Low grade midbrain glioma

A series of 15 consecutive patients (age range 0-15 years) who underwent primary tumor resection for a low-grade midbrain glioma during the years 1989-2010 were included in this retrospective study on surgical morbidity, mortality rate, academic achievement, and/or work participation. Gross motor function and activities of daily living were scored according to the Barthel Index. RESULTS: Of the 15 patients, 10 were in their 1st decade (age 0-9 years) and 5 were in their 2nd decade of life (age 10-15 years) at the time of surgery. The male/female ratio was 0.50 (5:10). No patients were lost to follow-up. One patient died in the postoperative period (32 days posttreatment). Another 2 patients died during follow-up. One patient succumbed to acute bleeding in the resection cavity 8 months after surgery, and the other died of shunt failure 21 years after initial treatment. Twelve patients are alive at the time of this writing, with follow-up periods from 3 to 24 years (median 8 years). Among the 12 survivors, the Barthel Index scores were normal (100) in 11 patients and 80 in 1 patient. A total of 25 tumor resections were performed. In 1 patient, further resection was performed 5 days after initial resection due to MRI-confirmed residual tumor. Another 5 patients underwent repeat tumor resection after MRI-confirmed progressive tumor disease and clinical deterioration ranging from 3 months to 4 years after the initial operation. Three of these 5 patients also underwent a third resection, and 1 of the 3 underwent a fourth operation. Six children received adjuvant therapy: local radiotherapy in 2 patients, chemotherapy in 3 patients, and both in 1 patient. Twelve (80%) of the 15 patients needed treatment for persistent hydrocephalus. CONCLUSIONS: Selected cases of low-grade midbrain gliomas may clearly benefit from resection with favorable results, even for prolonged periods. Three patients in the present series died, one of whom had a prolonged survival period of 21 years. Among the 12 survivors, stable long-term results appeared obtainable in at least 9. One patient died of acute hemorrhage 8 months after initial resection; otherwise, rapid tumor progression and death were not observed. Forty percent of the patients received adjuvant treatment, with local radiotherapy, chemotherapy, or both [1].

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Lundar T, Due-Tønnessen BJ, Egge A, Scheie D, Brandal P, Stensvold E, Due-Tønnessen P. Neurosurgical treatment of pediatric low-grade midbrain tumors: a single consecutive institutional series of 15 patients. J Neurosurg Pediatr. 2014 Dec;14(6):598-603. doi: 10.3171/2014.9.PEDS1462. Epub 2014 Oct 17. PubMed PMID: 25325421.