cruited for brain donation to determine whether TTFields treatment duration and usage affects cellularity distributions beyond the gadolinium contrast enhancing region on T1-weighted (T1w) magnetic resonance imaging (MRI). At autopsy, 43 tissue samples from 18 patients who had undergone TTFields treatment (inclusion criteria: >50% compliance and 25-day duration) were collected from brain slices sectioned in-line with slices from the patients' final MRI prior to death. Nuclei were segmented on the digitized hematoxylin and eosin (HE) stained tissue samples, which were then used to compute cell count across the slides. Tissue was then aligned to the patient's final MRI scan prior to death using a custom in-house software, where manually defined control points were used to compute a nonlinear transform to warp the tissue to match the MRI. Histogram features including mean, median, 90th percentile, variance, and skewness, were computed from the cellularity distributions within regions outside the traditional tumor margin defined by T1w contrast enhancement for each subject. General linear models were fit to assess the effects of TTFields usage (percent of day) and duration (in days) on each histogram feature, controlling for age, overall survival, and time between TTFields treatment and death, as well as time between MRI acquisition and death. Longer TTFields treatment duration and overall survival was associated with significantly decreased skewness in the non-enhancing cellularity distributions ($p< 0.05$) while associations with other metrics remained statistically insignificant. These preliminary results in a small patient cohort suggest that TTFields duration may reduce the presence of high cellularity tails in the non-contrast enhancing distributions. Additional research in larger patient populations is warranted to better understand these findings given the number of confounding factors.

INNV-19. NAVIGATING GLIOBLASTOMAS THE DIGITAL WAY: AN OBSERVATIONAL OVERVIEW OF THE USE OF A SMARTPHONE WEB APPLICATION IN A GBM PATIENT POPULATION

Catherine Fine[1], Jon Brown[2], Erin Tozour[2], Chris Mason[2], Stephanie Wels[2], Zack Radick[2], Simon Tucker[2], Alex Bilstein[2], Jordan Gottlieb[2], Tammy Lee[2], Ashley Devitte[2], Kevan Corbett[2], Stefan Scherer[2], and Todd Meyerrose[2]; [1]Navio Theragnostics, Inc. (Navio), Durham, NC, USA, [2]Navio Theragnostics, Inc. (Navio), San Francisco, CA, USA

There is limited data regarding the use of digital resources in the neuro-oncology clinic, and more specifically within the glioblastoma (GBM) patient population. Studies show that smartphone applications are feasible as a resource to improve patient-reported outcomes, produce actionable provider data, and actively engage patients in their care, leading to patients being empowered in their choices, apt to adhere to recommendations and producing quality conversations with providers. Navio, an oncology digital health company, helps patients, providers, researchers, and industry collaborators by offering personalized treatment regimens, appointment reminders, help with medication use, diagnosis education, resources, and a means to record quality of life and patient-generated health data, which can be surfaced in real-time to oncology care teams. Seventy-seven patients with a GBM, ages 25-74 years, who were beginning or receiving treatment, were invited via SMS text to access the Navio web application. Nine different GBM treatment plans and 10 different countries were represented among the patients. Patients were allowed unlimited access to all modules and encouraged by text to re-engage, at Navio-defined key moments. Of the invited patients, 58 / 77 (75 %) successfully self-onboarded to Navio's app. Of the 58 patients onboarded, 77 % continued to engage with the application at various time points past day 1 and as far out as day 180. Engagement was seen across all age groups. Navio was able to re-engage 60 % of all patients who had 7 days of inactivity. Oncology digital resources, such as Navio's app, are of increasing interest to gather and surface real-time data, and support patients outside of traditional clinic visits. Although early, Navio's application represents a unique and expanding opportunity to engage and empower GBM patients, specifically during key treatment moments, to provide information for patients and their oncology care teams, and most importantly, to improve patient outcomes.

INNV-20. RADIOGRAPHIC RESPONSE AND SEIZURE CONTROL IN IDH1 MUTANT GLIOMA PATIENTS USING IVOSIDENIB

Katherine Peters[1], Mallika Patel[1], Candice Alford[1], Gerardo Chavez[1], Jung-Young Kim[1], Jennifer Durling[1], Tracy Novack[1], Kristen Batich[1], Madison Shoaf[1], Emily Hanzlik[1], Mary Affronti[2], Margaret Johnson[1], Daniel Landi[3], Mustafa Khasraw[4], Annick Desjardins[3], Henry Friedman[4], and David M Ashley[5]; [1]Duke University Medical Center, Durham, NC, USA, [2]Duke University School of Nursing, Durham, NC, USA, [3]Preston Robert Tisch Brain Tumor Center at Duke, Durham, NC, USA, [4]Duke University, Durham, NC, USA, [5]Duke University, Raleigh, NC, USA

Isocitrate dehydrogenase 1 (IDH1) is commonly mutated in grade II-III gliomas, and the mutant enzyme leads to the production of the oncometabolite 2-hydroxyglutarate (2-HG). 2-HG is responsible for the gliomagenesis associated with these tumors and the promotion of seizures via glutamate receptors. Ivosidenib, a small molecule oral mIDH1 inhibitor, has shown promise in clinical trials to treat IDH1 mutant gliomas, and providers can utilize this agent in IDH1 mutant glioma patients. We evaluated our IDH1 mutant glioma patients treated off-label with ivosidenib and described the radiographic response and seizure control in this cohort when ivosidenib was initiated between October 2020 to February 2021. Radiographic response was determined using RANO criteria, and seizure control was determined by comparing seizures per month before and after initiation of ivosidenib. All patients represented received single-agent ivosidenib dosed at 500 mg orally once a day. One patient required a dose reduction to 250 mg orally once a day because of drug-induced diarrhea. In our cohort of six patients, patient age range was 31 to 74 years with four female patients and two male patients. Diagnoses represented were astrocytoma, IDH1 mutant (n=3) oligodendroglioma (WHO), IDH1 mutant, 1p19q co-deleted (n=2), and anaplastic astrocytoma IDH1 mutant (n=1). Three patients experienced a reduction of seizure frequency, two patients did not have seizures before or after therapy, and one patient remained with the same level of seizures (1 seizure/month). Radiographic responses recorded included three patients with stable disease, two patients with minor responses, and one patient with a partial response. Treatment with ivosidenib is ongoing for this cohort of mIDH1 glioma patients. Updated information on prolonged disease control and seizure control in this cohort of IDH1 mutant glioma patients will be presented. Therapeutics, such as ivosidenib, can lead to improved seizure control and radiographic outcomes in IDH1 mutant glioma patients.

INNV-21. COMPLETE RESPONSE TO ADJUVANT TEPOTINIB IN A PATIENT WITH NEWLY DIAGNOSED DISSEMINATED GLIOBLASTOMA (GBM) HARBORING MET AMPLIFICATION

Lily Pham[1], Claudia Gann[2], Karl Maria Schumacher[2], Soetkin Vlassak[3], Todd Swanson[1], Kaitlyn Highsmith[1], Alexander Ou[1], Nathan Clarke[1], Ashley Aaroe[1], Lindsay Robell[1], Barbara O'Brien[5], Sebnem Nash[1], John DeGroot[1], and Nazanin Majd[5]; [1]MD Anderson Cancer Center, Houston, TX, USA, [2]Merck Healtthcare kGaA, Darmstadt, Germany, [3]Merck Healtthcare kGaA, Overijse, Belgium, [5]University of Texas, MD Anderson Cancer Center, Houston, TX, USA

MET oncogene encodes a receptor-tyrosine-kinase which drives cell proliferation, invasion and angiogenesis in a number of solid cancers including GBM where the incidence of MET amplification is 2-5%. Tepotinib is a highly selective blood-brain-barrier penetrant oral c-MET inhibitor recently FDA approved for MET-exon-14 altered non-small cell lung cancer (NSCLC). Here, we report complete radiographic response to tepotinib in a patient with newly-diagnosed disseminated GBM harboring MET amplification. A 29-years-old male presented with progressive headache. MRI brain showed a large heterogeneously enhancing intraventricular mass with epicenter in the right lateral ventricular trigone and enhancing nodules in bilateral cerebellum. MRI spine showed multifocal enhancement along the periphery of the cervicothoracic spinal cord and cauda equina concerning for leptomeningeal disease. He underwent right temporal lobectomy and subtotal resection of the mass. His KPS was 90 post-surgery due to dizziness. Pathology was consistent with GBM, IDH wild-type, MGMT-unmethylated and MET amplification at 7q31.2. He completed proton craniospinal irradiation at 3600cGy followed by boost to the tumor bed at 2400cGy without concurrent temozolomide (TMZ) due to the large radiation field. He completed two cycles of adjuvant TMZ which was put on hold due to myelosuppression. He subsequently started tepotinib monotherapy at 1000mg daily obtained on a compassionate IND. MRIs after one month of therapy showed resolution of areas of enhancement in the brain and spine. He had grade 1 creatinine elevation and abdominal discomfort and dose was reduced to 500mg daily after two cycles. Nineteen weeks after initiation of tepotinib, his complete response persists, and he remains clinically stable with mild chronic dizziness. Trials of targeted therapy in molecularly-unselected GBM have been largely disappointing, however, this case demonstrates the promise of targeting MET using tepotinib in GBM. A clinical trial of tepotinib in MET-amplified GBM and NSCLC brain metastasis is currently underway at MD Anderson.

INNV-22. FACTORS GUIDING THE INITIATION OF TUMOR TREATING FIELDS (TTFIELDS; 200 KHZ) THERAPY FOR GLIOBLASTOMA: SELF-REPORTED PATIENT AND ONCOLOGIST PERSPECTIVES

Peggy Frongillo, P. Gage Gwyn, Connie Wagenknecht, and Nichelle Renae Adams; Novocure Inc, New York, NY, USA

BACKGROUND: The standard-of-care for newly-diagnosed glioblastoma (ndGBM) has been the standard Stupp protocol. In ndGBM, approved TTFields (200 KHz) concomitant with maintenance temozolomide significantly improved progression-free survival and overall survival. TTFields-therapy selectively disrupts cancer cell division, requiring array-application to the shaved-scalp to non-invasively deliver TTFields to tumor location and confer clinical benefit. This survey-study assessed factors impacting decision of oncologist/patient/caregiver to initiate TTFields-therapy. METHODS: A