COVID-25. THE PARADOXICAL EFFECTS OF COVID-19 ON CANCER CARE IN THE NEURO-ONCOLOGY SETTING
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COVID-19 has caused ongoing, interruptions to healthcare systems worldwide, shifting care to virtual platforms, and placing significant economic and logistical burdens on clinical practice. The pandemic has created uncertainty in delivering the standard of care, both in areas of cancer diagnosis and treatment, especially within neuro-oncology. Due to the pandemic, care and operational planning goals have shifted to infection prevention, modifying recommendations to decrease viral transmission and increasing telemedicine use, potentially creating a burden on implementing evidence-based medicine. These dynamics have since begun to redefine traditional practice and research regimens, impacting the comprehensive care that cancer patients can and should receive; and the enduring consequences for the delivery of healthcare. The impact of COVID-19 on oncology practice and trials might endure well beyond the short- to mid-term of the active pandemic. There- fore, we conducted a longitudinal telephone survey to be accompanied by improved training and awareness, enhanced infrastructure, and evidence-based support to harness the positives and offset the potential negative consequences of the impacts of COVID-19 on cancer care. To address these paradoxical effects, we will conduct iterative, qualitative (face-to-face/video conference) interviews with neuro-oncology clinical and research professionals and adult brain tumor patients receiving care during the pandemic. We will capture unique aspects of oncology care: the lived, subjective, situated, and contingent accounts of patients and care providers, especially during a pandemic. We will also specifically compare the impact of telehealth during the pandemic on delivery of care to complex neuro-oncology patients. A summary of this in-depth, qualitative approach will result in a sophisticated understanding of neuro-oncology care on the frontline at a time of crisis, as experienced during a pandemic, to articulate best practices for future implementation.

COVID-26. TELEPHONE CONSULTATIONS IN NEURO-ONCOLOGY DURING THE COVID-19 PANDEMIC: LEVELS OF PATIENT SATISFACTION AND COMPARISON WITH TRADITIONAL FACE-TO-FACE CONSULTATIONS
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INTRODUCTION: Controversy exists as to whether telephone clinics are appropriate in neurosurgical-oncology. The COVID-19 pandemic forced neuro-oncology services worldwide to rapidly shift from in-person visits to telehealth consultations. During the pandemic, we conducted a survey to determine how these changes were perceived by patients. METHODS: A 22-question patient satisfaction questionnaire was distributed to patients and medical professionals, especially during a pandemic. We will also specifically compare the impact of telehealth during the pandemic on delivery of care to complex neuro-oncology patients. A summary of this in-depth, qualitative approach will result in a sophisticated understanding of neuro-oncology care on the frontline at a time of crisis, as experienced during a pandemic, to articulate best practices for future implementation.

COVID-27. THE COVID-19 PANDEMIC AND NEURO-ONCOLOGICAL PATIENTS
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INTRODUCTION: The Coronavirus disease 2019 (COVID-19) pandemic has uprooted health systems worldwide, disrupting care and increasing dependence on alternative forms of health care delivery. It is yet to be determined how the pandemic affected neuro-oncology patient outcomes, given that the majority of even “elective” neurosurgical oncology procedures are time-sensitive. This study quantifies changes in neuro-oncological care during the height of the pandemic in New York City and investigates patient outcomes in 2020 compared to a historical control. METHODS: We performed a retrospective review of patients with brain tumor diagnoses (primary or secondary) who were seen at the Weill Cornell Brain and Spine Center between March 13, 2020 and May 1, 2020. A control cohort from the corresponding time period in 2019 was also reviewed. Alterations in care, including shift from in-person to telehealth, delays in evaluation and intervention, and treatment modifications were evaluated. These variables were analyzed with respect to brain tumor control and mortality. RESULTS: 114 patients from 2020 and 171 patients from 2019 were included, with no significant difference in baseline demographics between the groups. There was no significant difference in outcomes between the cohorts, despite significantly more treatment delays (p=0.0154) and use of telehealth (p<0.0001) in 2020. For patients treated during the pandemic in 2020, patients who experienced delays in care did not suffer from worse outcomes compared to those without delays. Patients who utilized telehealth visits had significantly more negative financial impacts (p<0.0001). CONCLUSION: Our study showed that use of telehealth and selective alterations in neuro-oncological care during the COVID-19 pandemic did not lead to adverse patient outcomes. This finding provides reassurance that, despite the changes during the pandemic, successful and effective. Further studies are needed to evaluate impact on long-term survival.

COVID-28. IMPACT OF COVID-19 IN CHILDHOOD CENTRAL NERVOUS SYSTEM TUMORS IN ARGENTINA. REPORT FROM THE NATIONAL PEDIATRIC CANCER REGISTRY, ROHA NETWORK
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INTRODUCTION: Controversy exists as to whether telephone clinics are appropriate in neurosurgical-oncology. The COVID-19 pandemic forced neuro-oncology services worldwide to rapidly shift from in-person visits to telehealth consultations. During the pandemic, we conducted a survey to determine how these changes were perceived by patients. METHODS: A 22-question patient satisfaction questionnaire was distributed to patients and medical professionals, especially during a pandemic. We will also specifically compare the impact of telehealth during the pandemic on delivery of care to complex neuro-oncology patients. A summary of this in-depth, qualitative approach will result in a sophisticated understanding of neuro-oncology care on the frontline at a time of crisis, as experienced during a pandemic, to articulate best practices for future implementation.
monia while undergoing chemotherapy. The patient did not have any medical comorbidities. He was clinically asymptomatic following surgery, completed concurrent phase of combined chemotherapy and radiation and was undergoing treatment with an adjuvant temozolomide. An MRI radiographic improvement of the brain tumor (decreased size, contrast enhancement and T2 flair) after three cycles of adjuvant temozolomide. However, after cycle three the patient developed fever and abdominal pain. Evaluation in the emergency room revealed low absolute lymphocyte count. An urgent positive COVID-19 point of care test and CT chest revealed patchy peripheral bibasilar ground glass and consolidative opacities compatible with pulmonary infection, with viral etiology such as COVID. Symptoms resolved after 2 weeks. Due to active infection and leucopenia temozolomide was on hold for 1 month. He was considered cleared of infection after resolution of symptoms. Temozolomide was initiated after resolution of leucopenia. Patient continued to do well after administration of subsequent temozolomide cycles and repeat CT chest after 2 months revealed resolution of consolidation and no new areas of consolidation. Temozolomide was safely administered in this patient without reactivation of COVID-19 infection. He did not have any thrombotic events.

COVID-19: A SNAPSHOT OF THE IMPACT OF COVID-19 ON PATIENTS WITH NEUROVASCULAR SYSTEM TUMORS
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BACKGROUND: The impact of COVID-19 on patients with nervous system tumors is not known. This population is often immunosuppressed, susceptible to neurological complications, and requiring of frequent cancer care, all of which confer higher risk of COVID-19. Our objective was to assess potential impacts of COVID-19 on our vulnerable neuro-oncology patient population and no new areas of consolidation. Temozolomide was safely administered in this patient without reactivation of COVID-19 infection. He did not have any thrombotic events.

METHODS: Clinical data were obtained from structured electronic medical record elements, clinical note text and laboratory RESULTS: Each source was identified, integrated and analyzed using the Palantir Foundry platform (Syntropy), part of the Context Engine Data Management System through the MD Anderson Cancer Center (MDACC) IRB approved D3CODE initiative. The population of interest was patients diagnosed with COVID-19 who had been seen at the Brain and Spine Center for nervous system tumors. RESULTS: 8,777 ambulatory patients were seen at the Brain and Spine Center from 3/1/20–9/1/20. COVID status was known for 1,753 (21%). Sixty-one (0.7%) were COVID-19 positive. Of these, 17 had primary nervous system tumors. Seven (41%) were treated in the emergency department or hospital for infection. Two were asymptomatic but did not require further care. Eight were asymptomatic. Nine (53%) had alterations in cancer management within one week of COVID-19 diagnosis – delayed surgery (3), delayed/interrupted chemotherapy (2), delayed/interrupted radiation (2), cancer treatment discontinued (2). Eight patients (47%) had no clear impact of infection on their cancer treatment, three were on surveillance. Three (18%) unique patients had neurological symptoms attributed to/acerbated by COVID-19 – encephalopathy (2), seizure (2), stroke (1). CONCLUSION: No deleterious effects of alterations in cancer management after COVID-19 infection have been identified thus far, though longitudinal follow up is warranted. Our results suggest that COVID-19 infection frequently incurs medical complications or alterations in cancer treatment. The potential impacts of COVID-19 on our vulnerable neuro-oncology patient population should be further explored, and attention to these potential implications for our patients is warranted by treating clinicians.

COVID-19: THE STATE OF NEURO-ONCOLOGY DURING THE COVID-19 PANDEMIC: A WORLDWIDE ASSESSMENT
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When brain metastasis develops, the prognosis of cancer is dismal. Insights into the biology of the primary cancer and the brain metastasis are necessary to inform more effective and targeted treatments. To study the role of microRNAs in brain metastasis, we performed differential expression profiling of 12 primary tumors and their paired brain metastases using Illumina technology. We identified three microRNAs that were either highly upregulated in brain metastases. 71% of practitioners suspended phase II and 62% suspended phase III trial enrollment. 71% clinicians feared for their or their families’ safety, specifically because of their clinical duties. 20% percent said they did not have enough PPE to work safely; about the same percentage were unhappy with their institutions’ response to the pandemic. 43% believed the pandemic would negatively affect their academic career, and 52% fellowship program directors were worried about losing funding for their training programs. While 69% respondents reported increased stress, 44% were offered no psychosocial support. 37% had their salary reduced. 36% researchers had to temporarily close their laboratories. In contrast, the pandemic created positive changes that enable visits when telemedicine care and interactions with other practitioners.

CELL SIGNALING AND SIGNALING PATHWAYS

CSG-01. IDENTIFICATION OF PATHOGENESIS-RELEVANT MICRORNAS IN BRAIN METASTASIS
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When brain metastasis develops, the prognosis of cancer is dismal. Insights into the biology of the primary cancer and the brain metastasis are necessary to inform more effective and targeted treatments. To study the role of microRNAs in brain metastasis, we performed differential expression profiling of 12 primary tumors and their paired brain metastases using Illumina technology. We identified three microRNAs that were either highly upregulated or downregulated in the brain metastasis samples as compared to the primary tumors. After confirmation with real-time quantitative PCR, we further investigated the top microRNAs from both groups through functional assays performed in cell lines generated from primary melanoma, melanoma lymph node metastasis, and melanoblastoma brain metastasis. From this top-down, patient sample to model-cell line approach we identified two microRNAs that are potentially important regulators in the development of brain metastasis. Characterization of their targets and their interactions may offer a therapeutic opportunity to improve the prognosis of patients with brain metastasis.

CSG-02. R-RAS SUBFAMILY PROTEINS ELICIT DISTINCT PHENOTYPIC EFFECTS AND PHOSPHOPROTEOME ALTERATIONS IN NEOUROFIBROMIN-NULL MNPST CELLS
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Loss of the Ras GTpase-activating protein neurofibromin promotes the development of aggressive spindle cell neoplasms known as Malignant Peripheral Nerve Sheath Tumors (MPNSTs) in patients with the genetic disorder neurofibromatosis type 1 (NF1). Currently, the available chemotherapeutic regimens and radiotherapy are ineffective against MPNSTs, so the prognosis for patients with these neoplasms is poor. Therefore, loss dysregulates