Clinical management and outcome of histologically verified adult brainstem gliomas in Switzerland: a retrospective analysis of 21 patients

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UNLABELLED
Because of low incidence, mixed study populations and paucity of clinical and histological data, the management of adult brainstem gliomas (BSGs) remains non-standardized. We here describe characteristics, treatment and outcome of patients with exclusively histologically confirmed adult BSGs. A retrospective chart review of adults (age >18 years) was conducted. BSG was defined as a glial tumor located in the midbrain, pons or medulla. Characteristics, management and outcome were analyzed. Twenty one patients (17 males; median age 41 years) were diagnosed between 2004 and 2012 by biopsy (n = 15), partial (n = 4) or complete resection (n = 2). Diagnoses were glioblastoma (WHO grade IV, n = 6), anaplastic astrocytoma (WHO grade III, n = 7), diffuse astrocytoma (WHO grade II, n = 6) and pilocytic astrocytoma (WHO grade I, n = 2). Diffuse gliomas were mainly located in the pons and frequently showed MRI contrast enhancement. Endophytic growth was common (16 vs. 5). Postoperative therapy in low-grade (WHO grade I/II) and high-grade gliomas (WHO grade III/IV) consisted of radiotherapy alone (three in each group), radiochemotherapy (2 vs. 6), chemotherapy alone (0 vs. 2) or no postoperative therapy (3 vs. 1). Median PFS (24.1 vs. 5.8 months; log-rank, p = 0.009) and mOS (30.5 vs. 11.5 months; log-rank, p = 0.028) was significantly better in WHO grade II than in WHO grade III/IV tumors. Second-line therapy considerably varied. Histologically verification of adult BSGs is feasible and has an impact on postoperative treatment. Low-grade gliomas can simple be followed or treated with radiotherapy alone. Radiochemotherapy with temozolomide can safely be prescribed for high-grade gliomas without additional CNS toxicities.