growth in vitro and in vivo with no toxicity to normal cells providing an ideal therapeutic window.

P3 – Session3 – 1635-1645

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The impact of initial radiation in infants and the re-irradiation of recurrent disease on the survival of ependymoma patients at The Hospital for Sick Children, Toronto

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Background: Two significant changes in ependymoma management have recently been made at Sickkids Hospital, Toronto; the up-front irradiation of infants and re-irradiation of recurrent disease. The impact of these on survival was retrospectively evaluated. Methods: A retrospective case note analysis of ependymoma patients between 1990 and 2014 was undertaken. Survival was determined using the Kaplan Meier method. Results: 76 ependymoma patients were identified (median age 4.58 years (0.42-17.6)), including 31 infants < 3 years (median age 1.51 years (0.42-2.97)). The median progression-free survival (PFS) and overall survival (OS) was 41 months (95% CI 20.4-61.7) and 116 months (95% CI 63.5-169.4) respectively. 5 year PFS and OS were 43.3% and 59.3% respectively. 21 infants received up-front radiation and 10 chemotherapy only. 5 year PFS and OS were significantly higher in irradiated compared to non-irradiated infants (PFS: 52.9% versus 0% (p=0.000002), OS: 74.6% versus 30.0% (p=0.004)). 38 patients recurred of which 26 were previously irradiated.19 patients received re-irradiation on recurrence, 7 did not. 5 year OS was significantly higher in re-irradiated patients (71.8%) compared to non re-irradiated patients (0%) (p=0.00007). Both management strategies were consistently implemented from 2004. Patients treated pre (n=34) and post (n=42) 2004 showed significant improvement in 5 year PFS from 33.4% to 53.3% (p=0.037) and OS from 51.2% to 79.2% (p=0.02). Conclusions: Both radiation of infants as the initial management of ependymoma and re-irradiation of recurrent ependymoma significantly improves survival. Implementing these treatment strategies has resulted in significant improvement in progression free and overall survival for ependymoma patients.

P4 – Session3 1645-1655

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Outcomes of children with central nervous system (CNS) germinoma treated with carboplatin-based chemotherapy followed by reduced radiation

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Background: Central nervous system (CNS) germinomas have an excellent prognosis with radiation therapy alone. However, in children, volume and dose of CNS radiation impact long-term morbidity. Cooperative groups have modified therapy by giving chemotherapy followed by reduced CNS radiation to minimize morbidity. Methods: This retrospective cohort study analyzed the outcome of intracranial germinoma patients treated at SickKids in Toronto, Canada, from January 2000- December 2013. Results: 25 children (14 male, 11 female; median age 12.92 years; range 6-17 years) were identified. Median follow up was 61 months (range 1-144 months). Median duration of symptoms pre-diagnosis was 5 months (range 1-36 months). Tumor location was suprasellar (n=9), bifocal (8), pineal (6), and basal ganglia (2). Three children had ventricular and one child had craniospinal dissemination. 2/25 had only elevated serum human chorionic gonadotropin (HCG, mean 13.5 IU/L), 4/25 only elevated lumbar CSF HCG (mean 21.3 IU/L), and 2/25 had both elevated serum and lumbar CSF HCG (mean 23 and 41.5 IU/L respectively). 24/25 children completed treatment and received carboplatin-based chemotherapy followed by either ventricular irradiation (23.4-24 Gy) ± boost (16 Gy) (n=15), whole brain (23.4 Gy) (n=3), focal (40 Gy) (n=4) or craniospinal irradiation (23.4 Gy) (n=2). Five-year progression free and overall survival were 96% and 100% respectively. Education status was available for 11/16 survivors now >18 years of age. Of those, 1 completed grade school, 3 completed high school and 7 are attending college/university. Conclusions: Our data suggests excellent survival with combined treatment modality and great potential for academic success.

CLINICAL ORAL PRESENTATIONS

14 June 2014

C1 – Session5 1030-1045

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Behavioral syndromes in patients with brain tumors using the Frontal System Behavior Scale (FrSBe)
(Young Investigator Award Winner - Clinical Research)

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