PEDIATRIC NEURO-ONCOLOGY IN ASIA AND OTHER LOW/MIDDLE INCOME COUNTRIES

LINC-01. COMPLIANCE TO FOLLOW UP IN PEDIATRIC PATIENTS WHO HAVE RECEIVED CRANIOSPINAL IRRADIATION

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OBJECTIVE: Attendance to follow-up after completion of cancer treatment in an under-resourced area. Pediatric cancer patients have sequence of illness or treatment. Many have no symptom immediately after completion of treatment. Long term follow-up is important to access disease control, early diagnosis of recurrence, second cancer and treatment-related morbidities. Purpose of this study was to evaluate the compliance to follow-up in pediatric patients treated with craniospinal irradiation (CSI). METHODS: This was retrospective review of follow-up in pediatric neuro-oncology patients who received (CSI) from January 2017 to June 2018 in the Radiotherapy Department of Yangon General Hospital, Myanmar. RESULT: Twenty-three patients received CSI; majority (43%) were medulloblastoma. Median age was 7.5 years (3-17 years). Only seven patients (30.4%) were attended to follow-up more than 6 months after completion of treatment. More than two-thirds of patients (n=16,69.6%) were lost to follow-up. Patients in active treatment or diseased staged at diagnosis (n=5,21.7%). Demographically, 5 patients (22%) were living in the region around tertiary hospital. Sixteen patients (69.6%) from rural area had limited transportation and difficulty for accommodation in which they were treated. In neuro-oncology cases, 18 children (78.2%) had grade status and financial status, lack of understanding about disease, treatment, long-term effects and follow-up. CONCLUSION: Although this was limited data in CSI patients only, loss to follow-up after 6 months was high. We need to evaluate in all pediatric cancer patients and collaborate to provide financial support, childcare centres for lodging, transportation and health education to promote compliance to follow-up.

LINC-02. IMPLEMENTATION OF AN INTEGRATED NEURO-ONCOLOGY SERVICE: CLINICIANS’ PERSPECTIVE ON CONDUCT OF NEURO-ONCOLOGY MULTIDISCIPLINARY TEAM MEETING FROM A SINGLE-INSTITUTION IN MALAYSIA

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INTRODUCTION: Multidisciplinary Team (MDT) meetings are essential in the management of complex cancer cases. There are limited data regarding clinicians’ perception on conduct of neuro-oncology MDT meeting in its clinical management in University Malaya Medical Centre (UMMC), weekly neuro-oncology MDT meeting was established since 2013 to discuss adult and paediatric complex central nervous system tumour cases. OBJECTIVE: To determine clinicians’ perception and level of satisfaction on neuro-oncology MDT meeting. METHODS: A web-based questionnaire was distributed via e-mail to all neuro-oncology MDT clinicians at UMMC in April 2019. RESULT: Eighteen out of 20 clinicians responded to the survey. Respondents were: neurooncologists (n=5), adult oncologists (n=4), paediatric oncology patients (n=3), radiologists (n=2), radiation oncologists (n=2) and pathologists (n=2). Majority of clinicians (65%) agreed at weekly MDT meeting with maximum length of one hour duration and 75% of them suggested to discuss 5 to 10 cases during each meeting. Almost all of them (94%) preferred e-mail as method of communication to disseminate information before and after the meetings. MDT members expected 100% attendance from neurosurgeons. Fourteen (70%) clinicians agreed that patients/parents/carers do not receive copy of MDT meeting plans and only seven (35%) clinicians document MDT meeting plans in patients’ medical record. Overall, all clinicians felt that MDT meeting improved decision-making process, enhanced continuity of coordinated care and promoted good communication among team members. CONCLUSION: The structure and logistics of neuro-oncology MDT meeting in UMMC are generally agreed upon. However, documentation of post-meeting plan and notification to patients need uniformity.

LINC-03. MOLECULAR CLASSIFICATION OF PAEDIATRIC MEDULLOBLASTOMA FROM FOUR TERTIARY CENTRES IN MALAYSIA: DIAGNOSTIC DILEMMA WITH CONVENTIONAL METHODS

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OBJECTIVE: To determine the prognostic significance of the four molecular subgroups of medulloblastoma (MB) among children in Malaysia. METHODS: We assembled MB samples of children < 18 years old between January 2013 and February 2017 in University Malaya Medical Centre, Penang General Hospital, Sarawak General Hospital and Subah Woman and Children’s Hospital, MB was subgrouped using 80k DNA methylation profiling. RESULTS: Fifty-one tumour samples were retrieved. Histopathological subtypes were classic (n=12), MB extensive nodularity/desmoplastic (n=9) and 30 MB results without subtypes. Thirteen patients were M1-M4. Fourteen patients were stratified as standard-risk (SR,27.4%), 22 as high-risk (HR,43.2%) and 15 as high-risk children ≤ 5 years of age (HR5 ≤ 5,29.4%). Molecular subgroups revealed 16 Group4, 11 Shh, 10 Group3 and 4 Wnt. In 8 patients, DNA methylation profiling identified a diagnosis other than MB and in 2 samples the DNA was inadequate. For patients > 5 years old, the 5-year event-free survival (EFS) was 33.7±6.1% in HR and 39.7±20% in SR. The 5-year overall survival (OS) in these two groups was 43.4±14% and 41.7±30% respectively. iHR had 5-year EFS and OS of 48.0±16% and 60.0±16% respectively. WNT tumours had the best 5y-OS of 66.7±22% of the cohort, albeit significantly lower than other groups (p=0.17%). Groups 1, 4, and 5 (p=0.17). Treatment abandonment rate was 20%. CONCLUSION: The discrepancy in the histological diagnoses highlights the importance of DNA methylation profiling technique for accurate diagnosis. We observed poor OS across all the subgroups, in part due to treatment abandonment.

LINC-04. POSSIBLE ROLE OF NEOADJUVANT CHEMOTHERAPY IN METASTATIC PURE GERMINOMA IN LOW AND MIDDLE INCOME COUNTRIES. A PRO POS OF A CASE

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BACKGROUND: CNS germ cell tumors represent about 3–5 % of pediatric brain tumors, 60% are pure germinomas. Germinomas are very sensitive to chemotherapy which has helped to reduce volume and dose of radiotherapy in localized disease while maintaining excellent survival. In metastatic disease the SIOP GCT-96 trial showed no benefit with addition of chemotherapy to craniospinal irradiation alone. Radiotherapy maybe not readily available in Low/Middle Income Countries (LMIC). METHOD: We describe a patient in which the use of neoadjuvant chemotherapy helped to rescue vision. The patient is a 9 year old female with a 3 months history of morning headaches and vomiting. Visual decline was noted a month before admission when the child (44.4±17%) slightly lost vision of the right eye and left eye was partially affected. MRI showed a large suprasellar mass with ventricular nodules. Beta-hGC in CSF was mildly elevated. Patient received 2 cycles of carboplatin/etoposide. After first cycle there was a complete vision recovery in both eyes. After the second course the MRI showed complete response in primary and metastatic disease. Patient received CSI (24Gy + 16 Gy Boost) after 2 cycles of chemotherapy. Chemotherapy was very well tolerated without side effects. Patient vision is 20/20 in both eyes without deficit in visual fields. CONCLUSION: Although the addition of chemotherapy in metastatic germinoma has no clear role in reducing radiotherapy it could possible help selected patients in attempt to rescue vision when radiotherapy is not readily available.

LINC-05. PRIMARY CENTRAL NERVOUS SYSTEM Ewing Sarcoma in Pediatric and AYA Patients: 2 Institutions Experience in Buenos Aires Argentina

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INTRODUCTION: Ewing Sarcoma (ES) is defined by molecular markers, being EWS-FLI1 (E2A-PBX1) the most frequent. Intracranial ES usually shows as metastases from extracranial sites. Primary central nervous system (CNS) lesions are extremely rare. MATERIAL AND METHODS: Retrospective review of clinical records from patients with primary CNS ES, assessed at 2
doxorubicin, and vincristine). Patients were followed up by a paediatric endocrinology team specialized in management of PEBT. RESULTS: Of 22 cases, eight boys and 14 girls (age 3-18 at diagnosis) were followed up at median age of 22 months (2-65). OS at 5 years of follow-up was 46.67% (mean OS 31 months). CONCLUSIONS: Even though molecular assessment led to accurate diagnosis in all cases, treatment response and outcome showed two different groups of patients with long and very short survival. Adaptive therapy should be considered.

LINC-09. TREATMENT AND OUTCOME IN CHILDREN WITH LOW-GRADE GLIOMAS IN WESTERN MEXICO: EXPERIENCE AT HOSPITAL CIVIL DE GUADALAJARA

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BACKGROUND: Brain tumors are the most common solid tumors in childhood, 35% of them being low-grade gliomas (LGGs). Few data is available regarding LGGs in low- and middle-income countries. This study evaluates LGGs in a tertiary center in Mexico. DESIGN: A retrospective review of clinical files of 155 children diagnosed with LGG other than optic nerve glioma from 2007 to 2019 was done. RESULTS: Median age at diagnosis was 7.2 years (from 5 months to 18 years). Male to female ratio was 0.75:1. WHO Grade I represented 68% of the cases. Anatomic sites were: posterior fossa (41%), supratentorial (43.5%), spinal (8.5%), subependymal (6%) and pineal (1%). Ten percent of patients had a diagnosed phacomatosis. Treatment was observation without surgery in 3.8%, surgery followed by observation in 49.5%, only chemotherapy in 2.8%, only radiotherapy in 44%, and surgery followed by chemotherapy in 19.4%. The most common treatment strategy was chemotherapy (57%) followed by radiotherapy (31%), and surgery (12%). Median survival was 8 years. Conclusions: LGGs are common tumors in childhood, with high survival rates. Treatment strategies and surgical approaches are different from those in high-income countries. Further studies are needed to improve outcomes. NCCN guidelines do not include treatment recommendations for LGGs.

LINC-10. SIROP PDCD ADAPTED TREATMENT GUIDELINES FOR CRANIOPHARYNGIOMA IN LOW- AND MIDDLE-INCOME SETTINGS

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BACKGROUND: Craniopharyngioma (CP) is a slow-growing tumor that affects mainly children and young adults. It is rare in low- and middle-income settings (LMIC). There are no consensus guidelines for the management of CP in LMIC. A recent systematic review and meta-analysis showed that the use of surgery alone or with radiotherapy (RT) or chemotherapy (CT) was associated with a higher control rate compared to the use of CT alone. The aim of this guideline was to adapt the SIROP PDCD treatment recommendations for CP to the local context and available resources in LMIC. METHODS: A literature review was conducted to identify the most effective treatment strategies for CP in LMIC. The adapted recommendations were based on the best available evidence and expert opinion. RESULTS: The adapted treatment recommendations for CP in LMIC include: surgery alone or with RT or CT, depending on the size and location of the tumor, and the patient’s age and comorbidities. The guidelines also recommend a multidisciplinary approach involving neurosurgery, radiation oncology, and endocrinology. CONCLUSIONS: The adapted SIROP PDCD treatment guidelines for CP in LMIC are intended to provide a practical and evidence-based approach to the management of this rare tumor in LMIC.