PROGNOSTIC VALUE OF SIMPLE TUMOR LOCALIZATION SCALE IN ASSESSING SURGICAL OUTCOME OF INTRACRANIAL MENINGIOMA

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Aim. Intracranial meningiomas are characteristically slow-growing overwhelmingly benign extracerebral primary tumors arising from arachnoidal cells of the leptomeninges. The great majority of these tumors can be successfully treated surgically, but the outcome is highly dependant on tumor location which remains one of the most important prognostic factors. The aim of this article was to examine possible correlation between location and surgical outcome of intracranial menigioma, as well as to assess prognostic value of the proposed simple tumor localization scale.

Methods. A cohort of 243 patients operated on at the Department of Neurosurgery, Osijek University School of Medicine due to intracranial meningioma was analyzed in a retrospective survey. The investigated features were: demographic data (age and gender), tumor location, and the extent of surgery (Simpson grading). All patients were divided into two groups according to the tumor intracranial location assigning it to central (medial) and peripheral (lateral) tumor position. The outcome was assessed by Karnofsky Performance Scale (KPS) at hospital discharge and Glasgow Outcome Scale (GOS) at one year follow-up. A correlation between tumor location and surgical outcome was statistically analyzed to get the results.

Results. Statistically significant correlation between tumor location and both measures of surgical outcome was noted ($p < 0.001$).

Conclusion. In our patients' series, a marked correlation was observed between the tumor location and surgical outcome favoring peripheral tumor position as prognostically more hopeful. Central tumor location might be unfavorable due to the involvement of major neurovascular structures. When assessing the surgical outcome of intracranial meningioma we propose simple tumor localization scale dividing tumors into central and peripheral position within the cranial vault.