leisions and discarded non-enhancing high grade lesions. This selection does not represent the actual clinical situation in which a clinician is confronted with a LGG-like lesion on MRI that is eligible for extensive resection. Therefore a study with patient selection based on preoperative characteristics is more clinically relevant. We conducted a retrospective study to examine if early resection improved overall survival (OS) compared to wait-and-scan or a biopsy for LGG-like lesions that were eligible for extensive resection.

MATERIALS AND METHODS: We searched the records of all glioma patients (both low and high-grade) in three large neurosurgical institutions in the Netherlands between 1990–2010. From this set of 1115 patients, 498 patients were available. To identify patients with a LGG-like lesion that was eligible for extensive resection, we screened for well-defined prognostic favorable characteristics; i.e. supratentorial, non-enhancing lesion with <6 cm maximal diameter and only epilepsy or minimal neurological deficits. Based on these criteria, a total of 150 patients were identified. OS was used as primary outcome measure. Median follow-up was 7.1 years.

RESULTS: As initial treatment strategy, patients underwent either an early resection (n=83), a wait-and-scan approach (n=38) or a biopsy (n=29). Clinically and radiologically, these largely evenly distributed, except for histology and grade: the biopsy group consisted of more astrocytomas (75.9% vs 48.2% in resection and 42.1% in wait-and-scan; P=0.01) and the wait-and-scan group consisted of more higher grade gliomas (24.3% vs 10.8% in resection and 3.4% in biopsy; P=0.04). The latter can be expected, since histopathological diagnosis in the wait-and-scan group was obtained after a median of 2.95 years from initial imaging diagnosis. Median OS was not reached in the resection group, 11.9 years in the wait-and-scan group and 9.1 years in the biopsy group. There was no difference in OS for early resection versus wait-and-scan with a hazard ratio (HR) of 0.92 (95% CI 0.43–2.01; P=0.85). However, the biopsy group showed a significant shorter OS compared to early resection and wait-and-scan (HR 2.69; 95% CI 1.19–6.06; P=0.03).

CONCLUSIONS: We observed no difference in OS for early resection versus an initial wait-and-scan approach. This suggests that wait-and-scan is safe and as effective as early resection for patients with minimal neurological deficits. Based on these criteria, a total of 150 patients were identified. OS was used as primary outcome measure. Median follow-up was 7.1 years.

OS5.8 INTRAVASCULAR LYMPHOMA AFFECTING THE CENTRAL NERVOUS SYSTEM: FEATURES AND OUTCOMES IN A CASE SERIES OF THE PRIMARY CNS LYMPHOMA COLLABORATIVE GROUP (PCLC)

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Intravascular lymphoma (IVL) is a rare subtype of extranodal lymphoma, usually of the large B-cell type. It constitutes a subtype of primary central nervous system (CNS) diffuse large B-cell lymphoma (PCNSL) when it is confined to the vascular lumina of the CNS. In this International PCNSL Collaborative Group (IPCG) effort, we describe the clinical features and treatment outcomes of patients diagnosed with IVL affecting the CNS. We present a retrospective case series of 65 adults with IVL from 14 cancer centers in 6 countries. IVL was restricted to the CNS in 29 cases, with a mean age of 60 years and 91% of patients having neurological deficits at the time of diagnosis. There was a mean diagnostic delay of 20 weeks after presentation of stroke-like symptoms or myelopathy. Ninety-three percent had a poor functional status with an Eastern Cooperative Oncology Group (ECOG) performance status ≥2. Serum LDH was elevated in 87% of patients with no correlation with treatment outcome. Frontline treatment with intravenous high-dose methotrexate combined with rituximab was the most common first line treatment in the presence of CNS disease. Seventy-two percent of patients receiving any regimen reached one-year survival. There is improved one-year survival for patients having received a regimen containing high-dose methotrexate rituximab upfront with or without rituximab vs. non-methotrexate containing combination therapy (OR = 0.0667 95% CI 0.006–0.7451, P=0.028). The median progression free survival in patients treated with combination methotrexate and rituximab is at least 52 months. Multivariate analysis exploring prognostic factors for outcome will be updated at time of presentation. This is the first case series to report improved prognosis with combination high-dose methotrexate with rituximab.

OS6 PEDIATRIC BRAIN TUMORS

OS6.1 MOLECULAR CHARACTERIZATION OF ASTROBLASTOMA

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Astroblastoma is a rare brain tumor mainly defined by histological features of perivascular oriented glial cells with abundant eosinophilic cytoplasm and the presence of perivascular and vascular hyalinization as well as formation of pseudo-papillae. Molecular studies on this entity are scarce. Clinical courses range from benign to highly malignant. Recurrent MNT gene fusions have recently been identified in a subset of CNS-PNET with overrepresentation of astroblastocytic histological features (designated CNS high-grade neuroepithelial tumor with MNT alteration / HGNET-MNT).

We here analyzed a large retrospective series of 37 tumors with histological features of astroblastoma by genome-wide DNA methylation profiling, copy number analysis, and targeted sequencing in a subset of cases. Unsupervised hierarchical clustering analysis of DNA methylation data together with a large number of established CNS tumor classes assigned astroblastomas to several molecular classes. The largest number shows high similarity to the HGNET-MNT group (20/37; 54% of cases). Remaining tumors molecularly resemble various ependymoma subgroups (4/37; 11%), glioblastoma subgroups (3/37; 8%), pleomorphic xanthoastrocytoma (3/37; 8%), CNS highgrade neuroepithelial tumor with ROR alteration (2/37; 5%), or are non-classifiable (5/37; 14%).

Histologically, tumors from the HGNET-MNT group display more astroblastic features than the remaining fraction. Available clinical data of this group confirms female predominance, frequent superfi-