anticonvulsant prophylaxis did not reduce the risk of a first seizure in patients with any brain tumor (RR= 0.95 [0.58-1.55], p= 0.85, anticonvulsant prophylaxis vs. placebo), brain metastasis (RR = 0.96 [0.73-1.25], p=0.77, 5 RCTs) or primary brain tumors (RR= 1.03 [0.19-5.72], p=0.97, 4 RCTs). Eleven RCTs of anticonvulsant prophylaxis (n=3767 patients with CNS tumors) provided data for survival analysis and demonstrated a lower RR of death at one year compared to those who did not receive prophylaxis (0.88 [0.81-0.94] p = 0.0006). Physician-reported practice of prescribing anticonvulsant prophylaxis diminished only negligibly after initial guideline publication (54.9% [1 study] vs. 51.6%, [3 studies] p<0.014). CONCLUSION: Prophylactic anticonvulsants in patients without a history of seizures does not reduce the risk of first seizures in patients with primary or metastatic brain tumors. Despite this, anticonvulsant prophylaxis provides a small survival benefit at one year, although, this finding may be driven by confounded studies. Rates of anticonvulsant prophylaxis prescription have decreased only minimally and remain very high despite strong evidence against this practice and guideline publication. Evidence-based medicine requires additional mechanisms for encouraging practice change.

SCSS-02. INVOLVEMENT OF SUPPORTIVE CARE TEAM AND SOCIAL WORK IN NEUROONCOLOGY IN A TERTIARY CARE HOSPITAL

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BACKGROUND/OBJECTIVES: Supportive Care and Social Work services are underutilized in Neurooncology. ASCO Quality Oncology Program Initiative (QOPI) includes emotional assessment by second and advance care planning (ACP) by third oncologic visit in solid malignancies. We looked (1) reason, location, and the duration from diagnosis for the involvement of supportive care teams and (2) what are the determining factors for advanced care planning in glioblastoma. METHODS: After obtaining an IRB approval for the study, we performed a retrospective chart review of glioblastoma patients seen at University of Illinois Chicago 2015-2020 using the ICD Code C71.9 for malignant gliomas. Patients who had a pathologic diagnosis of glioblastoma, age > 18 years, and had their entire neurooncologic care at UIC were included in the study. Demographic features, socioeconomic determinants, tumor characteristics, and treatment history were noted. Supportive Care Teams and Social Work notes were reviewed. RESULTS: Out of the total 403 patients, there were 78 glioblastoma patients. A total 33 met the inclusion criteria. 10 out of 33 had been seen by the supportive care team. Patients in both groups were equally matched for demographics, socioeconomic determinants, and tumor characteristics. ACP were significantly better documented in the supportive care group (p = 0.035). Supportive Care teams were consulted much later after the disease diagnosis, usually in the inpatient setting mostly consulted for goals of care discussion and hospice enrollment. There was a significant positive correlation between the involvement of Supportive Care team and Social Work. DISCUSSION: A multidisciplinary clinic including an inbuilt palliative and social work teams can improve the Quality of Life (QoL) in glioblastoma patients and their caregivers. ICD code 99497 for a dedicated ACP discussion by the neurooncologist can be used. An ongoing phase III RCT EPCOG aims to assess (QoL) in patients with glioblastoma receiving early palliative intervention.

FINAL CATEGORY: SYSTEMIC THERAPEUTICS

SYST-01. MULTICENTER INVESTIGATOR-INITIATED PHASE 2 STUDY OF E7090 IN SUBJECTS WITH ADVANCED OR RECURRENT SOLID TUMORS WITH FIBROBLAST GROWTH FACTOR RECEPTOR (FGFR) GENE ALTERATION: FORTUNE STUDY

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BACKGROUND: Genetic alterations of FGFRs are known to play an important role in the proliferation, survival, and migration of cancer cells as well as tumor angiogenesis and drug resistance. E7090 is an orally available selective tyrosine kinase inhibitor for FGFR1-3. A global Phase 2 study of E7090 in subjects with unresectable advanced or metastatic cholangiocarcinoma harboring FGFR2 gene fusion is ongoing (NCT04238715). We recently reported FGFR alterations that are highly sensitive to E7090 using a high-throughput functional evaluation method called MANO method (Nakamura et al. npj Precision Oncology, in press), narrowing down the most promising FGFR alteration targets. Here, we designed a single-arm, open-label, investigator-initiated multicenter Phase 2 basket study to evaluate the efficacy and safety of E7090 in subjects with advanced or recurrent solid tumors harboring FGFR gene alterations, focusing on alterations identified by MANO method, as a sub-study under the nationwide large registry for rare cancers in Japan (MASTER KEY Project). Methods: The key eligibility criteria are: 1) Histologically confirmed metastatic or locally advanced solid tumor; 2) Ineffective to or intolerant to first line treatment, or for which standard treatment is no longer available; and 3) Confirmed FGFR gene alterations via next-generation sequencing assays that are reimbursed by insurance. Subjects will receive E7090 140 mg orally once daily until disease progression or development of unacceptable toxicity. The primary endpoint is objective response rate (ORR) by independent central review (RECIST v1.1), and the secondary endpoints include ORR by investigator assessment, progression-free survival, overall survival, disease control rate, safety, duration of response, and time to response. For primary brain tumors, RANO criteria is also applied in assessment of response. The study enrolls approximately 45 subjects. (Clinical Trial Registry: jRCT2031210043)

SYST-02. DUAL INHIBITION OF BCL-2 AND EGFR IN A PRECLINICAL MODEL OF LUNG CANCER BRAIN METASTASIS

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Lung cancer is the most prevalent malignancy to affect both men and women. Around 80% of all lung cancers are classified as non-small cell lung cancer (NSCLC). This subtype of lung cancer is also the most likely to metastasize to the brain. Clinically, the common treatment for NSCLC is epidermal growth factor receptor (EGFR) tyrosine kinase inhibitors (TKIs), due to the high occurrence of EGFR mutations. However, the cancer cells quickly develop resistance to the EGFR TKIs. This resistance and the added difficulty of delivering drugs across the blood-tumor barrier in efficacious concentrations to treat brain lesions are important to consider when developing treatment strategies for lung cancer brain metastases. Our study utilizes a NSCLC cell line, PC-9-Br6, which was developed in our laboratory to preferentially metastasize to the brain. This cell line was demonstrated by our collaborator to express higher levels of Bcl-2 in comparison to the parental PC-9-P cell line. We hypothesized combining novel Bcl-2 inhibitors (ABT-199/ABT-263) with an EGFR inhibitor (gefitinib) would increase survival and decrease tumor burden in our clinically relevant mouse model of lung cancer brain metastases.

SYST-03. A PHASE I/II STUDY TO EVALUATE SAFETY AND PRELIMINARY ACTIVITY OF THE TUMOR-TARGETING ANTIBODY-CYTOKINE FUSION PROTEIN L19TNF IN PATIENTS WITH GLIOBLASTOMA AT FIRST RELAPSE

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Treatment options for recurrent glioblastoma are limited and there is a need for novel effective therapies. We previously demonstrated encouraging anti-tumor activity with the targeted delivery of tumor necrosis factor a (TNF) in preclinical orthotopic glioma models. TNF- a is a potent pro-inflammatory cytokine which may trigger strong anti-tumor immunity. However, its systemic administration at therapeutically active doses is hampered by toxic side effects. L19TNF is a fully human antibody-cytokine fusion protein, comprising TNF- a fused to the antibody L19 that binds a tumor-specific epitope of the extracellular matrix protein fibronectin. This allows a targeted delivery of therapeutically relevant doses of TNF to the tumor site upon intravenous administration while sparing healthy tissues. In this phase I/II open label, non-randomized, monocentric study, we investigated the safety and preliminary activity of L19TNF for patients