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Surgery of Tumors of the Third Ventricle Region

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Abstract

Background: The third ventricle is located in the center of the brain, surrounded by critical structures. The authors reported their experience in the surgical treatment of tumors originated from or expanding within the third ventricle, analysing the postoperative results and patients' outcome.

Material and methods: We performed a retrospective study on 120 patients, who had been operated in our neurosurgical department for tumors of the third ventricle and adjacent region over the last 21 years. According to their place of origin, these tumors were divided into primary tumors of the third ventricle (69 cases) and tumors developed from the surrounding structures (51 cases). The patients were operated on via a transcallosal-transventricular approach (58.34%), transcorticalparieto-occipital approach (26.67%) or subfrontal approach (15%). Microsurgery has been used in all cases. In 20 patients (16.67%), preoperative ventricular drainage was performed. Stereotactic procedures were not used in this study.

Results: The overall mortality in this series was 11.67% (14/120 died). The death was directly correlated to the surgery in 8 cases, to general complications in 3 cases, to recurrence of the tumor in 2 cases, and to shunt malfunction in one case. Perioperative good evolution (GOS 5) was noted in 54 patients (45%), but at one-year follow-up, good neurological evolution was recorded in 72 patients (60%). The long-term neurological outcome recorded neurological impairments in 21.42% of patients, a permanent diabetes insipidus in 5.1% of patients and the persistence of neuropsychological deficits in 28.57%. The recurrence of the tumor has been encountered in 16 patients (13.34%).

Conclusions: Transcallosal approach remains the best method for the microneurosurgical treatment of third ventricle tumors. This route provides the capability for a superior visualization of the entire cavity of the third ventricle through different corridors, and permanent neurological and neuropsychological deficits are not frequent.

Key words: third ventricle tumors, surgical approaches, postoperative results, outcome

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