might stratify the risk better than the current criteria have also been evaluated. Despite the discordance among the results of previous studies, CDKN2A/2B homozygous deletions have been shown prognostic significance in high-grade IDH-mutant astrocytomas and microvascular proliferation stratifies IDH-mutant gliomas lacking a CDKN2A homozygous deletion, suggesting that the integration of molecular information and traditional histological findings is still essential for achieving maximum risk stratification of adult cases of IDH-mutant diffuse gliomas. The grading scheme for adult IDH-mutant as well as wild-type gliomas should therefore be revised in the next WHO update.

SL3
PRIMARY CNS LYMPHOMA: CURRENT CONCEPTS AND THERAPEUTIC PERSPECTIVES
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The lecture will summarize current standards of disease staging and treatment of Primary Central Nervous System Lymphoma (PCNSL). Concepts underlying the current first-line treatment regimen will be presented and current controversies in the treatment of PCNSL, including choice of induction regimen, choice of consolidation, and the roles of surgery/radiation/ intrathecal therapy, will be discussed. In addition, the presentation will summarize novel insights into the pathophysiology of PCNSL, particularly the B-cell receptor signaling pathway (BCR). Results of completed and ongoing clinical trials testing the BCR will be discussed. The treatment standards in the recurrent setting will be summarized and additional novel therapeutic avenues, e.g., immune checkpoint inhibition will be discussed. Furthermore, novel combination clinical trials in recurrent/refractory setting will be discussed. Moreover, the diagnostic and prognostic value of novel, genomic testing and their integration into clinical trial development and clinical decision making will be discussed.

Key words: Primary Central Nervous System Lymphoma, chemotherapy regimen, salvage therapy, B-cell receptor signaling pathway

SS-KL-1
CURRENT TREATMENT FOR DLBCL AND PROPHYLAXIS AND TREATMENT FOR SECONDARY CNS Lymphoma.
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Diffuse large B-cell lymphoma (DLBCL) is the most common subtype of lymphoma, comprising 30% of all lymphoma cases. More than 60% of patients can be cured with current standard treatment, R-CHOP. On the other hand, prognosis of patients with relapsed or refractory DLBCL is disappointing with less than 10% being cured with salvage chemotherapy followed by high-dose chemotherapy with autologous stem cell transplantation. Prognosis of patients with central nervous system (CNS) relapse is especially poor because of a limited treatment option. Thus, evaluating risks of CNS relapse at diagnosis and administering prophylaxis including intrathecal methotrexate (MTX) or systemic high-dose MTX concurrently with R-CHOP or as consolidation therapy in high-risk patients are often-used approach. Clinically higher risk according to the International Prognostic Index and extranodal involvement in organs such as kidney, adrenal gland, breast, testis, or bone marrow are considered to be high-risk for CNS relapse. Recently, CNS-International Prognostic Index has been proposed to integrate aforementioned risk factors. Moreover, patients with intravascular large B-cell lymphoma, CD5+ DLBCL, double hit lymphoma are reported as high-risk for CNS relapse. Further, the MYD88 L265P mutation, a common mutation in primary CNS DLBCL (PCNSL) is also common in DLBCL of testis or breast, which are the sites associated with CNS relapse.

Strategies for CNS prophylaxis have not established yet, and it is still unclear whether intrathecal MTX or high-dose MTX can prevent CNS relapse. Moreover, treatment for secondary CNS relapse have not been established. In particular, for those with both CNS and extra-CNS lesions, effective treatment options are very limited. The role of novel agents such as BTK inhibitors, lenalidomide, and immune checkpoint inhibitors, whose efficacy have been shown for PCNSL, should be investigated further in the management of secondary CNS lymphoma.

Key words: Secondary CNS lymphoma, prophylaxis

ANCI0-01
ALTERATION IN IMMUNE REGULATORY CELLS BEFORE AND AFTER TREATMENT BY STUPP REGIMEN WITH OR WITHOUT BEVACIZUMAB FOR GLOBLASTOMA
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BACKGROUND: In our previous study, bevacizumab (Bev), a humanized anti-vascular endothelial growth factor monoclonal antibody, downregulated the expression of programmed cell death-1 (PD-1)/programmed death ligand-1 (PD-L1) immune checkpoint molecules, suppressed the infiltration of immunosuppressing cells such as regulatory T cells (Tregs) and tumor-associated macrophages (TAMs), and induces cytotoxic T lymphocytes (CTL) infiltration. To explore the possibility that inhibition of immunosuppressive cell infiltration and induction of CTL were attributed to not only Bev alone but also radiation (RT) or temozolomide (TMZ), we re-evaluated those alterations in the tumor tissue obtained from patients before and after the treatment using Stupp regimen (RT concurrent with TMZ) without Bev therapy. MATERIALS & METHODS: We analyzed 10 tumor tissues from 5 patients with GBMs, which were paired samples of pre- and post-standard chemotherapy (Stupp regimen plus concomitant and adjuvant TMZ). Immunohistochemical analyses were performed on formalin-fixed, paraffin-embedded tissue of 10 tumors. The sections were stained with anti-Ki-67, anti-VEGF-A, anti-VEGFR1, anti-VEGFR2, anti-CD34, anti-HIF1 alpha, anti-CA9, anti-nestin, anti-CD4, anti-CD8, anti-Foxp3, and anti-CD163 antibodies. All expressions were assessed by authors with blinded clinical information.

RESULTS: Immunohistochemical analyses demonstrated that the expres-