We examined 63 patients (40 males/23 females) after complex treatment of medulloblastoma. Patients had a median age of 7 years (range 0.4–17.9 years). The median time after the end of treatment was 3.7 years (± 1.1 years). Endorsed disorders were detected with the following frequency: growth hormone deficiency - 98.41% (62 of 63 patients), thyroid hormone deficiency – 67.21% (42/63), adrenal hormone deficiency – 17.4% (11/63). Three cases (4.7%) of premature sexual development were also detected. Lipids levels, beta-cell function and insulin resistance (IR) during 2 h oral glucose tolerance test were evaluated. A monofrequent bioelectrical impedance analysis was used to measure body composition. Systolic, mean arterial pressure were maintained in infants and children (120 mm Hg). Body weight index (BMI) was 24.3. Glucose intolerance (120 min glucose ≥7.8 mmol / l) was observed in 2 patients (3.2%). Insulin resistance (ISI Matsuda <2.5) was detected in 7 patients (11/1%). impaired glucose tolerance (120 min glucose ≥7.8 mmol / l) and HbA1c (4.8 ÷ 5.8%) was detected in 34 patients (54%). All patients underwent oral glucose tolerance test. Insulin resistance (ISI Matsuda <2.5 and/or HOMA-IR> 3.2) was detected in 7 patients (11/1%), impaired glucose tolerance (120 min glucose ≥7.8 mmol / l) was observed in 2 patients with IR and in 2 patients without IR. At the same time, IR and impaired glucose tolerance were encountered in only 5 children with overweight and no one with obesity. All patients with impaired glucose tolerance had normal values of fasting insulin (4.3 ± 5.04 nmol / l) and HbA1c (4.8 ÷ 5.8%). A bioelectrical impedanceanalyzer was used to measure body composition in 49 cases, the percentage of adipose tissue was increased in 14 patients (28%) with normal BMI.

INTRODUCTION: Pediatric neuro-oncology requires attention to not only cancer biology and therapeutics, but also to the suffering of the patient. In addressing patient suffering, consensus guidelines direct attention to the spiritual distress and resources of patients and families. A lack of training has been a key barrier to integrating this aspect of health into patient care. METHODS: A neuro-oncologist and a chaplain participated in a train the trainer for the Interprofessional Spiritual Care Education Curriculum (ISPEC) through the George Washington University's Institute for Spirituality and Health. After the train the trainer, the online curriculum was offered to interdepartmental team members, combined with in-person discussion groups, which met weekly for six sessions. A survey was given after the training. The survey included the Patient Experience Summary Questionnaire for Cancer (PESC), Wilcoxon rank-sum non-parametric test. OUTCOMES: 17 interdisciplinary members participated in the training. These members included neuro-oncologists, neuro-surgeons, rehabilitation physicians, nurse practitioners, nurses, physical therapists, music therapists, a child and adolescent psychology, and a patient experience specialist. The training resulted in multiple improvements, including increased ability to identify spiritual issues (p<0.0278) and increased ability to respond to these issues (p<0.0056). CONCLUSION: ISPEC addressed a key barrier to providing generalist spiritual care to patients with pediatric brain tumors. Diverse disciplines were repre-
sented during the training. With implementation of interdisciplinary spiritual care, outcomes that may be measured in the future include improved quality of life, patient satisfaction, and the resilience of both patients and team members.

QOL-49. THE IMPACT OF OTOTOXICITY AND VISUAL IMPAIRMENT ON EDUCATION IN CHILDREN TREATED FOR CNS TUMOURS

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INTRODUCTION: Children treated for CNS tumours experience a very high burden of adverse effects. Platinum-based chemotherapy and cranial radiotherapy can cause ototoxicity, which may be particularly problematic in patients who have impaired vision and cognition as a result of their tumour and associated treatment. This study assessed the prevalence of impaired hearing and vision and how this may impact upon education. METHODS: 33 patients diagnosed with solid tumours in Edinburgh, UK between August 2013-2018 were included in the study. Patients were split into three groups according to treatment received: Group 1 - cisplatin-based chemotherapy and cranial radiotherapy; Group 2 - platinum-based chemotherapy, no cranial radiotherapy; Group 3 - benign brain tumours treated with surgery only. Data was collected retrospectively and patient notes were reviewed. RESULTS: Overall 69.5% of those treated with platinum-based chemotherapy experienced ototoxicity as assessed by Brock grading and 5.9% of patients had reduced visual acuity. Patients in Group 1 had the highest prevalence of both. 44.4% of patients in Group 1 needed increased educational support following treatment, either with extra support in the classroom or being unable to continue in mainstream school. 12.5% of Group 2 patients required such support and 31.3% in Group 3. CONCLUSIONS: Children with CNS tumours frequently require support to re-enable education but those treated with both platinum-based chemotherapy and cranial radiotherapy are at particular risk, which may be compounded by co-existent ototoxicity and visual impairment. It is essential to provide appropriate support for this patient cohort in order to maximise their educational potential.

QOL-51. LISTENING BEFORE WE SPEAK: A PATIENT-CENTERED APPROACH TO DEVELOPING RESOURCES FOR PEDIATRIC BRAIN TUMOR SURVIVORS AND THEIR FAMILIES

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In the United States, more than 28,000 children and teenagers live with the diagnosis of a primary brain tumor (Porter, McCarthy, Freels, Kim, & Davis, 2010). In 2017, an estimated 4,820 new cases of childhood primary brain and other central nervous system tumors were expected to be diagnosed with childhood cancer in the United States (Lange, 2014). Survivors face unique challenges that differ from those of other cancer survivors. They may experience considerable life course delays, reduced health-related quality of life, and increased risk of cognitive dysfunction, learning disabilities, and psychiatric problems. The Pediatric Brain Tumor Foundation (PBTF) is an organization that provides support and resources to children with brain tumors and their families. The PBTF published the guidebook which categorizes survivors and caregiver needs into three primary areas: physical and mental health, quality of life, and working the system. Expert authors included survivors and caregivers themselves in addition to medical and mental health professionals. Key outcomes discovered during the creation and production of this resource highlights that survivors and professionals can collaborate to provide the needed information and practical help to one segment of the pediatric cancer population who experience profound morbidities as a result of their diagnosis and treatment.

QOL-53. GENOME ASSOCIATIONS WITH NEUROCOGNITIVE OUTCOMES, CEREBRAL MICROBLEEDS (CMBs), AND BRAIN VOLUME AND WHITE MATTER (WM) CHANGES IN PEDIATRIC BRAIN TUMOR SURVIVORS

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OBJECTIVE: To identify genetic predictors of neurocognition, CMBs, brain volume, and WM changes in pediatric brain tumor survivors. METHODS: Patients were selected from an existing cohort of children with one neurocognitive deficit and diastolic BP. CONCLUSION: Our work aims to use high-throughput sequencing technology to identify more quantitative data is now becoming available and more information may potentially be discovered in whole slide images (WSIs) and molecular tumor characteristics to determine survival and treatment. Imaging and genomic data, though very different in nature, both may contain different, complementary characteristics that are important for survival prediction. Hence our work aims to build a framework to integrate two data modules, whole-slide histopathology image data, and RNA sequencing data, for a unified model to improve pediatric brain tumor survival outcome prediction. The imaging data and genomic data are both of high dimensions and on different scales. We use two independent

QOL-54. HEIGHT, WEIGHT AND CARDIOVASCULAR EFFECTS OF STIMULANTS ON CHILDREN WITH BRAIN TUMOR

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INTRODUCTION: Children with brain tumors may develop inattention, slow processing, and hyposomnia. Stimulant medications improve these problems but their effect on growth, heart rate, and blood pressure are inadequately explored. METHODS: We retrospectively studied children with brain tumors treated at our institution that had data available for one-year pre and two-year post stimulant treatment. Tumor location, gender, radiation treatment (RT), age at RT, drug type, and hormone therapy were variables of interest. RESULTS: We identified 63 children (35 males) that fulfilled eligibility criteria. Focal RT was utilized in 38; 11 additionally received whole brain RT. Thirty were treated for hypersomnia and inattention. 44.4% of patients in Group 1 needed increased educational support following treatment, either with extra support in the classroom or being unable to continue in mainstream school. 12.5% of Group 2 patients required such support and 31.3% in Group 3. CONCLUSIONS: Children with CNS tumors frequently require support to re-enable education but those treated with both platinum-based chemotherapy and cranial radiotherapy are at particular risk, which may be compounded by co-existent ototoxicity and visual impairment. It is essential to provide appropriate support for this patient cohort in order to maximise their educational potential.

QOL-55. INTEGRATED MULTI-SCALE MODEL FOR PEDIATRIC BRAIN TUMOR SURVIVAL PREDICTION

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Brain tumors are the most common solid tumors affecting children, and its prognosis has been a great challenge for physicians and researchers. With the advances in high-throughput sequencing technology and image processing, more quantitative data is now becoming available and more information may potentially be discovered in whole slide images (WSIs) and molecular tumor characteristics to determine survival and treatment. Imaging and genomic data, though very different in nature, both may contain different, complementary characteristics that are important for survival prediction. Hence our work aims to build a framework to integrate two data modules, whole-slide histopathology image data, and RNA sequencing data, for a unified model to improve pediatric brain tumor survival outcome prediction. The imaging data and genomic data are both of high dimensions and on different scales. We use two independent