

Abstracts

**P15.08. NEUROPSYCHOLOGICAL OUTCOMES AFTER
MICROSURGICAL RESECTION OF BRAIN TUMORS: THE
PREDICTIVE VALUE OF COGNITIVE BACKGROUND, AGE AND
EDUCATION**

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INTRODUCTION: Neuropsychological assessment of patients suffering from brain tumors provides a functional map of cognitive impairment regarding memory, attention, visuospatial and visuo-constructive abilities related to the tumor's location. Several studies reported the clinical and prognostic value of pre and post-operative cognitive and behavioral assessment in neurooncology. Some authors demonstrated that age, education and gender may influence the cognitive functions, while others argued that neuropsychological deficits are

independent from these factors. Despite controversies, cognitive outcome remains an unpredictable aspect after neurosurgical treatment of brain tumors. The aim of this study is evaluate the validity of the association between neuropsychological scores at base-line and variables like age, gender, and education's level, as predictors of good postoperative neuropsychological performance. In our experience, high education's level, younger age, and slight preoperative cognitive impairment are predictive of postoperative cognitive improvement, while, on the contrary, a low education's level and a significant preoperative cognitive impairment, seemed to be associated to a worsened post-op cognitive outcome. **MATERIALS AND METHODS:** We conducted a cognitive assessment of patients harboring a brain tumor on admission, by using the Mini Mental State Examination and the Repeatable Battery for the Assessment of Neuropsychological Status. This is a brief, fast and simple neuropsychological battery, useful to preoperatively assess delicate patients, which assesses 5 different domains: immediate memory, visuospatial and visuo-constructive abilities, attention, language comprehension and delayed memory, minimizing the effect of cognitive strain. Results have been compared with post-operative short and long-term assessment of the same functions. **RESULTS AND DISCUSSIONS:** We observed a significant postoperative cognitive improvement in patients with higher education's level, younger age and better pre-op cognitive performance compared to patients with lower education's level and pre-op cognitive performance, which was independent from the type of lesion or surgical results. A more detailed analysis of data is, however, necessary to find out the role of cognitive and socio-demographic variables as predictive factors of better or worse outcome after surgical removal.