treatment delays and poor outcomes. Starting in July 2019, as a means to decrease infections, patients were provided standardized bathing and wound care kits and caregivers were trained to follow a bathing and wound care protocol. METHODS: This quality improvement study included patients younger than 18 years who underwent craniotomy at PGH were enrolled. The type of surgery, length of surgery, existence of post-operative CNS infection, length of stay and total cost of care was collected. The outcome of these interventions are analyzed 6 months after implementation. RESULTS: Thirty-two 32 patients were included, with mean age of 7 years (1–16). The surgeries performed were: tumor resection (n=20), ventriculoperitoneal shunt insertion (VPS) (n=3), endoscopic third ventriculostomy (n=3), resection with tube ventriculostomy (n=3), Ommaya reservoir placement (n=2), and resection with shunt (n=1). Median surgery time was 4 hours (1–10). Three patients (9.4%) developed ventriculitis. No surgical site infections occurred. Compared to historical controls, a lower rate of infections was noted (9.4% vs. 15.5%, runchart analysis). Patients without post-operative infections had a shorter length of stay (median 14 vs 48 days, $p<0.05$) and a lower cost of care (median $1098 vs. $2425 USD, $p<0.05$). CONCLUSION: Implementation of simple hygiene interventions effectively lowered post-operative CNS infections and hospital costs in a public hospital setting. Incorporation of these into standard clinical practices is urgently needed.

**LINC-24. CHARACTERISTICS OF PEDIATRIC BRAIN TUMORS AT DEPARTMENT OF CHILD HEALTH FACULTY OF MEDICINE UNIVERSITAS INDONESIA-DR. CIPTO MANGUNKUSUMO TERTIARY GENERAL HOSPITAL, JAKARTA, INDONESIA**

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Brain tumors are still the second leading cause of death among cancers in children. Based on data from National Brain Tumor Society (2019), in United States, there are 28.000 children living with brain tumor with varied clinical, radiological, and histopathological features. The most prevalent children's brain tumor types in US are gliomas (ependymal tumors, pilocytic astrocytomas) and embroyonal tumors, including medulloblastoma. From 1993–1994 at Department of Child Health Faculty of Medicine Universitas Indonesia-Dr. Cipto Mangunkusumo Tertiary General Hospital, Jakarta, Indonesia, there are 19 patients with brain tumors hospitalized with most of patients with astrocytoma 8 patients (42%), 4 patients (21%) medulloblastoma, 2 patients (11%) neuroblastoma, 2 patients (11%) ependymoma, 2 patients (11%) craniopharyngioma, and one patient (4%) meningioma. Retrospective cohort study (2010–2015) with subjects 100 children revealed that based on the radiographs, the brain tumors were located mostly in the cerebellum (24%) and the suprasellar region (10%); based on the histopathology, the most common types of brain tumor were astrocytomas (18%), medulloblastoma (21%), and gliomas (17%). The most common symptom of brain tumors was headache and impaired vision. Survival patients with brain tumors for 5 years in the age group aged 3 years and above was better than that in children aged under 3 years (60% vs 55% and 17% vs 14%). This report can serve as one of basic data for profile children's brain tumors in Indonesia. Keywords: brain; tumor; children; survival; Indonesia

**LINC-25. BRAF ABERRATIONS IN PEDIATRIC PILOCYTIC ASTROCYTOMAS (PCAS): PREVALENCE AND IMPACT ON CLINICAL OUTCOME**

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BACKGROUND: Increasing knowledge on pilocytic astrocytoma (PCA) biology now points towards an aberration in BRAF/MAPK/ERK pathway which has both diagnostic and therapeutic implications. This study was done to note the impact of BRAF aberrations on clinical outcome in childhood PCA. METHODS: FFPE tissues of all childhood PCA diagnosed during 2011–2017 were evaluated for BRAFV600E mutation by Sanger sequencing and KIAA1549 fusion transcripts (16–9;15–9;16-11) by reverse transcriptase polymerase chain reaction. Children undergoing gross tumor resection received no adjuvant treatment. Unresectable tumors (only biopsy) and NF-1 associated PCAs, were treated if clinically indicated. Only patients with documented therapy details/followup were included for analysis. STUDY RESULTS: Ninety-eight patients (median age-7.7yrs; boy:girl ratio-1.4) were included. Major sites were: Cerebellum-37(38%), 3rd Ventricle-26(27%), Cerebrum-15(15%). While BRAFV600E mutation was noted in 7/89(8%) specimens, BRAF-fusions were found in 34/85(40%). Following surgery/biopsy, 23(24%) and 21(22%) received adjuvant chemotherapy and radiotherapy respectively. The 1-year/3-year/5-year-EFS of the overall cohort was 90.7%/81.3%/67.4% respectively. Cerebellar tumors did better vis-à-vis other sites(5yr-EFS:74.3% v/s 66.4%;p=0.403). The 5yr-EFS of BRAF-fusion positive tumors (34), tumors without any BRAF aberration (40) and BRAFV600E mutant tumors (7) was 84.8%/ 69.6%/ 42.9% (p=0.215). CONCLUSIONS: BRAF-fusion and BRAFV600E mutation were associated with good and poor outcomes respectively. Lack of statistical significance could be attributed to use of radiation as planned therapy in patients from earlier years. Data on BRAF aberrations in PCAs aids decision making regarding adjuvant therapy and choosing appropriate salvage-therapy especially in relapsed/refractory PCAs.

**LINC-26. ORAL VINORELBINE IN PROGRESSIVE UNRESECTABLE LOW-GRADE GLIOMA**

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BACKGROUND: The management of progressive unresectable low-grade glioma (PULGG) remains controversial. Some series suggests that chemotherapy may delay or even avoid radiotherapy and/or surgery in a group of patients. Within this context, we performed at IOP/GRAACC/UNIFESP an institutional protocol with IV vinorelbine, a semi-synthetic vinca alkaloid that showed activity against PULGG. The objective of this study was to evaluate the response as long as the tolerability of oral vinorelbine in PULGG. PATIENTS AND METHODS: From April 2013 to Aug 2017, 17 patients with recurrent (n=5) and newly-diagnosed (n=12) optic-pathway glioma (OPG) were treated with oral vinorelbine in a dose of 90 mg/m² days 0, 8 and 22 for 18 cycles. Response criteria used a combination of magnetic resonance imaging, physical and visual evaluation. RESULTS: Mean age 8.6 years (4.8–17.9y). Three children with neurofibromatosis type 1. Eleven patients had neurosurgical intervention revealing grade I (n=8) and grade II astrocytoma (n=3). Twelve patients were assessable after 8 cycles of vinorelbine with 2 objective response (OR), 8 stable disease (SD) and 2 progressive disease (PD), one died after surgery and 1 alive in different protocol. After 18 cycles, eight patients were assessable to date for response with 1 OR, 7 SD. The most important toxicity was gastrointestinal observed in 12 patients- six of them switched to IV vinorelbine (3OR, 3SD). None of the patients showed neurotoxicity. CONCLUSION: These results suggest that oral vinorelbine, as the IV formulation, may show some activity in OPG. However, gastrointestinal toxicity should be considered.

**LINC-27. PAEDIATRIC SUPRASELLAR TUMOURS: CLINICAL EXPERIENCE FROM A SINGLE TERTIARY CENTRE IN KUALA LUMPUR, MALAYSIA**

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INTRODUCTION: The outcome of suprasellar tumours in children varies with the diagnosis and morbidity is significant. We herein report the clinical features of children with suprasellar tumours treated at our centre. METHODS: Clinical data were collected by retrospective review from January 2000 to December 2019. The patients were identified from the paediatric haematology and oncology unit registry. RESULTS: There was a total of 103 children with brain tumour and suprasellar tumours comprise of 14.6% (n=15). Median age at presentation was 7 years old. Male to female ratio was 3:2. Majority of cases was low grade glioma, 40% (n=6) and germ cell tumour(GCT) 33.3% (n=5) followed by craniopharyngioma, 13.3% (n=2) and Rathke cleft cyst, 6.7% (n=1). All patients had tissue diagnosis except one with secreting GCT and one with unsatisfactory tissue sample. Mean duration of follow up was 7.4 years. One patient with germinoma was lost to follow-up after radiotherapy. Three out of 13 (23%) patients died; 2 with GCT from disease progression; 1 craniopharyngioma after 11 years of unknown cause. All survivors have significant morbidity; 70% have moderate to severe visual impairment, 90% have at least two pituitary hormones deficiency, 20% have neurological deficit and 1 was surgically related. Two boys have precocious puberty not related to disease progression. Two with GCT with diabetes insipidus had history of thromboembolism (stroke and pulmonary embolism). CONCLUSIONS: Suprasellar tumours in children at our centre pose a significant long-term complications and multidisciplinary team management and follow up is required to improve the morbidity.