

Pediatric meningiomas. A report of nine cases surgically treated between 2003–2012 in Department of Pediatric Neurosurgery in Katowice

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Introduction: Meningiomas are extremely rare in the pediatric population, the incidence of intracranial meningiomas ranges from 0.4% to 4.6% of all primary brain tumors in this age group. The purpose of this study was to analyze the clinical, radiological, pathological, and follow-up data of all surgically treated pediatric meningiomas in the Department of Pediatric Neurosurgery in Katowice.

Materials and methods: A retrospective analysis of 9 patients (6 boys) surgically treated in 2003–2012 in the Department with a diagnosis of meningioma was performed. In the analysis: clinical records, follow-up data, radiological findings, operative reports, and pathological examinations were reviewed.

Results: The median age of 9 patients was 11.16 years (4–17 years). The tumor was located supratentorially in 5 patients (55.56%) and intraspinal in 4 patients (44.44%). Increased intracranial pressure and lower extremities muscle strength deficits were the most common neurological signs of the meningioma. The median duration of symptoms (from onset to surgical

treatment) was 14.63 weeks (1–78 weeks). All the patients underwent surgical treatment, 8 patients had GTR (gross-total resection) (88.89%), 1 patient had STR (subtotal resection) (11.11%). In the histopathological results, the most common variants were benign, first WHO grade meningiomas, I^o – 4 patients (44.44%), WHO II^o – 2 (22.22%), and WHO III^o – 3 (33.33%). In 3 cases we observed tumor recurrence with a mean time after surgery of 35.33 months (19–60 months). One of the patients had a radiation-induced meningioma, five years previously, she received radiotherapy for a glioma.

Conclusions: Meningiomas in the pediatric population have a higher malignancy grade than those observed in adults. More often than in adults, II^o and III^o grade tumors according to the revised WHO criteria system occur. Gross-total resection and a lower malignancy grade had a better outcome.

Key words: Meningiomas, Radiotherapy – induced meningiomas, Pediatric Neurosurgery