@istituto-besta.it.

(2)Neurology, Public Health and Disability Unit, Fondazione IRCCS Istituto Neurologico Carlo Besta, Via Celoria 11, 20133, Milan, Italy.

(3)Department of Neurosurgery, Fondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy.

PURPOSE: To identify the preoperative nonmedical predictors of functional impairment after brain tumor surgery.

METHODS: Patients were evaluated before brain tumor surgery and after 3 months. The cognitive evaluation included MOCA for the general cognitive status, TMT for attention and executive functions, ROWL-IR and ROWL-DR for memory, and the F-A-S for verbal fluency. Anxiety, depression, social support, resilience, personality, disability, and quality of life were evaluated with the following patient-reported outcome measures (PROMs): HADS, OSS-3, RS-14, TIPI, WHODAS-12, and EORTC-QLQ C30. Functional status was measured with KPS. Regression analyses were performed to identify preoperative nonmedical predictors of functional impairment; PROMs and cognitive tests were compared with the normative values.

RESULTS: A total of 149 patients were enrolled (64 glioma; 85 meningioma). Increasing age, lower education, higher disability, and lower ROWL-DR scores were predictors of functional impairment in glioma patients while higher TMT scores and disability were predictors in meningioma patients. In multiple regression, only a worse performance in TMT remains a predictor in meningioma patients. Cognitive tests were not significantly worse than normative values, while psychosocial functioning was impaired.

CONCLUSION: TMT could be used in the preoperative evaluation and as a potential predictor in the research field on outcome predictors. Psychosocial functioning should be studied further and considered in a clinical context to identify who need major support and to plan tailored interventions.

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