cause of death for patients with malignant tumors was death due to brain and other CNS tumors (49.29%), and for non-malignant tumors were other benign and malignant tumors (31.5%) and heart disease (17.9%). Overall mortality was 36.4% (n=331,953) in patients with Primary Brain and CNS Tumors during the study period. Specifically, 163,621 (49.29%) patients died due to brain and other CNS tumors. A significant proportion of patients with malignant tumors had brain tumor-specific mortality compared to non-malignant tumors (75.4% in malignant vs 4.2% in non-malignant). The factors associated with brain specific mortality in Glioblastoma patients were Age (p< 0.001), Race (p< 0.001) and Primary Site (p< 0.001). Further, the factors associated with brain specific mortality in Non-malignant Meningioma patients were Age (p< 0.001), Sex (p< 0.001), Race (p< 0.001) and Primary Site (P< 0.001). CONCLUSION: Cause of death attributed to the brain tumor was significantly higher in malignant brain tumors compared to non-malignant brain tumors.

EPID-30. PREDICTORS ASSOCIATED WITH LONG-TERM SURVIVORSHIP FOR PATIENTS WITH GLIOBLASTOMA USING THE NATIONAL CANCER DATABASE (NCDB)

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OBJECTIVES: To investigate the long-term survival rates and the related predictors in patients with glioblastoma (GBM) using NCDB. METHODS: A total of 51570 GBM patients were derived from the NCDB from 2004 to 2011. Three long-term survival measures were defined as patients who lived for at least 3-year, 5-year, or 10-year after diagnosis, respectively. Multivariable binary logistic regressions were performed to identify predictors in relation to 3-year, 5-year, and 10-year survival rates. The relative importance of each survival predictors was calculated, and random forest method was performed to validate the variable importance and decision tree as well. RESULTS: A total of 4782 (9.3%), 1481 (3.9%), and 51 (0.9%) GBM patients survived at least 3-year, 5-year, and 10-years, respectively. Significant predictors related to both 3-year and 5-year survival rates from multivariable logistic regression included tumor resection, recent year of diagnosis, age < 65 years, private insurance, adjuvant therapy, non-whites, female, treatment at facility located in South regions or academic facilities, higher income, and non-comorbidity. Moreover, patients who traveled >50 miles for treatment and received care transition were significantly more likely to survival at least 3 years. However, only five predictors were associated with 10-year survivorship: residence-hospital distance >20 miles, non-whites, age < 65 years, resection, and higher income. Based on the calculations of relative importance and random forest method, the most important five factors to predict long-term survival were age, tumor resection, year of diagnosis, comorbidity, and adjuvant therapy (3-year survival); age, tumor resection, comorbidity, gender, and insurance (5-year survival); and age, race, residence-hospital distance, income, and comorbidity (10-year survival), respectively. CONCLUSIONS: This study identifies non-molecular factors predicting long-term survivorship among GBM patients using NCDB dataset. Our findings suggested that 3-year and 5-year survivors share similar determinants, while 10-year survivors could be more different in socio-demographics and clinical features.

EPID-31. CONTEMPORARY MANAGEMENT OF GRADE 2 AND 3 GLIOMA IN ALBERTA AND MANITOBA, 2012–2016: COMPARISON OF TOLERABILITY AND OUTCOMES ACROSS CHEMOTHERAPY REGIMENS

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BACKGROUND: Grade II/III glioma are a significant source of morbidity and mortality, with disease behaviour ranging from relatively mild to aggressive. Phase 3 clinical trial data informed contemporary treatment paradigms, but the perceived differences in tolerability between temozolomide-based regimens and procarbazine, CCNU, and vincristine (PCV)-based regimens has resulted in different treatment approaches across centres. We compared the frequency of progression and adverse drug events (ADE) among patients given these two regimens. METHODS: Grade II/III glioma patients were identified through cancer registries in Alberta and Manitoba. Clinical data was obtained through electronic medical records. We estimated the distribution of patient age and sex, molecular data, treatment details, ADE, and patient outcomes across groups treated by temozolomide or PCV. RESULTS: From 2012–2016, 344 patients were identified. Of these, 51% received chemotherapy: 26 received PCV (5/6 cycles completed by 85%), 142 received temozolomide (5/6 cycles completed by 78%). PCV resulted in grade 3/4 ADE in 38% of cycles, most commonly bone marrow toxicity. Temozolomide resulted in grade 3/4 ADE in 6% of cycles, most commonly nausea and rash. Clinical progression events occurred in 23% and 30% of PCV and temozolomide patients, respectively. Radiological progression events occurred in 50% and 52% of PCV and temozolomide patients, respectively. CONCLUSION: Systemic therapy is commonly given to patients with grade II/III glioma, with more temozolomide use compared to PCV. All patients had high completion rates of treatment despite more frequent grade 3/4 adverse events in patients treated with PCV. The frequency of progression was similar across groups.

EPID-32. SURVIVAL OF INTRACRANIAL TUMOR IN CIPTO MANGUNKUSUMO GENERAL HOSPITAL

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INTRODUCTION: Intracranial tumor is a debilitating health burden that cause sever disability. The incidence rate for intracranial tumor is 4.63 per 100,000 populations. Through the development of diagnostic and therapeutic modalities, the survival of intracranial tumor improved although modest. There were several factors such as demographic, clinical, and histopathological affect intracranial tumor survival. However, there were no study about intracranial tumors and factors affecting it survival in Indonesia. This study provides insight of intracranial tumor patients and factor affecting 1-year survival in Cipto Mangunkusumo General Hospital from 2014–2016. METHODS: The design of this study is retrospective cohort. The subjects were followed-up 1 year after diagnosis. The data retrieved from Dept. of Neurosurgery and Dept. of Neurology Cipto Mangunkusumo General Hospital neuro-oncology registry. Subjects with intracranial tumors underwent surgery/biopsy were included in this study. The factors analyzed in this study were demography, clinical characteristics, histopathology, and treatment types. Analysis of survival were done with Kaplan-Meier curve and cox regression. RESULTS: There were 317 subjects in this study. Overall 1-year survival of intracranial tumors were 75.4%. There was increased risk of death (HR 1.88; CI95% 1.2–2.94; p = 0.005) in subjects >46 years old. There was no different of risk of death (HR 0.66; CI95% 0.92–1.03; p = 0.067) between men and women. There was no different of risk of death (HR 1.39; CI95% 0.72–2.70; p = 0.333) between supratentorial and infratentorial tumor. There was difference of survival among histopathology (p < 0.001) and therapeutic approaches (p < 0.001). DISCUSSION: This is the first study in Indonesia that analyze survival of intracranial tumor. Several factors such as age, histopathology, and therapeutic approaches were found to affect 1-year survival of intracranial tumor. To get a representative insight of intracranial tumor in Indonesia, a larger cohort study should be conducted.

EPID-33. PRACTICE VARIATION OF STEROID DOSING AND TAPERING SCHEDULES AMONG THE NEURO-ONCOLOGY COMMUNITY

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INTRODUCTION: Steroids are commonly used for treatment of peritumoral edema and increased intracranial pressure in brain tumor patients. However, despite the widespread use of steroids, relatively little evidence is available about the optimal dosing scheme in brain tumor patients. PURPOSE: The aim of this study is to increase insight in the practice variation of steroid dosing and tapering schedules among the neuro-oncology community. METHODS: An electronic survey consisting of 27 questions regarding dosing and tapering schedules and adverse events of steroids was conducted among neurosurgeons internationally between 6 December 2019 and 1 June 2020. The survey was distributed by the electronic mailing lists of the Europeans Association of Neurosurgical Societies and via social media platforms. Collected data was assessed for quantitative and qualitative analysis using the Kruskal-Wallis test. RESULTS: The survey obtained 175 responses. 87% of respondents answered all questions. Steroids are prescribed routinely perioperatively by 80% of respondents. Prescribed doses range from 2 to 64 mg/day in dosing schedule ranging from one to four times a day. The most prescribed steroid is dexamethasone in a dose of 16 mg/day. No significant association is seen between the prescribed dose and frequency of adverse events, years of experience, country, type of institution or having an institutional guideline. CONCLUSION: Steroids are routinely prescribed perioperatively in brain tumor patients. However, there is a great practice variation in steroid dosing and tapering schedules among neurosurgeons. Future investigation is needed to identify an optimal dosing scheme and implement (inter)national guidelines for the dosing of steroids.