Introduction: Tumour metastases that involve the scalp are unusual. We report the case of a patient with a lung adenocarcinoma that was metastatic to both the skull and the scalp. Case Report: A 61-year-old female presented with a scalp mass that increased in size from one cm to 10 cm, over a 7-month period. She had a recent history of 20lb weight loss and anorexia. CT scan revealed a soft tissue mass in the left frontal scalp involving the underlying bone and thickening of dura. Magnetic Resonance Imaging (MRI) three months later exhibited rapid growth of the lytic lesion. Bone scan showed no other primary lesions. Intraoperative biopsy specimen displayed histological characteristics of an adenocarcinoma. The patient was pan-scanned and a primary upper lobe lung lesion with extensive hilar lymphadenopathy was identified. She subsequently underwent operative resection of the lesion and cranioplasty. Pathological examination of tumor biopsy showed a moderately differentiated adenocarcinoma characterized by large irregularly shaped acini embedded in a desmoplastic stroma with a mixed acute and chronic inflammatory infiltrate. Mitotic figures were encountered. The neoplastic cells were immunopositive for CK-CAM5.2, CK 7 and TIF-1 (nuclear), and immunonegative for CK 20, features in keeping with adenocarcinoma. Discussion: We describe an unusual case of lung adenocarcinoma that became metastatic to both skull and scalp. The histopathological features and differential diagnosis of such lesions are discussed in the context of the literature.

CP16

doi:10.1017/cjn.2014.95

A mixed method study of a peer support intervention for newly diagnosed primary brain tumour patients

*D Ozier, R Cashman**

BC Cancer Agency, Vancouver, British Columbia

A pilot program at the BC Cancer Agency enlisted trained , experienced primary brain tumour patients (veterans) who had previously completed initial treatment to meet with newly diagnosed brain tumour patients. The veteran patients participated in a training program with a psycho-oncology research clinician, then met with new patients for approximately one hour to answer general questions, provide support and offer information about other available supportive resources for patients and families. Supervision and support were provided to the 2 veterans throughout their meetings with 10 new patients. After the meetings, the new patients and veteran patients responded to questionnaires and exploratory interviews about the benefits and drawbacks of this type of support, resulting in quantitative and qualitative findings concerning the effectiveness of the intervention. There were multiple benefits for new patients and veteran patients alike, and no significant disadvantages for either group. Future directions for research and suggestions for modifications to the intervention are also discussed.

CP17

doi:10.1017/cjn.2014.96

Can expression of apoptotic proteins in glioblastoma serve as prognostic biomarkers?

E Shome[1], A Lott[1], M Pitz[2], S Gibson[3], D Eisenstat[4]

[1]University of Alberta, Faculty of Medicine and Dentistry, Edmonton, Alberta; [2]University of Manitoba, Department of Medical Oncology, CancerCare Manitoba, Winnipeg, Manitoba; [3]University of Manitoba, Manitoba Institute of Cell Biology, Winnipeg, Manitoba; [4]University of Alberta, Departments of Pediatrics, Medical Genetics and Oncology, Edmonton, Alberta

Introduction: MGMT promoter methylation is the only confirmed prognostic biomarker for GBM, so determining additional biomarkers is important. We are studying BNIP3 (Bcl-2 Nineteen kDa Interacting Protein), AIF (Apoptosis Inducing Factor), DR5 (Death Receptor 5), and MCL-1 (Myeloid Cell Leukemia Sequence 1). BNIP3 localization to the nucleus confers resistance to temozolomide and represses AIF and DR5 expression; both promote apoptosis at higher levels. In contrast, MCL-1 downregulation promotes apoptosis in cancer cells. We hypothesize GBM patients whose tumors show decreased MCL-1, increased AIF and DR5, and/or cytoplasmic BNIP3 expression will have an improved prognosis. Methods: Using the Manitoba GBM cohort (80 patients), BNIP3 subcellular localization was determined through immunofluorescence. MGMT promoter methylation was assessed using accepted protocols. Immunohistochemistry was performed on GBM FFPE sections using commercial antibodies and were scored for protein expression. Tumor scores were compared to progression free survival (PFS) and overall survival (OS). Results: There was a trend towards poor outcomes with nuclear BNIP3 sub-cellular localization; however, statistical significance was not reached. However, MCL-1 expression did not correlate with patient prognosis. Assessment of AIF and DR5 expression and patient outcomes is ongoing. Conclusions: BNIP3 localization to the nucleus may be a prognostic biomarker but this study will have to be extended to other GBM patient cohorts. Based on our study, MCL-1 is unlikely to be a prognostic marker for GBM.

CP18

doi:10.1017/cjn.2014.97

An interesting case of neurofibromatosis type 2

S Kulkarni[1], Y Alam[1], K Hirmiz[2], K Schneider[2]

Windsor Regional Cancer Program, Windsor, Ontario: [1]Medical Oncology, [2]Radiation Oncology

Neurofibromatosis (NF) is a genetic disorder of neural crest-derived cells that affect growth of neural tissues. It isdivided into three categories: (a) von Recklinghausen"s neurofibromatosis or

NF-1, (b) bilateral acoustic neuroma (NF-2), and (c) other neurofibromatosis. We report a case of NF-2. A 20 yr old male was diagnosed with NF-2 in childhood and is followed by multiple specialists. He has multiple NF-2 related issues. He was seen in early 2013 at our centre for consideration of bevacizumab treatment for hearing loss. He had multiple issues and brain tumors including- Bilateral vestibular schwannoma Right CP angle meningioma, small intracranial meningiomas Spinal tumors, schwannoma involving c5-6, cauda eqina Peripheral schwannoma-left brachial plexus, left neck Dysphagia- right vocal cord paralysis, laryngoplsty in sept 2012 Amblyopia, bilateral cataracts Hearing loss- right ear Obstructive hydrocephalous- VP shunt in Dec of 2012 Resection of papillary thyroid cancer followed by radioactive iodine Treatment-He received bevacizumab 5mg/kg IV every 2 weeks since April 2013 and he has well tolerated 23 doses so far. Outcome and discussion- Hearing is improved in right ear with better word recognition. We are aware of only one study where bevacizumab improved the hearing in NF2 patients. According to this study VEGF is expressed in all vestibular schnommas and after bevacizumab treatment tumors shrank and imaging response was maintained in patients during 11 to 16 months of follow-up.

CP19

doi:10.1017/cjn.2014.98

Proficiency versus competency-based training paradigm for neurosurgical training

G Alzhrani[1,3], H Azarnoush[1], A Winkler-Schwartz[1], F Alotaibi[1,3], SP Lajoie[2], RF Del Maestro[1]

[1]Neurosurgical Simulation Research Center, Montreal Neurological Hospital and Institute, McGill University, Montreal, Canada; [2]Department of Educational and Counselling Psychology, McGill University; [3]National Neuroscience Institute (NNI), Neurosurgery Department, King Fahad Medical City (KFMC), Riyadh, Saudi Arabia

Introduction: Competency-based training emphasizes acquiring the minimal standard of a profession rather than acquiring expertise. A fundamental question one should ask: Are the present training programs supposed to train surgeons to an "expert" or only "competent" level of performance? Proficiency-based training and assessment implies that the trainee must achieve a set of predefined criteria during their training to move to the next level in a safe and controlled learning environment. Our purpose was to develop benchmarks for a set of objective measures (metrics) of technical skills performance using a virtual reality simulator (NeuroTouch). Methods: We recruited 17 board certified neurosurgeons, 9 junior neurosurgery residents and 7 senior neurosurgery residents. Each participant resected 18 simulated brain tumors. Our metrics include: surrounding brain volume removed, maximum force applied (MFA), sum of forces utilized (SFU), percentage of tumor resected, instrument path lengths and pedal activation frequency (FPA). Results: Neurosurgeons resected less surrounding brain tissue and tumor tissue than residents. The mean values for SFU, MFA, FPA and Instrument path length were less for neurosurgeons compared to senior residents and higher compared to junior residents. Experts' performance focused more on safety of the surgical procedure compared to novices. Experts' neurosurgical technical skills performance on these different metrics is used to establish benchmarks for proficiency-based training. Conclusion: Examining 'expert' neurosurgical performance in simulated settings provides researchers with novel metrics for assessment of technical skills and development of proficiency-based training benchmarks. Identification of expert proficiency can led to improvements in resident training and assessment.

CP20

doi:10.1017/cjn.2014.99

Contemporary treatment of glioma with PCV chemotherapy in Manitoba

D Wasney[1], D Johnson[1], M Madayag[1], M Pitz[2]

[1]CancerCare Manitoba, Winnipeg, Manitoba; [2]University of Manitoba, Winnipeg, Manitoba

Background Recent evidence from phase III trials (RTOG 9802 and 9402, and EORTC 26951) indicates a survival advantage with the use of PCV (procarbazine, lomustine, vincristine) chemotherapy for patients with grade III oligodendroglioma and oligoastrocytoma, particularly for those with chromosome 1p and 19q codeletion. The use of PCV remains hindered by historical concerns with tolerability. We sought to describe the management issues with the use of PCV in a contemporary cohort. Methods Patients initiated on PCV in Manitoba since October 2012, have had their data prospectively collected. Data included demographics, pathology, and treatment factors. Results In total, 14 patients (7 males, 7 females) have been initiated on PCV in Manitoba. Median age was 41 (range 27-54). Most recent histology was Grade III oligodendroglioma in 5 (37.5%), Grade II oligodendroglioma in 6 (42.9%), and Grade II oligoastrocytoma in 3 (21.4%), with 12 patients codeleted (85.7%). Sixty-four cycles of PCV have been initiated, with 55 completed cycles to date. Five patients (35.7%) have completed their intended course of treatment with a median of 6 cycles. Of the 55 completed cycles, 37 (67.2%) required dose reductions or delays because of cytopenia. Five patients and a total of 14 cycles (25.5%) required growth factor support. Conclusion There is a high rate of dose reductions and delays in treatment with PCV chemotherapy. Despite this relative toxicity, a high percentage of patients have completed the intended treatment course.