information of age, gender, location of the tumor and treatment. Results: From 200 citations, 136 patients from 90 articles were identified with T-cell PCNSL and majority of them were case reports or case series. There were 16 cases reported between years 1980-1990, 54 from 1990-2000, and 66 from 2000-2013. Men outnumber women by 2:1. The median age of the patients was 42.5 (range 2 to 79) years and the median overall survival (OS) was 14.0 (95%CI 13.3 to 20.1) months for those with age d64 years compared to 8.0 (95%CI 4.8 to 14.1) months for those with age >64 years (P=0.0033). Fifty-one patients received methotrexate-based chemotherapy and only 46% achieved a complete response (CR). There was no difference between the Kaplan-Mier overall survival of patients diagnosed with solitary versus multiple tumors (χ^2=0.3, P=0.6090), treated versus not-treated with methotrexate (χ^2=0.1, P=0.7420), and achieved CR versus non-CR status after methotrexate therapy (χ^2=0.4, P=0.5470). Conclusion: T-cell PCNSL appears to be more aggressive and less responsive to methotrexate-based treatment than the majority of PCNSLs.

CP4

doi:10.1017/cjn.2014.83

Clival chordoma metastatic to right lateral ventricle: A case report

G Bose, A Algird, B Lach, A Whitton, A Torres-Trejo, M Bennardo, and K Reddy*

Background. Clival chordomas are uncommon, locally invasive tumours that usually occur in the base of the skull. On rare occasions, clival chordomas may metastasize to the cervical cord, lymph nodes, lungs and bone. Intracranial or intraventricular metastases are very uncommon. We present the first reported case of clival chordoma spreading to the ventricular system Clinical presentation. This 44-year-old man initially presented with worsening diplopia and headache over one year. MRI imaging showed a clival lesion extending upwards to the sellar floor. Partial surgical removal through an extended endoscopic transphenoidal approach was performed and pathological examination confirmed clival chordoma. Following 38 treatments of intensity-modulated radiation therapy, the patient had recurrence of his diplopia and developed cognitive decline within two years. Follow up monitoring by MRI imagining showed new, isolated lesions in the sub-frontal area and in the right lateral ventricle. A biopsy of the intraventricular lesion revealed chordoma. Conclusion: Chordomas are rare but aggressive tumours requiring close monitoring. Furthermore, the ventricular system may be a hitherto unrecognized site of metastasis.

CP5

doi:10.1017/cjn.2014.84

Stereotactic radiosurgery for refractory trigeminal neuralgia

J Broomfield, A Whitton, R DeVilliers, T Gunnarsson, C Hann, S Gauld, C DiFrancesco, T Chow, J Greenspoon

Juravinski Cancer Centre, McMaster University, Hamilton, Ontario

INTRODUCTION: Idiopathic trigeminal neuralgia (TN) is a rare condition causing severe facial pain along the trigeminal nerve. Primary treatment is pharmacological, with surgery reserved for patients with refractory pain. Stereotactic radiosurgery (SRS) has recently emerged as a non-invasive alternative. Here, we report the largest Canadian single-institution experience utilizing SRS in the functional management of TN. METHODOLOGY: Retrospective review of all TN patients treated with SRS at the Juravinski Cancer Centre. Collected data included patient demographics, TN characteristics, SRS details, pain response and toxicities. RESULTS: Between 2011-2014, 25 patients were treated using our CyberKnife unit. All patients received a single fraction of 60 Gy prescribed to a 6 mm segment of the trigeminal nerve root. Maximum target point dose was 75 Gy and maximum brainstem point dose was 37.5 Gy. Median age was 69 years (41-84). Pain was isolated in more than half (54%) the cohort, most commonly within the maxillary branch (36%). Twenty-one patients completed at least one follow-up visit, with median time from SRS of 4 months (1.5-5.1). 42%, 42%, 8% and 8% of patients experienced complete resolution, partial improvement, no change and worsening of their TN, respectively. Median time from SRS to pain response was 14 days (1-60). No serious (e grade 3) acute toxicities were observed. CONCLUSION: The use of SRS in the management of TN is safe and effective. Mature follow-up is required to evaluate important long-term clinical outcomes including sustained pain response and toxicity profile.

CP6

doi:10.1017/cjn.2014.85

Predictors of treatment response of cystic brain metastasis to gamma knife radiosurgery

*A Ghare, O Khan, G Zadeh**

Arthur & Sonia Labatt Brain Tumour Center, University of Toronto, Toronto, Ontario

The aim of this retrospective study was to determine prognostic factors for changes in the volumes of cystic brain metastases after treatment with Gamma Knife radiosurgery (GKS). Our institutions database of 71 patients with cystic brain metastases treated with GKS from 2006 to 2010 was used for patient selection. 34 patients with primary lung (n=20), breast (n=9), or colorectal cancers (n=5) were selected. Volumetric analysis was done on tumours using treatment date and latest MRIs to measure the cystic and solid components of all GKS-treated metastases and calculate growth rate. Clinical data and dosimetry parameters were also reviewed to analyze factors that led to either an increase or decrease of cystic and/or overall tumour volumes. Metastatic lesions from the lung had significantly larger cystic/total volume

https://doi.org/10.1017/cjn.2014.85 Published online by Cambridge University Press

ratios than metastases from the breast (p=0.023); post-treatment, a trend of >25% improvement in both cystic and solid components of tumours was seen in lung primaries (p=0.239). Colorectal brain brain metastases demonstrated the best treatment response of the cystic component, significantly higher than breast metastases (p= 0.007), but not lung. Deep tumours not only had lower cystic volumes pre-GKS than superficial tumours (nonsignificantly), but also had significantly lower post-GKS cystic volumes (p=0.041). The results of the study show that factors such as primary tumour location and deep/superficial location of metastasis can be used to predict response of cystic tumours to GKS.

CP7

doi:10.1017/cjn.2014.86

Epidemiology of malignant pontine gliomas (MPG) in the paediatric population in Canada: A study of the Canadian paediatric brain tumour consortium (CPBTC)

Samina Afzal[1], Anne-Sophie Carret[2], , Adam Fleming[3], Valerie Larouche[4], Shayna Zelcer[5], Donna L. Johnston[6], Maria Kostova[7], Chris Mpofu [8],Douglas Strother[9], Lucie Lafay-Cousin[9], David Eisenstat[10], Chris Fryer[11], Juliette Hukin[11], Ute Bartels[12], Eric Bouffet[12]

[1]Division of Pediatric Hematology/Oncology, IWK Health Centre, Halifax, Nova Scotia; [2]Division of Pediatric Hematology/Oncology, St Justine Hospital, Montreal, Quebec; [3]Division of Pediatric Hematology/Oncology, Montreal Children's Hospital, Montreal, Quebec; [4]Division of Pediatric Hematology/Oncology, Centre Hospitalier Universitaire de Quebec, Quebec City, Quebec; [5]Division of Pediatric Hematology/Oncology, Children's Hospital of Western Ontario, London, Ontario; [6]Division of Pediatric Hematology/Oncology, Children's Hospital of Eastern Ontario, Ottawa, Ontario; [7]Division of Pediatric Hematology/Oncology, Kingston General Hospital, Kingston, Ontario; [8]Division of Pediatric Hematology/Oncology, Saskatoon Children's Hospital, Saskatoon, SK; [9]Section of Pediatric Oncology and Blood and Marrow Transplantation, University of Calgary, Calgary, Alberta; [10]Division of Pediatric Hematology/Oncology, Stollery Children's Hospital, Edmonton, Alberta; [11]Division of Pediatric Hematology/Oncology, British Columbia Children's Hospital, Vancouver, BC; [12]Division of Pediatric Hematology/Oncology, Hospital for Sick Children, Toronto, Ontario

CP8

doi:10.1017/cjn.2014.87

Treatment of recurrent central nervous system inflammatory myofibroblastic tumor with crizotinib

Philip Wong[1], David Roberge[1], France Berthelet[2], Michel W. Bojanowski[3], Jean-Paul Bahary[1], Laura Masucci[1], Karl Bélanger[4] and Marie Florescu[4]

CHUM, University of Montreal, Quebec: [1] Dept. de Radio-Oncologie, [2] Dept. de Pathologie, [3] Dept. de Neurochirurgie, [4] Dept. de Hemato-Oncologie

Inflammatory myofibroblastic tumors (IMT) are rare entities with a wide range of local aggressiveness, and low metastatic potential. Complete surgical excision is the main treatment for IMTs arising from the central nervous system (CNS). However, local recurrence rates are high, especially in IMT expressing ALK. Approximately 50% of IMTs express ALK, which is likely secondary to chromosome 2p23 rearrangements. Case: A 26 year-old male was initially diagnosed with a left-tentorial IMT following 3 months of headaches, mood changes and lateral vision deficits. After a partial resection of the tumor, progression of the residual disease was observed 2 months later on MRI. He underwent a gross total resection followed by adjuvant radiotherapy (60Gy in 30 fractions). The disease recurred 9 months later at the left-parietal lobe. A third operation was performed, but imaging revealed multi-focal recurrence 6 month post-operatively. As immunohistochemical studies showed strong cytoplasmic staining for ALK, the patient was given a trial of crizotinib, an ALK inhibitor. Two months later, partial response was achieved. The patient remains in partial remission after 7 months of crizotinib. Apart from diarrhea, slight renal failure and blurred vision, crizotinib was well tolerated. Conclusions: This is the first reported case of a CNS ALK-positive IMT responding to crizotinib. The response seen in our patient supports a trial with crizotinib in patients having exhausted conventional treatments for relapsing CNS IMTs. As no consistent ALK translocations are observed in IMT, exome sequencing is being done to identify the specific ALK aberration in this tumor.

CP9

doi:10.1017/cjn.2014.88

Quantitative MRI changes post-stereotactic ablative radiotherapy of the spine

H Bahig, D Simard, L L'tourneau, D Roberge, D Donath, P Wong, E Filion, D Beliveau-Nadeau, R Doucet, P Nicholson, L Masucci

Centre Hospitalier de l'Université de Montréal, Montreal, Quebec

Purpose: To assess early MRI volumetric and signal intensity changes after spine stereotactic body radiotherapy (SBRT) and to correlate these changes to local control (LC). Materiel and methods: T1 and T2-weighted non-contrast MR images of 30 spinal lesions treated with SBRT were analyzed. T1 and T2-based gross tumor volumes (GTV) were contoured on pre-treatment and follow-up MRIs. A MatLab program was developed to analyze T2 signal changes using the spinal cord as reference signal intensity. Volume and T2-signal alterations on first follow-up MRI (3-6 months) were correlated with LC. Local recurrence (LR) was proven pathologically. Results: At a median follow-up of 15.2 months, LC and disease-specific survival were 74% and

https://doi.org/10.1017/cjn.2014.85 Published online by Cambridge University Press