DISORDERS IN SURVIVORS OF PEDIATRIC EMBRYONAL BRAIN TUMORS: EXPERIENCE FROM INSTITUTIONS IN LOW AND MIDDLE INCOME COUNTRIES?

Low-grade gliomas (LGGs) are the most frequent pediatric brain tumor and they comprise a variety of histologies. Complete surgery is curative but sometimes it makes it difficult. Recent publications highlight the excellent long-term outcomes of patients with LGGs with incomplete resected tumors. Current strategies are focused on reducing risks of treatment-related sequelae.

 METHODS: We describe the case of a 6-year-old girl with a history of focal onset seizures. During this time, a brain MRI was requested and a tumor was detected. We then refer her to the Pediatric Neurosurgery Unit of Hospital Civil de Guadalajara. She is currently under follow-up for the last 2 years.

RESULTS: The patient was born in 2014 and diagnosed with a low-grade glioma at 6 years of age. The tumor was located in the left temporal lobe and involved the basal ganglia and thalamus. The patient underwent a complete resection of the tumor with no complications. She is currently on surveillance with no evidence of disease.

CONCLUSIONS: Even though molecular assessment led to accurate diagnosis of glioma, the initial surgery was incomplete due to the location of the tumor. Complete resection of LGGs can be achieved in a significant number of cases with minimal morbidity from procedures offered. When first seen at our Hospital, the patient’s tumor history seemed compatible with a LGG and seizures well controlled with antiepileptic drugs. Neurological examination was completely normal. MRI showed a large tumor (7x5x5 cm) hypointense on T1, hypointense on T2, without contrast enhancement, involving the right temporal lobe, white matter, insula, internal capsule, hippocampus, thalamus and mesencephalus with middle cerebral artery encasement. Interval imaging was proposed and after 4.5 years since diagnosis the tumor has been stable and patient clinically excellent. CONCLUSION: Overall survival in pediatric LGGs is excellent in this series, and we recommend surgery when feasible should be considered. In centers with significant neurosurgical morbidity, biopsy of large tumors that are compatible with LGG may not be required in selected cases.

LOW-Grade GLIOMAs IN WESTERN MEXICO: EXPERIENCE AT HOSPITAL CIVIL DE GUADALAJARA

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BACKGROUND: Survivors of pediatric brain tumors are at high risk of developing endocrine disorders, potentially impacting growth, development, and quality of life. METHODS: retrospective audit of 2-year survivors of PNET/318 patients at diagnosis/viz. medulloblastoma/MB, Central nervous system Primitive neuro-ectodermal tumors(CNS-PNET) and atypical teratoid/rhabdoid tumor(ATRT) treated January 2006-December 2017 at Tata Memorial Centre, Mumbai, with surgery, cranio-spinal irradiation(CSI; 35Gy in high-risk MB, CNS-PNET, ATRT and 23.4Gy in average-risk MB, with tumor boost 19.8Gy) and six cycles of adjuvant chemotherapy(cyclophosphamide, cisplatin, and vincristine). Patients were followed up by a pediatric endocrinology team specialized in management of PEBT.

RESULTS: Of 229 PEBT treated during this period, 22 were alive in remission-2 years (69-MB, 15-CNS-PNET,4-ATRT), median age at diagnosis 6 years. At a median follow-up of 5.6 years (range 3-12.5years), 63 patients (72%) had at least one endocrine disorder, 26 (29.2%) had developed 3 or more. The most common endocrine disorders were central hypothyroidism (57%), growth hormone deficiency (40%), central hypopituitarism (3.3%), and central hypogonadism (14%). The median time to develop hypothyroidism was 2.8 years (range 3months to 8.3 years) from CSI. Growth hormone replacement therapy began after a median period of 4.2 years (range 1.5 to 11.5 years) from CSI. Higher dose of CSI was associated with development of endocrine disorder (odds ratio [OR] 2.71; 95% CI, 1.03 to 7.04,p<0.04). CONCLUSIONS: The high incidence of endocrine deficits in survivors of PEBT necessitates early and lifelong monitoring. Early and appropriate management is crucial to achieve full growth potential.
Abstracts

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BACKGROUND: Pediatric brain tumor classification has undergone significant evolution over the last decade requiring a high level of expertise and diagnostic testing. Challenges have arisen for pathologists in the diagnosis of pediatric brain tumors. This study reviews the current state of pediatric neuro-oncology in Armenia.

CONCLUSIONS: This study highlights the importance of diagnostic criteria and variability in patients with pediatric brain tumors. The presence of multi-molecular testing, including immunohistochemistry and targeted sequencing, has increased the diagnostic accuracy of pediatric brain tumors.

LINC-11. NEUROPATHOLOGY REVIEW OF LATIN AMERICAN CHILDHOOD AND ADOLESCENT BRAIN TUMOR PATIENTS: A MULTINATIONAL, MULTIDISCIPLINARY NEURO-ONCOLOGY TELECONFERENCE EXPERIENCE

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BACKGROUND: Pediatric brain tumor classification has undergone significant evolution over the last decade requiring a high level of expertise and diagnostic testing. Challenges have arisen for pathologists in the diagnosis of pediatric brain tumors. This study reviews the current state of pediatric neuro-oncology in Armenia.

CONCLUSIONS: This study highlights the importance of diagnostic criteria and variability in patients with pediatric brain tumors. The presence of multi-molecular testing, including immunohistochemistry and targeted sequencing, has increased the diagnostic accuracy of pediatric brain tumors.

LINC-12. COMBINED ADULT AND PAEDIATRIC NEURO-ONCOLOGY LONG-TERM SURVIVOR CLINIC EXPERIENCE FROM A TERTIARY CANCER CENTRE IN A LOW-MIDDLE-INCOME COUNTRY

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NeuroOncology survivor clinics (NOS) is uncommon in low-middle-income countries. We started combined (paediatric and adult) NOS clinic in our tertiary cancer centre (Jan-2017) and review here the demographic, clinical-pathological and treatment spectrum for our paediatric (0-18years) and adult (>18years) survivors within the median age of 32 (6-12) years respectively with 60% of paediatric turning into adult survivors. Of these, 33 (61.1%) cases resulted in diagnostic challenges where resources are variable. We provide a risk-stratified management guideline for children diagnosed with cranio-pharyngioma in a resource limited setting based on the service levels describing the facilities and personnel required for management as previously specified by the Pediatric Oncology in Developing Countries (PODC) committee of The International Society of Pediatric Oncology (SIOP). A multi-disciplinary group of neurosurgeons, radiation and pediatric oncologists, radiologists, pediatric endocrinologists and an ophthalmologist with experience in managing children with cranio-pharyngioma in LMIC setting was formed and carried online meetings to form a consensus guideline. The clinical characteristics (including the visual and endocrinological changes), suggestive radiological features as well as potential treatment options including surgery, radiotherapy and intra-cystic therapies were discussed in depth and in relation to available resources. In addition, hormonal management, pre- and post-operative PICU care and expected future complications related to cranio-pharyngioma and to follow up these children were discussed and documented in the guideline. We believe this guideline is a useful reference for health care providers in LMIC.

LINC-13. THE STATE OF PEDIATRIC NEURO-ONCOLOGY IN ARMENIA

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BACKGROUND: Every year in Armenia we have approximately 80–90 new pediatric cancer cases from which 10–15 are brain tumors (PBT). Here we try to summarize the current state of pediatric neuro-oncology in Armenia.

CONCLUSIONS: In Armenia pediatric neuro-oncology is still in its first steps. Surgical treatment of PBTs is performed only in one medical center “Sourb Astvatsamayr” Medical Education Center. There are no dedicated pediatric neuro-oncologists, and 2 specialists are treating pediatric neuro-oncology patients. Chemotherapy for all pediatric cancers currently is performed at the Pediatric Cancer and Blood Disorders Center of Armenia, established in

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