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Medulloblastoma in 361children

Yuriy A. Orlov, Andrii V. Shaverskyi, Pavlo N. Plavskyi
Institute of Neurosurgery named after acad. A.P.Romodanov, NAMS, Kiev, Ukraine

Objectives: We report a retrospective study of 361 cases of medulloblastoma in pediatric patients treated at our institution in a period of 22 years.

Material and Methods: Between 1990 and 2011, 361 children with medulloblastoma were treated at the Institute of Neurosurgery. This presented 18.2% of all pediatric brain tumors diagnosed during this time period. 247 were males and 114 females. The patients were grouped by age as follows: 0-3 years, 61; 4-7 years, 136; 8-12 years, 124; and 13-18 years, 40.

Results: 98% patients underwent surgery in the form of posterior fossa craniotomy or craniectomy and removal of tumor. Complete tumor resection was achieved in 36.8% of the children, and subtotal resection represent in 52% cases, partial in 9.4% and only biopsy was performed in 1.7% cases. A ventriculo-peritoneal shunt was required in 25.5% of the children. The main localization was the median line: vermis and 4^{th} ventricle in 86.7% cases. Chang's classification was used to grade the tumor: T1 6 cases (1.7%), T2 60 cases (16.6%), T3a 147 cases (40.7%), T3b 127 cases (32.1%), T4 21 cases (5.8%), M0 319 cases (88.4%), M1 12 cases (3.3%), M2 23 cases (6.4%) and M3 7 cases (1.9%). Histological diagnosis was as follows: 318 patients had classic medulloblastoma variant, 34 patients had desmoplastic medulloblastoma and the other 9 patients had medulloblastoma with cell differentiation. Follow-up data from 1 month to 10 years is available for 74.7% patients. The median survival was 18 months and 2- and 5-year survival were 42% and 6%, respectively. 83,3% patients underwent craniospinal radiation. 40% children had chemotherapy. The recurrent rate was 80 (34.3%), second surgery was the first option. Total and near total resection showed no difference in survival outcome. Children under 3 years of age fared worse than those older 3 years.

Conclusions: Medulloblastoma most often occurs within the first decade. They are twice as common in males then in females. Maximal surgical resection with post operative craniospinal irradiation and routine use of chemotherapy should be the present choice of management.