

Abstracts

P12.13. SURGICAL TREATMENT OF BRAINSTEM TUMORS

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OBJECTIVE: To determine the extent of resection and neurological outcomes after surgical treatment of brainstem tumors. **METHODS:** 34 patients with brainstem tumors operated in Regional Centre of Neurosurgery and Neurology from January, 2008 till January, 2014 were retrospectively analyzed. 20 (58.8%) patients were male, and 14 (41.2%) – female. Mean age of the patients was 22.7 years. Among them 16 (47.1%) were of pediatric age, 18 (52.9%) – adults. In 20 cases (58.8%) tumor had exophytic growth pattern into fourth ventricle. In purely intrinsic tumors (14 cases, 41.2%) the localization was: midbrain – 5 patients (14.7%), ponto-mesencephalic

junction – 2 cases (5.9%), pons – 2 patients (5.9%), ponto-medullary junction – 2 cases (5.9%), medulla oblongata – 3 patients (8.8%). Patients were examined neurologically on admission and one month after surgery. The extent of tumor resection was evaluated on early postoperative MRI (first 48 hours). **RESULTS:** Surgical approach was chosen individually in each case according to tumor location, using a 2-point method. In patients with midbrain tumors 3 different approaches were used: subtemporal (2 cases, 5.9%), occipital transtentorial (2 cases, 5.9%) and supracerebellar (1 patient, 2.9%). In 2 patients (5.9%) retrosigmoid approach was used. The “workhorse” approach in our series was median suboccipital with telo-velar entrance into the cavity of IV ventricle, which was used in 27 cases (79.4%). The tumors were resected through “safe entry” zones in the brainstem. In 28 cases (82.4%) gross total resection was achieved, in 6 patients (17.6%) the resection was subtotal (>90%). 5 patients (14.7%) deteriorated neurologically after surgery on 30 day follow-up, 29 patients (85.3%) improved or remained stable. None of the operated patients died. **Histologic results:** anaplastic ependymoma – 9 patients (26.5%), ependymoma – 5 patients (14.7%), pilocytic astrocytoma – 6 patients (17.6%), anaplastic astrocytoma – 4 patients (11.8%), medulloblastoma with significant brainstem invasion – 4 patients (11.8%), choroid plexus papilloma – 2 patients (5.9%), metastasis – 2 patients (5.9%), germinoma – 1 patient (2.9%), dermoid – 1 patient (2.9%). **CONCLUSION:** Surgical treatment of brainstem tumors can be done effectively (gross total removal in 82.4%) and relatively safe (morbidity – 14.7%, mortality – 0%).