All families/caregivers expressed gratitude for the opportunity to participate and for the handling of the procedures. DISCUSSION: Despite the sensitive nature of these cases, clinicians should offer the option of a rapid autopsy to caregivers of pediatric patients based on the scientific need and the positive effect it has on grieving families. This paper outlines the logistical efforts required for these donations to take place and provides a framework for providers to offer rapid autopsy as an option for families through this program.

QOLP-36. PATTERN OF CARE OF BRAIN TUMOR PATIENTS IN THE LAST MONTHS OF LIFE: ANALYSIS OF A COHORT OF 3045 PATIENTS IN THE LAZIO REGION IN THE LAST 10 YEARS

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The final days of life of Brain Tumor patients (BT) present special challenges and often palliative care approach is underutilyzed. Several studies reported that BT patients in the last months of life receive frequent hospital readmissions and ER accesses as result of bad quality of End of Life care. Early integration of pallative care has been demonstrated to improve quality of care in advanced stage of disease and quality of death in cancer patients. With the aim to evaluate pattern of treatment and the rate of hospital readmission in the last months of life, we retrospectively analyzed a consecutive serie of BT patients discharged after a diagnosis of BT. METHODS: Data regarding hospital readmission and treatment received in the last two months of life were collected from the Lazio Region Healthcare database. Adult patients discharged with diagnosis ICD-9 191.* between 1/1/2010 until 31/12/2019, were included in this study. RESULTS: 6672 patients were identified and 3045 death before 31/12/2019 were included (median age 67 y;M1700). In the last month of life 42.6% received hospital reamission (4.6% intensive care unit) and 37.9% had ER accesses. 24.5% received chemotherapy and 12.1% radiotherapy. In the last 30 days 33% were readmitted in hospital and 24.2% were admitted in ER. 11.7% were treated with chemotherapy and 6% with radiotherapy. CONCLUSION: Strategies to improve quality of care at the end of life and to decrease rehospitalization and futile treatments are becoming increasingly important to improve quality of death and to reduce costs of Healthcare System.

QOLP-37. MOOD DISTURBANCE IN PATIENTS WITH CENTRAL NERVOUS SYSTEM (CNS) TUMORS DURING THE COVID-19 PANDEMIC

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BACKGROUND: Primary CNS tumors are associated with uncertainty likely contributing to mood disturbance that is common throughout the disease trajectory. The intersection of the COVID-19 pandemic with a CNS tumor diagnosis may further impact the anxiety/depression experienced in this population. This study assessed key anxiety/depression symptoms in patients with CNS tumors prior to and during the COVID year. METHODS: Patient reported outcomes (PROs), including the PROMIS Anxiety and Depression Short Forms and EQ-5D-3L, were collected at the time of clinical or telehealth evaluation from the COVID year (March 2020-February 2021) and were compared to assessments through February 2020 (a NOB-normative sample), reflecting what we would typically see in our regular clinic evaluations. RESULTS: The COVID sample (N = 178) was primarily White (82%), male (55%), median age of 45 (range 18–79), and KPS $\geq$ 90 (50%). The majority had high grade (70%) brain (83%) tumors with $\geq$ 1 prior recurrence (60%) and 25% were on active treatment. Visits were primarily conducted via telehealth (64%) and 20% had progression at assessment. Compared to the NOB-normative sample, patients reported significantly higher depression scores (moderate-severe, 17% vs. 12%, $p < 0.05$), but not anxiety (18% vs. 16%). Eleven percent reported both moderate-severe anxiety and depressive symptoms (8% pre-COVID). Overall health assessed by the EQ-5D-3L was similar to the normative sample in all dimensions, apart from impact of moderate/extreme mood dis-

turbance, which was more prevalent in the COVID year (53% vs. 43%, $p < 0.05\%$). CONCLUSION: Patients with CNS tumors are at risk for significant symptoms of depression and anxiety; this risk was heightened during the COVID year. Further evaluation of clinical factors associated with risk are underway. These findings highlight the need for assessments and interventions that can be administered via telehealth to address the mental health needs of this vulnerable population.

RADIOBIOLOGY

RBIO-01. DEVELOPING THE FRAMEWORK FOR TUMOR TREATING FIELDS (TTFIELDS) TREATMENT PLANNING FOR A PATIENT WITH ASTROCYTOMA IN THE SPINAL CORD

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The use of Tumor Treating Fields (TTFields) following resection and chemoradiation has increased survival in patients with Glioblastoma. Patient-specific planning for TTFields transducer array placement has been demonstrated to maximize TTFields dose at the tumor: providing higher TTFields intensity ($\geq$ 1.0 V/cm) and power density ($\geq$ 1.1 mW/cm3) which are associated with improved overall survival. Treatment planning was performed for a 48 year old patient following T10-L1 laminectomy, gross total resection, and postoperative chemoradiation for an anaplastic astrocytoma of the spinal cord. An MRI at 3 weeks following chemoradiation showed tumor recurrence. Based on the post-chemoradiation MRI, a patient-specific model was created. The model was created by modifying a realistic computational phantom of a healthy female. To mimic the laminectomy, the lamina in T10-L1 was removed, and the region assigned electric conductivity similar to that of muscle. A virtual mass was introduced into the spinal cord. Virtual transducer arrays were placed on the model at multiple positions, and delivery of TTFields simulated. The dose delivered by different transducer array layouts was calculated, and the layouts that yielded maximal dose to the tumor and spine identified. Transducer array layouts, in which the arrays were placed on the back of the patient with one array above the tumor and one array below the tumor, yielded the highest doses at the tumor site. Such layouts yielded TTFields doses of over 3.4mW/cm^3 which is well above the threshold dose of 1.1 mW/cm^3 reported previously [*Ballo et al. Red Jour 2019*]. The framework developed for TTFields dosimetry and treatment planning for this spinal tumor will have the potential to increase dose delivery to the tumor bed while optimizing placement that may enhance comfort and encourage device usage.

RBIO-02. THERAPEUTIC EFFECTS OF RADIOTHERAPY WITH CONCOMITANT IN CHILDREN WITH DIPG

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OBJECTIVE: To retrospectively analyze the therapeutic effects of radiotherapy with concomitant and adjuvant temozolomide (TMZ) *versus* radiotherapy with concomitant TMZ alone for pediatric diffuse intrinsic pontine glioma (DIPG), and to evaluate the value of radiotherapy and TMZ in the treatment of pediatric DIPG. METHODS: The clinical data of children with confirmed DIPG in Guangdong Sanjiu Brain Hospital between January 1, 2010 and March 31, 2020 were collected. The inclusive criteria included (1) receiving a total radiotherapy dose of 54 Gy in 27 fractions, (2) treated with concomitant TMZ chemotherapy, and (3) with or without adjuvant TMZ chemotherapy. A total of 85 pediatric patients were eligible for the study. The Kaplan-Meier method was used for survival analysis, and a multivariable Cox proportional hazards regression model was used to assess the independent prognostic factors. RESULTS: Among 85 cases with a median age of 7 years (range 2-16 years), the median follow-up was 9 months (range 3-28 months) and the median survival time was 9 months. The median survival time of 66 patients treated with radiotherapy with concomitant and adjuvant TMZ was 10 months, longer than 6 months of the other 19 patients treated with radiotherapy with concomitant TMZ alone, with statistical differences (p=0.002). Moreover, bevacizumab and nimotuzumab didn't bring survival benefits to patients with disease recurrence or progression. The prognosis in DIPG patients with *H3K27M* positive expressed is poor. Hematological toxicity (Grade IV) was not found. CONCLUSION: Radiotherapy with concomitant and adjuvant TMZ prolongs the survival time of children with DIPG.