and direct early intervention with behavioral training and/or anxiolytics to minimize the need for sedation.

NURS-11. MARIJUANA, HEMP, AND THE CHILD WITH CANCER: PATIENT, PARENT, AND CLINICIAN EDUCATION
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Many pediatric oncology patients report medical marijuana (MMJ) and hemp-based CBD use. Eleven states and Washington, DC have legalized marijuana for recreational use for adults greater than 21. Medical marijuana is legalized in 33 states. Additionally, due to the bipartisan Farm Bill passed in December of 2018, hemp is federally legal. Marijuana has medical legalization in 23 countries worldwide. Clinical trials in adults have examined MMJ for cancer-related symptoms. New research is emerging on MMJ in anticancer therapy. MMJ receptors on tumor cells, and the potential role for MMJ as an immunomodulator. Few pediatric oncology studies have evaluated MMJ. We describe the initial findings of a prospective observational study of MMJ on the quality of life (QOL) in pediatric brain tumor patients. Specifically, a group of key players in oncology, endocrinology, nutrition, neurosurgery, and bariatric surgery were identified. This through collaboration, a clinical algorithm for early identification of and intervention for hypothalamic obesity was developed. The goal of the quality improvement project is to administer to children with cancer. Nurses are the frontline for discussions with patients about MMJ and must be aware of the emerging field of MMJ in pediatric cancer. Additionally, nurses can influence patient care protocols and processes for alternative therapy administration enabling an open dialogue between providers, patients, and families. A multidisciplinary weight management program [Lifestyle Medicine; (LM)] dietitian (RD) with earlier and more consistent referrals to a specialized, multidisciplinary weight management program [Lifestyle Medicine; (LM)] counseling and pharmacologic interventions. Indicators for referral to LM were BMI >85th percentile, crossing ≥ 2 BMI percentiles on growth curve and/or hyperphagia symptoms. A retrospective review of pediatric patients who have suprasellar/ hypothalamic tumors was also conducted. Data collected included demographics, tumor type, BMI, RD visit, and LM clinic referral/visit. RESULTS: Fifty patients were identified for analysis six months following clinical algorithm institution. Thirty-three (66%) patients had craniopharyngioma, 15 (30%) had low-grade gliomas, and two (4%) had germ cell tumors. Thirty-three (66%) patients were noted to be obese (defined as BMI >85th percentile) at review. The median BMI of the entire cohort was 99th (range: 13th-17th) percentile. Thirty-four (68%) patients had been seen by an RD. Twenty-seven (82%) of the obese patients had been referred to LM. CONCLUSIONS: The development and implementation of the process for hypothalamic obesity prevention and intervention will be discussed.

OTHER (NOT FITTING ANY OTHER CATEGORY)

OTHER-02. MULTIMODALITY TREATMENT FOR CHILDREN WITH CENTRAL NERVOUS SYSTEM (CNS) TUMOR IN OUR INSTITUTE
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BACKGROUND: The brain tumor has a highest mortality rate among childhood malignant tumors. Development of peripheral blood stem cell transplant combined chemotherapy and radiation therapy improved the survival rate of patients with pediatric brain tumor drastically late years. Because of its complicated treatment plan, neurosurgeons cannot readily manage severe aggressive therapies which require minimal control including prevention of lethal infection due to bone marrow suppression. Even if such treatment is effective and patient survives, the aftereffects may reduce patient’s QOL. PURPOSE: We report outcomes of the patients with CNS tumors after multimodality treatment. In addition, we discuss activity contents by the in-hospital children brain tumor multi-disciplinary medical treatment team organized in March 2016. METHODS: We retrospectively reviewed 29 patients (under 15 years old) diagnosed as CNS tumors with total of 43 tumors surgeries between January 2001 and December 2019. RESULTS: The histopathological diagnoses were 7 germ cell tumor, 7 astrocytic tumor, 4 ependymal tumor, 4 medulloblastoma, 2 craniopharyngioma, 2 AT/RT and 3 others. The mean age at first surgery was 7.9 y.o. (range: 0.3–14.8). Both chemotherapy and radiation therapy were performed in 22 cases out of 29. There were 15 survivors (11 ambulant, 3 W/C, 1 bedridden), 12 deaths, 2 lost follow-ups. Mean follow-up period was 66 months (range: 1–206). CONCLUSION: To improve outcomes, we hold on a regular basis of team meeting, discuss treatment plans, and share information. Recently, we also care issues of the patients, such as fertility and palliative medicine.

OTHER-08. MARIJUANA, HEMP, AND THE CHILD WITH CANCER: A RARE UNREPORTED SIDE EFFECT OF TEMOZOLOMIDE IN PEDIATRICS
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Temozolomide is a chemotherapeutic agent commonly used in the treatment of central nervous system tumors. While there are case reports of temozolomide associated central diabetes insipidus (CDI) in adults, this has not been reported in children. We describe the first case of temozolomide associated CDI in a pediatric patient. The patient was a previously healthy 12yr old male diagnosed with anaplastic astroblastoma. He underwent gross total resection of the lesion and was subsequently treated with focal radiation and concurrent temozolomide. On day 11 of therapy he developed thrombocytopenia, severe polypnea and polydipsia. Temozolomide was held and he underwent a preliminary evaluation for CDI. Initial laboratory findings were concerning for CDI, and he was admitted for further work-up and to assess the need for desmopressin. Additional laboratory tests demonstrated normal anterior pituitary function and his serum sodium normalized
when allowed to drink to thirst, mitigating the need for desmopressin. Temozolomide was not restarted and the symptoms of polyuria and polydipsia resolved and did not recur. Upon review, the tumor did not involve the pituitary or hypothalamus. Additionally, these areas were not involved in the irradiation field. CDI is a rare but clinically significant side effect of temozolomide, reported in adults. This is the first report of CDI secondary to temozolomide in a pediatric patient, we speculate that this is likely under-recognized in children. Prompt recognition and treatment is necessary to prevent severe sequelae of hypernatremia.

OTHR-12. ANEURYSMAL BONE CYST RESEMBLING A POSTERIOR FOSSA TUMOR
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We presented the case of a 6-year-old boy who was seen in the emergency room because of signs of intracranial hypertension and left cerebellar syndrome. The CT scan revealed a heterogenous lesion within the left hemisphere displacing the fourth ventricle and eroding the occipital bone. The MRI showed the same heterogeneous lesion majorly cystic, involving the bone and displacing the left cerebellar hemisphere. A minor hydrocephalus was evident in both studies. A suboccipital craniectomy was done and a cystic epidermal tumor remolding and eroding the bone was noted. The histopathological diagnosis corresponded to an aneurysmal bone cyst. Aneurysmal bone cyst is a rare benign tumor accounting for 3–6% of tumors of the cranial base. We discuss the unusual location of the lesion.

OTHR-14. DIENCEPHALIC SYNDROME SECONDARY TO PITUITARY STALK THICKENING
Carlos Almeida Jr, Bruna Minnini Mançoano, Gilda D Agostino Eguqui, Marcus Matsushita, Gabrielle Alvarenga, and Lucas Dias Lourencio, Barretos’ Children and Young Adults Cancer Hospital, Barretos, Sao Paulo, Brazil

BACKGROUND: Diencephalic syndrome (DS) is a rare condition associated with neoplastic lesions of the sellar-suprasellar region, whose pathophysiological mechanisms are still unclear. DS occurs in <10% of hypothalamic gliomas and has also been described in suprasellar germomas, craniopharyngiomas, epidermoid cysts, rarely with non-suprasellar lesions such as brainstem gliomas. DS has not been associated with isolated pituitary stalk thickening. Isolated pituitary stalk thickening (IPST) presents a diagnostic challenge, ranging from benign (craniopharyngioma) to malignant lesions (germoma, metastasis, histiocytosis of the Langerhans group). The coexistence of diabetes insipidus (DI) with anterior pituitary dysfunction and IPS had implications to harbor neoplasia. CASE REPORT: A 6-year-old girl presented with DI and inadequate weight gain (despite regular caloric intake) and preservation of linear growth. Neurological examination showed no abnormalities. However, physical examination revealed a malnourished patient with weight-for-age and weight-for-height below the third percentile. Blood tests and negative IgA anti-endothelial antibodies excluded malabsorption as a cause of her malnutrition; endocrine work-up excluded thyroid dysfunction, growth hormone deficiency, and adrenal insufficiency. Magnetic resonance imaging (MRI) showed thickening of the pituitary stalk with a transverse diameter of 7 mm. The patient underwent a biopsy through a supraorbital eyebrow approach. Histopathological examination revealed lymphocytic hypophysitis, with tissue markers all negative for germinoma. The girl is currently under follow up with serial MRI every three months. CONCLUSION: DS should be considered as a differential diagnosis in any child with failure to thrive, and imaging studies should be performed even if there are no additional neurological symptoms.

OTHR-16. CONCURRENT USE OF APRENTAP AND IFOSFAMIDE IN PEDIATRIC CANCER PATIENTS
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BACKGROUND: Aprentap, a selective neurokinin-1 receptor antagonist, is commonly used for prevention of chemotherapy-induced nausea and vomiting. Its use with ifosfamide is controversial due to the putative risk of potentinating neurotoxicity via inhibition of cytochrome P450 3A4 (CYP3A4). The current literature examining this interaction is inconclusive, and little data exists in pediatrics. We seek to describe a single-institution experience with concurrent aprentap and ifosfamide administration. METHODS: A retrospective review of patients treated with ifosfamide and aprentap from 2009–2018 was conducted. Data collected included demographics, tumor type, number of days of concurrent therapy, dosing, and documented of neurotoxicity. RESULTS: Twenty patients aged 7–21 years (median 17 years) were identified. Diagnoses included thirteen sarcomas and seven CNS tumors (6 germ cell tumors; 1 intracranial sarcoma). Five patients received high doses of ifosfamide (≥2,000 mg/m2). The number of concurrent ifosfamide and aprentap doses ranged from 2–18 (median, 8.5). Only one patient (5%) developed ifosfamide-induced neurotoxicity: a 7-year-old female with a nonergomeromaticous germ cell tumor who presented with lethargy, ataxia and somnolence. She received both the blue and returned to her neurologic baseline. She completed her ifosfamide course without incident. She was the only patient to require weight-based aprentap dosing and to receive the liquid formulation. CONCLUSIONS: Aprentap should be used with caution when administered concurrently with ifosfamide due to the risk of neurotoxicity. However, the incidence of neurotoxicity in this retrospective pediatric cohort was low. This interaction may be more significant in younger patients due to age-related differences in hepatic metabolism, but further study is required.

PATHOLOGY AND MOLECULAR DIAGNOSIS

PATH-01. MOLECULAR PROFILING OF PEDIATUREAL CENTRAL NERVOUS SYSTEM TUMOURS IN AUSTRALASIA – AN UPDATE ON THE AIM BRAIN AND MNP PROJECTS
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The Access to Innovative Molecular Profiling for Paediatric Brain Cancers (AIM BRAIN) project is a trial testing the feasibility of clinical implementation of diagnostic methylation and molecular profiling for central nervous system (CNS) tumours in Australia and New Zealand. AIM BRAIN builds on an ongoing study, MNP2.0, and follows cross-validation of results derived from identical samples in separate laboratories in Melbourne, Australia, and DFKZ, Heidelberg, Germany. Parallel methylation profiling (Illumina 850K EPICL array) from co-enrolled cases has revealed excellent concordance between laboratories with 50/51 cases (98%) yielding identical classification using the DKFZ Molecular Neuropathology 2.0 Classifier v11b4. 77/91 (85%) of AIM BRAIN cases classified concordantly by methylation array when compared to their diagnostic histopathology. Of these 77 cases, 16 had classifications below a threshold of 0.90, however still classified correctly. In 14 discordant cases either the histopathology was not well defined, not represented on the classifier, or a very low classification score was obtained. Molecular profiling through MNP2.0 identified 49/167 (29.3%) tumours with gene fusions including BRAF-KIAA11549 (n=5) and RELA-KIAA11549 (n=5) and 15 rare or novel fusions. BRAF-KIAA11549 was almost exclusively associated with pilocytic astrocytoma (28/29) and RELA-KIAA11549 with ependymoma. Six pathogenic germline mutations were identified in TP53 (n=2), BRCAl, NF1, LZTR1 and ATM. The incidence of germline predisposition was low (4%) and sex biased towards females (3F:1M). (p<0.05)

Our findings confirm methylation profiling as a robust platform for classifying CNS tumours with potential to reveal new CNS tumour entities when combined with molecular profiling.

PATH-03. HIGH-GRADE NEUROEPITHELIAL TUMOR SHOWING BCOR IMMUNOPOSITIVITY WITHOUT EXON 15 INTERNAL TANDEM DUPLICATIONS IN A FIVE-YEAR-OLD BOY: A CASE REPORT
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Recent DNA methylation profiling clarified several rare entities of pediatric CNS tumors from institutionally-diagnosed primitive neuroectodermal tumor (PNET). One of which is CNS high-grade astrocytoma tumor with BCOR alteration (CNS HGNET-BCOR), and it carries in-frame internal tandem duplications (ITD) of the BCL6 corepressor (BCOR) in exon 13. In the report, we describe a case of immunohistologically-diagnosed CNS HGNET-BCOR, which lacks exon 15 ITD of BCOR. A five-year-old boy visited a local hospital complaining uncontrolled vomiting for two months,