investigation is needed to continue characterizing treatment outcomes and assessing TTFs interactions with various drug regimens.

INNV-21. IN NEWLY-DIAGNOSED GLIOBLASTOMA, FRAILTY/ SARCOPENIA PREDICTS 30D MORBIDITY & 30D, 90D, AND OVERALL MORTALITY AS ACCURATELY AS CURRENT STANDARDS

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INTRODUCTION: Identification of novel prognostic biomarkers for glioblastoma (GBM) could stratify patients between aggressive or palliative treatments. Frailty, as measured by sarcopenia (lack of muscle mass), has been proven to predict survival in cancers. We evaluate whether the frailty/ sarcopenia phenotype (FSP) predicts morbidity and mortality in GBM, and compare it to other survival markers. METHODS: In 257 patients undergoing initial diagnostic surgery for GBM, FSP was defined by temporalis muscle thickness from preoperative MRI; patients were grouped into tertiles (thirds) based on size, which corresponded to the severity of FSP. Morbidity and mortality hazard ratios were calculated from surgery using multivariate analysis, accounting for age, gender, past medical history, tumor focality / laterality / eloquence / volume, extent of resection, MGMT / IDH status, and initiation of postoperative chemo/radiation. Morbidity was defined as any of these events within 30d: DVT, PE, SSI, UTI, MI, urinary retention, ileus, readmission. RESULTS: FSP at diagnostic surgery predicted any morbidity (OR2.98, P= 0.005) at 30d. FSP at diagnostic surgery was the only risk factor associated with 30d mortality (OR10.0, P= 0.030), and was also strongly associated with 90d mortality (OR25.0, P= 0.003). FSP at diagnostic surgery was associated with decreased overall survival (OR0.41, P< 0.001) at a level comparable to other mortality predictors, including temozolomide/ EBRT (OR0.27), gross total resection (OR0.54), favorable MGMT (OR0.44) or IDH (OR0.44) mutations. Kaplan-Meier curves display overall survival based on severity of FSP. CONCLUSION: FSP is a preoperative, simple, accurate, and non-invasive methodology to predict 30d morbidity & 30-day, 90-day, and overall mortality from diagnosis in GBM. FSP is independent of age (not an age surrogate), demographic, oncologic, genetic, surgical, and therapeutic factors. Mortality prediction is comparable to temozolamid/ EBRT, total resection, MGMT, and IDH. It is a low cost, intuitive, and potentially universal methodology to guide treatment decision making.

INNV-22. TO TREAT OR NOT TO TREAT – TREATMENT OUTCOMES OF VERY ELDERLY GLIOBLASTOMA PATIENTS

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OBJECTIVE: The prognosis especially of older patients with glioblastoma is poor. Novel therapies are usually reserved for patients ≤65 years. As the population is growing older, the challenge remains as to how very elderly patients ≥75 years should be treated. Only limited outcome data exist for this patient subgroup. METHODS: Between 2010 and 2018 we treated a total of 977 patients with glioblastoma at our institution. Of these, 144 patients were ≥75 years at diagnosis. The primary procedure was surgery or biopsy followed by adjuvant treatment, if possible. We retrospectively investigated progression-free and overall survival (OS) and looked at potential prognostic factors influencing survival, including Karnofsky performance score (KPS), surgical therapy, adjuvant therapy as well as MGMT promoter methylation status. RESULTS: In our very elderly cohort, the median age was 79 years (range: 75–110). Biopsy only was performed in 108 patients, resection was performed in 36 patients. Median OS for the entire cohort was 5.9 months. Patients without adjuvant treatment fared worse than patients receiving either radiotherapy and/or chemotherapy (1.2 vs. 8.4 months, p< 0.001). Multivariate analysis showed that KPS at presentation (≥70 vs. ≤60), surgery vs. biopsy, and MGMT status (methylated vs. non-methylated) were significantly associated with OS (6.3 vs. 3.9 months, p=0.002; 12.6 vs. 4.9 months, p=0.003; and 10.5 vs. 5.0 months, p=0.009, respectively). CONCLUSION: For patients with glioblastoma ≥75 years, the natural course of the disease is devastating, and there is a negative treatment bias in these patients. Very elderly patients, too, benefit from multimodal treatment including microsurgical tumor removal. Treatment options and outcomes should be thoughtfully discussed with patients before treatment decisions are made.

INNV-23. GLIOBLASTOMA AND FACEBOOK: AN ANALYSIS OF PERCEIVED ETIOLOGIES AND TREATMENTS.

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Facebook has become one of the most widely used platforms by patients and caregivers for information on GBM. As such, physicians treating GBM are challenged with reconciling their medical advice with online media sources. In many cases, the information from these online sources can run counter to the advice given by physicians.

OBJECTIVE: This study sought to understand the type of information being shared on a popular GBM Facebook community titled, "GLIOBLASTOMA SURVIVORS TO THRIVERS!" with regards to 1. The perceived causes of GBM and 2. The therapies that led to GBM remission. METHODS: All the posts in a 30-day period (5/01/2019-6/01/2019) were screened for information on GBM etiologies and GBM therapies. Within each group, posts were sorted into distinct sub-categories with posts of similar content. The sub-categories were ranked to determine which etiologies and therapies were most commonly seen by group members. RESULTS: A total of 83 posts were on the topic of "GBM Etiologies" and 80 on the topic of "GBM Therapies." Within the "GBM Etiologies", the reasons for developing GBM were due to 1. Unknown (31.3%) 2. Previous Radiation Exposure (24.1%) 3. Chemical Exposure (17%) 4. Genetic (12%) 5. Infectious Disease (6%) 6. Losartan/Valsartan (4.8 %). and 7. Head Trauma (2.4%) and Emotional Trauma (2.4%). Within the GBM Therapy category, the therapies that led to remission were 1. Standard of Care (36.3%) 2. CBD/THC (16.3%) 3. Ketogenic Diet (12.5%) 4. Avastin (7.5%) and Optune (7.5%) 5. IV Vitamin C (6.25%) and COC Protocol (6.25%) 6. Meditation/Yoga/Acupuncture (5.0%) and 7. Faith Healing (2.5%). CONCLUSION: In the Facebook group titled, ""GLIOBLASTOMA SURVIVORS TO THRIVERS!," the top three most commonly posted reasons for developing GBM were "Unknown" "Previous Radiation Exposure" and "Chemical Exposure." The top three therapies that led to remission were "Standard of Care" "CBD/THC" and "Ketogenic Diet."

INNV-26. IN VITRO CHEMO RESISTANCE PROFILES OF CIRCULATING GLIAL CELLS REPLICATE CHEMO CHARACTERISTICS OF TUMOR TISSUE

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Survival of high-grade glioma patients remains dismal due to onset of resistance to even the limited systemic treatment option currently available. Except for indirect prediction of alkylating agent Temozolomide response through MGMT promotor methylation and NTRK fusions for larotrectinib, there are no biomarkers available for drug response prediction. Cell based, in vitro chemosensitivity assays can interrogate the efficacy of an array of cytotoxic drugs. However, the unavailability of live tumor cells for such assays pose challenges in clinical practice. Repeat biopsies are neither advisable nor feasible. Access to Circulating Glial Cells (CGCs) can provide real time insight into the chemo dynamics of the tumor. In this study, we show for the first time that CGCs can be harvested from peripheral blood of glioma patients for chemo response and resistance profiles (CRR) of cytotoxic drugs. CGCs were harvested from 15 ml of peripheral blood from high grade GBM patients (n=9) out of whom cells derived from surgically excised tumor tissue were also available for comparison in 2 patients. CellWizard™ process was adopted for enrichment of CGCs which is based upon epigenetically active media with paradoxical chemo-toxicity that selectively induces lethality in normal cells. This paradoxical cytotoxicity of the medium leads to selective elimination of most leukocytes thus facilitating a label free negative enrichment of CGCs. In vitro chemo sensitivity assay performed on live CGCs and cell death events were determined to evaluate response to different class of chemotherapy drugs. Evaluation of drug response showed very high concordance between tumor derived cells and CGCs in both patients where live tissue was available. In 7 patients where CGCs alone could be evaluated, the response showed replication between in vitro profile compared to treatment antecedents in 5 patients. 2 patients were treatment naïve and the response reflected high sensitivity to Temozolomide.

INNV-27. THE IMPACT OF A DEDICATED MULTIDISCIPLINARY TUMOR BOARD ON CARE FOR PATIENTS WITH BRAIN METASTASES

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Brain metastases (BM) are the most common tumors to affect the central nervous system (CNS). Treatment options have recently evolved with the use of new targeted therapies, immune checkpoint inhibitors, and increased access to clinical trials. We describe our institutional experience with a weekly tumor board dedicated to BM. METHODS: We conducted a single-institution cohort study at an academic hospital. Attendance at tumor board included representatives from neuro-oncology, medical oncology, radiation