in 43%. Patients experienced considerable morbidities directly attributable to the meningiomas or their treatment. 14 patients had samples suitable for further analysis. NF2 mutations were identified in 30% (8; 4 DNA, 4 fusion). Other meningioma related genes and mutations identified in other cohorts were not identified. Copy number alterations were noted in all 16 patients in chromosomes 1p and 22q. 80k methylation analysis with PCA as well as UMAP and tSNE did not demonstrate clustering. Ongoing assessment of genomic aberrations and to provide logistic assistance and care. The first clinic began in January 2020 as a collaboration between the departments of neuro-oncology, endocrinology, neuropathology, psychology, physiotherapy, and occupational therapy. RESULTS: We have audited the last 60 patients seen in clinic in 2 years and the services they required both in and out of clinic are noted below: Endocrinology – 58 patients Educational help and formal neuropsychology (44 and 39 respectively) There are significant emotional problems in the group and 32 saw clinical psychology and 13 were referred to CAMHS. Physical function issues – 31 saw both physiotherapy and occupational therapy. 10 required referral to orthopaedics Neurology and neuropsychology (13 and 11 respectively) Visual impairment – 33 saw ophthalmology Hearing problems – 17 saw audiologist Other dysfunction – 4 saw cardiology and 3 urology. We have some feedback data on patient and parent satisfaction with the clinic which shows 92% (13 of 14) families preferred to be seen in the MDT setting rather than by separate clinicians. DISCUSSION: Few models of similar multidisciplinary neuro-oncology long-term follow-up clinics exist in the UK with a lack of streamlined funding, despite recognition from families and professionals about their utility.

OPTH-33. HEALTH-RELATED QUALITY OF LIFE AND SOCIAL DETERMINANTS OF HEART DISEASE WITHIN CHILDREN WITH BRAIN AND SPINAL CORD TUMORS

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Social determinants of health (SDOH) have a significant impact on health, well-being, and quality of life (QOL). Validated tools to assess these dis-
parities have been developed but not utilized prospectively in children with central nervous system tumors (CNS). OBJECTIVE: To establish a baseline assessment of health-related quality of life and associated social determinants of health in a pediatric population. METHODS: This was a retrospective single-center study. Included were all pediatric patients, treated with trametinib, for an oncologic indication. All patients were evaluated by a pediatric dermatologist, prior to, and during treatment, with documentation of cutaneous findings. A detailed questionnaire was utilized to determine the extent and etiology of cutaneous reactions. RESULTS: We assessed 107 patients and their parents. The ADI decile within Indiana ranged 1 to 10 (median 5, mean 3.5); national percentile ranged 7 to 100 (median 71, mean 67.3). Overall COI mean was 3, with sub-scores for education - 2.9, health/environment - 2.6, and socioeconomic - 3.1. The PedsQL™ was completed by 96 patients and 91 patients. Physical mean was 67.4 and 71.2, psychosocial mean 67.8. 68.9, and total mean 67.7, 69.8, respectively. Simple linear regressions demonstrated a correlation between increasing disparity and decreasing quality of life across all dimensions. CONCLUSION: This is one of the studies to associate a decrease in pediatric quality of life with disparities of social determinants of health. These data demonstrate the need for expanded prospective evaluation to track social determinants of health that may impact on the quality of life in children diagnosed with CNS tumors.

**OTH-36. MANAGEMENT OF CENTRAL DIABETES INSIPIDUS (CDI) WITH LOW-DOSE VASOPRESSIN INFUSION IN PATIENTS WITH NON-GERMINOMATOUS GERM CELL TUMORS (NGGCT) REQUIRING HYPERHYDRATION DURING CHEMOTHERAPY**

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Primary intracranial germ cell tumors (GCT) represent 3.5% of central nervous system tumors with non-germinomatous germ cell tumors (NGGCTs) comprising approximately one-third. Located in the pineal and suprasellar regions, the tumors can cause central diabetes insipidus (CDI). Induction chemotherapy for NGGCT includes ifosfamide. Due to the risk of hemorrhagic cysts associated with ifosfamide, 3000 mL/m2/day of intravenous (IV) saline is administered. Oral desmopressin (DDAVP), the mainstay of treatment for CDI, has a long duration of action, variable intensity and can lead to hyponatremia and water intoxication due to the retention of large quantities of free water. Therefore, DDAVP is held during hyperhydration resulting in significant diuresis leading to patient discomfort and increased risk for wide electrolyte fluctuations. The volume of dextrose-containing IV fluids also places patients at risk for hyperglycemia and other metabolic disturbances. Patients with NGGCTs and CDI at our institution are admitted to the ICU for ifosfamide cycles due to the need for close monitoring and patient management. ICU admission is delayed potentially places patients in a setting where staff are unfamiliar with chemotherapy administration, increasing the risk of safety-related events. From a cost, resource, and patient care perspective, these admissions are suboptimal. This prompted a search for evidence to maintain patients safely out of the ICU. A literature search provided case studies citing the use of low-dose IV vasopressin. In collaboration with our endocrine and pharmacy colleagues we created a protocol to treat patients with CDI receiving chemotherapy with hyperhydration with a low-dose, easily titratable intravenous vasopressin infusion, to keep urine mildly diluted to allow enough diuresis to decrease injury while preventing excessive fluid losses and wide variations in electrolytes.

**OTH-37. PEDIATRICS CUTANEOUS REACTIONS IN PATIENT TREATED WITH THE MITOGEN-ACTIVATED PROTEIN KINASE EXTRACELULAR SIGNAL-REGULATED KINASE INHIBITOR TRAMETINIB**

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OBJECTIVE: To describe the cutaneous adverse effects (AE) to MAPK Extracellular Signal-Regulated Kinase (MEK) Inhibitor Trametinib in the pediatric population. METHODS: This was a retrospective single-center study. Included were all pediatric patients, treated with trametinib, for an oncologic indication. All patients were evaluated by a pediatric dermatologist, prior to, and during treatment, with documentation of cutaneous findings. A detailed questionnaire was utilized to determine the extent and etiology of cutaneous reactions. RESULTS: Twenty patients were enrolled in the study. Twenty patients received treatment with trametinib, of which 6 received a combination of trametinib and dabrafenib (BRAF inhibitor). Out of twenty patients, 18 patients (90%) presented with at least one cutaneous AE. Xerosis and pruritic eczematous changes were the most common (15 patients, 75%), which, in most cases, were tolerable and responded well to the use of emollients and topical corticosteroids. Eleven patients (55%) presented with paronychia which was treated with topical combined corticosteroids antifungals and antibiotics, with all good response. Six patients (30%) presented with recurrent hair growth eruption, treated with topical antibiotics and tretinoin, mostly with good response. Six patients (30%) presented with irreversible hair telomerism. Reaction grades were reported for cutaneous reactions, most of them were Grade I or II. Only 2 patients reported to have grade III or IV cutaneous reactions. Xeroderma pigmentosa and a lupus-like syndrome were complicated respectively. Out of 6 patients that received combined treatment of trametinib and dabrafenib one patient had no cutaneous adverse reaction, and one had panniculitis (which was related to dabrafenib). The rest presented relatively mild AE. DOSE REDUCTION: Cutaneous AEs are very common in children until adolescents treated with trametinib, and in most cases are classified as mild. Nevertheless, as this treatment is usually chronic, it is important to inform the patients and their guardians of the potential cutaneous toxicities prior to treatment initiation, and to refer them to a dermatologist for proper management.

**OTH-38. THE DEVELOPMENT OF PATIENT-DERIVED MODELS OF PEDIATRIC BRAIN TUMORS**

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Brain tumors are still a major cause of morbidity and mortality in children, despite extensive research. An individualized therapy is warranted to combat the heterogeneity present in these tumors. Therefore, this study aims at developing patient-derived models from both low- and high-grade tumors. As such, the heterogeneity of these tumors can be further characterized and treatment sensitivities can be studied. All pediatric patients diagnosed with a brain tumor at the University Hospitals Leuven and receiving surgical intervention were included after informed consent. If sufficient tumoral material was available, a fresh tumor sample was collected during surgery and processed into dissociated cells, which were grown in culture in order to develop a patient-derived cell line (PDC). Bio-marker expression using a qPCR array was performed if growth beyond passage 3 was achieved. Established PDCs were subsequently subjected to genome and transcriptome analysis to determine their properties and was performed to determine therapeutic sensitivities. Patient-derived xenografts (PDX) are developed in selected cases. 70 patients were included prospectively up until January 2022 and tumoral material was available for 50 of them. In total, 10 PDCs could be generated (3 high-grade, 7 low-grade tumors), while 9 early cultures (3 high-grade, 6 low-grade) are still being expanded. qPCR and sequencing analysis confirm preservation of driving mutations. The high level of growth failures of the PDCs can be explained by the high proportion of lower grade tumors included. One PDX model was generated. In conclusion, novel patient-derived models from pediatric brain tumors have been generated, which recapitulate the characteristics of the original tumor. The models are a valuable tool to study these tumors and the responses to different treatments. Further on, we will continue with the development of these models and the study of their therapeutic sensitivities. This will help further improving the understanding of these tumors.

**OTH-39. EXTRANEURAL SPREADING OF A DIFFUSE LEPTOMENINGEAL GLIONEURONAL TUMOR IN A CHILD: PATIENT-DERIVED MODELS SHOW SENSITIVITY TO VINBLASTIN AND TRAMETINIB**

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