This study sought to identify major predictors of survival after second surgery. Methods: We collected clinical, pathological and radiographic data through a retrospective review of charts of 21 patients who underwent elective surgery for GBM recurrence at our institution in the past 6 years. Kaplan-Meier survival analysis and Cox proportional-hazards regression were employed to determine which variables significantly impacted survival time. Results Among variables examined, age, less than or equal to 50 (P equals 0.04), and chemotherapy treatment after second surgery (P equals 0.00057), were significant. Patients younger than 50, had a mean length of survival period of 14.7 months, while patients, age 50 or older, survived an average of 7.6 months. Patients who underwent chemotherapy after second resection survived an average of 12.6 months. Comparatively, mean survival period of patients who did not undergo chemotherapy was 3.7 months. The cumulative prognostic significance of age and post-reoperative chemotherapy treatment was determined to be 0.038 using Cox proportional-hazards regression modelling. Conclusion: The results confirm that younger patients survive longer after second surgery and that a second round of chemotherapy can prolong survival. Data from larger cohorts of patients is required to identify other important predictors.

C7 – Session5 1300-1315

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NovoTTF-100A alternating electric fields therapy for recurrent glioblastoma: An analysis of patient registry data

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Background: The NovoTTF-100A is a first-of-a-kind anticancer device, approved by the Food and Drug Administration in 2011, for the treatment of recurrent glioblastomas. It emits alternating electric fields, at an intensity of 1 V/cm and a frequency of 200 kHz, that mimic the cytotoxic effect of chemotherapy by disrupting charged cytoplasmic proteins involved in the tightly orchestrated process of mitosis. Past phase III trial demonstrated equivalent efficacy when the device was compared to conventional cytotoxic chemotherapies and bevacizumab, but without their systemic side effects. Methods: The NovoTTF-100A device has been available by prescription at 91 oncology centers in the United States since November 2011. We retrospectively analyzed the outcome and toxicity data from patients who were prescribed the device from October 2011 to November 2013 as treatment for their recurrent glioblastomas. Results: There were 147 female and 310 male patients (n=457) who were treated with this device. The median age was 55 (range 18 to 86) years. The Kaplan-Meier median OS was 9.6 (95% confidence interval [CI] 8.0 to 13.7) months and the median treatment duration was 4.1 (95% CI 3.5 to 4.8) months. The most common device-related adverse events include skin reaction (24.3%), neurological disorders (10.4%), heat sensation (8.9%), electric sensation (7.7%) and headache (5.7%). Conclusion: Treatment with NovoTTF-100A, as prescribed in the general clinical setting to patients with recurrent glioblastomas, offers favorable outcomes compared to historical patient data. The adverse event profile of the device remains benign with no new unexpected toxicities.

C8 – Session5 1315-1330

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A longitudinal prospective study investigating cognitive function in patients with high grade glioma

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Forty-one high grade glioma patients were enrolled in this prospective study prior to initial treatment with radiotherapy, chemotherapy or combination therapy. The study participants were assessed prior to treatment and subsequently every 2, 6, 9 and 12 months using self reports of quality of life (FACT-Br) and functional assessment (British Columbia Activity Checklist). In addition, a cognitive assessment (the Montreal Cognitive Assessment - MoCA) and semi-structured interview were performed at baseline and 6 months later. Only 16 patients remained progression free 12 months following treatment; 23 patients died or deteriorated clinically and 2 were lost to follow up. Over half (54%) of patients scored less than 26 on the MoCA at baseline, indicating cognitive impairment before treatment. MoCA scores did not change significantly over time. Similarly, quality of life and functional assessments as reported by patients did not alter significantly over time. Interviews reveal details of the effects of cognitive impairment on patients daily lives. Implications of these findings will be discussed.

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Glioblastoma pattern of practice from two regional cancer centres in Canada

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Background: Despite an evidence-base for glioblastoma management, treatment can vary and the pattern of practice in