lesions 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, this study with patient selection based on preoperative characteristics is more 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, images in 498 patients were available. To identify patients with a LGG-like lesion that was eligible for extensive resection, we screened for well-delineated, homogenous astroblastic features of perivascular orientated glial cells with abundant eosinophilic cytoplasm and the presence of pericellular and vascular hyalinization as well as plasm and the presence of pericellular and vascular hyalinization as well as perivascular hyalinization and the presence of pericellular pericytes. The latter can be expected, since histological 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 wait-and-scan group, 11.9 years in the wait-and-scan group and 9.1 years in the resection group. There was no difference in OS between the two treatment arms (HR = 0.9; 95% CI 0.65–1.26; P=0.58). 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=0.02). 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 and minimal LGG-like lesions eligible for extensive resection. Our data argue against biopsy as initial strategy for LGG patients. This, however, is difficult to explain and needs further investigation.

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 63 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 therapy 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 mephemtate rituximab, with or without rituximab plus non-methotrextate 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 mephemtate and rituximab is at least 52 months. Multivariate analysis examing 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 pericellular and vascular hyalinization as well as formation of pseudo-papille. Molecular studies on this entity are scarce. Clinical courses range from benign to highly malignant. Recurrent MNI gene fusions have recently been identified in a subset of CNS-PNET with overrepresentation of astroblastic histological features (designated CNS high-grade neuroepithelial tumor with MNI alteration / HGNET-MNI). 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-MNI 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 RCB alteration (2/37; 5%), or are non-classifiable (5/37; 14%). Histologically, tumors from the HGNET-MNI group display more astroblastic features than the remaining fraction. Available clinical data of this group confirms female predominance, frequent superfi-

OS6.2 ULTRAMORPHOLOGIC FEATURES OF HISTIOCYTIC/PLASMACYTIC PLASMA CELLS AND ASPECTS OF THEIR MOLECULAR DYNAMICS

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BACKGROUND: The role of bevacizumab in recurrent grade II and III glioma has not yet been established. Similar to glioblastoma, uncontrolled studies have shown promising response rates but controlled studies are not available. We conducted a randomized phase II study, in which we investigated the role of bevacizumab in recurrent grade II and III glioma patients (both low and high-grade) in three large neurosurgical institutions in the Netherlands between 1990–2010. From this set of 1115 patients, images in 498 patients were available. To identify patients with a LGG-like lesion that was eligible for extensive resection, we screened for well-delineated, homogenous astroblastic features of perivascular orientated glial cells with abundant eosinophilic cytoplasm and the presence of pericellular and vascular hyalinization as well as plasm and the presence of pericellular and vascular hyalinization as well as perivascular hyalinization and the presence of pericellular pericytes. The latter can be expected, since histological 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 wait-and-scan group, 11.9 years in the wait-and-scan group and 9.1 years in the resection group. There was no difference in OS between the two treatment arms (HR = 0.9; 95% CI 0.65–1.26; P=0.58). 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=0.02). 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 and minimal LGG-like lesions eligible for extensive resection. Our data argue against biopsy as initial strategy for LGG patients. This, however, is difficult to explain and needs further investigation.

METHODS: Eligible were patients with a locally diagnosed grade II or III glioma without 1p/19q co-deletion, with a first and enhancing recurrence after initial radiotherapy, Prior chemotherapy (either TMZ or PCV regimen) was allowed provided patients were at least 6 months off treatment. Patients were treated with either TMZ day 1-5 200 mg/m² for twelve cycles (arm A), or with the same TMZ regimen in combination with BEV 10 mg/kg every 2 weeks (arm B) until progression. Response was evaluated every three months using RANO criteria. Primary endpoint was the overall survival rate at 12 months (OS12). An AHERN design was used, 144 patients would have to be randomized to reject the H0 hypothesis of 50% in favour of the H1 hypothesis of 65%. Analysis of MGMT status and IDH mutational status is part of the study design (trial nr: NCT01164189).

RESULTS: Between 8, 2011 and July 31, 2015 155 patients were randomized. Baseline characteristics of both groups were similar. Median age and gender were equally distributed. Patients with grade II tumors and 27% of patients had received prior chemotherapy. In August 2016, OS data will be mature and the clinical outcome will be analyzed.

CONCLUSION: At the EANO meeting mature OS results will be presented.