

Abstracts

AT-26. CLINICAL MANAGEMENT AND OUTCOME OF HISTOLOGICALLY VERIFIED ADULT BRAINSTEM GLIOMAS IN SWITZERLAND: A RETROSPECTIVE ANALYSIS OF 21 PATIENTS

Thomas Hundsberger¹, Michaela Tonder², Andreas Hottinger³, Detlef Brüggel⁴, Ulrich Roelcke⁵, Martin Putora⁴, Roger Stupp⁶, and Michael Weller²; ¹Departments of Neurology and Oncology/Hematology, Cantonal Hospital, St. Gallen, Switzerland; ²Department of Neurology and Brain Tumor Center, University Hospital, Zürich, Switzerland; ³Department of Clinical Neuroscience, University Hospital, Lausanne, Switzerland; ⁴Department of Radiation Oncology, Cantonal Hospital, St. Gallen, Switzerland; ⁵Department of Neurology, Cantonal Hospital, Aarau, Switzerland; ⁶Department of Oncology and Brain Tumor Center, University Hospital, Zürich, Switzerland

BACKGROUND: Because of low incidence, mixed study populations and paucity of clinical and histological data, the management of adult brainstem

gliomas remains non-standardized. We here describe characteristics, treatment and outcome of patients with exclusively histologically confirmed adult brainstem gliomas. **METHODS:** A retrospective chart review of adults (> age 18 years) was conducted. Brainstem glioma was defined as a glial tumor located in the midbrain, pons or medulla. Characteristics, management and outcome were analyzed. **RESULTS:** 21 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 versus 5). Postoperative therapy in low-grade (WHO grade I/II) and high-grade gliomas (WHO grade III/IV) consisted of radiotherapy alone (3 in each group), radiochemotherapy (2 versus 6), chemotherapy alone (0 versus 2) or no postoperative therapy (3 versus 1). Median PFS (24.1 versus 5.8 months; log-rank, p = 0.009) and mOS (30.5 versus 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. **CONCLUSIONS:** Histologically verification of adult brainstem glioma 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.