Conclusion: There appears to be a correlation between percentage staining of Ki-67 and overall survival in patients with HGG. Percentage staining of Ki-67 > 30% appears to predict for poorer survival in HGG.

EP-1112

Optic toxicity in radiation treatment of meningioma: a retrospective study in 213 patients

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Purpose or Objective: Background and purpose: In this retrospective evaluation, we correlated radiation dose parameters with occurrence of optical radiation-induced toxicities.

Material and Methods: Patients and methods: 213 meningioma patients received radiation between 2000 and 2013. Radiation dose and clinical data were extracted from planning systems and patients’ files. The range of follow-up period was 2-159 months (median: 75 months).

Results: Results: Median age of patients was 60 years (range: 23-86). There were 163 females and 50 male patients. In 140 cases, at least one of the neuro-optic structures (optic nerves and chiasm) was inside the irradiated target volumes. We found 15 dry eye (7%) and 24 cataract (11.2%) cases. Median dose to affected lachrymal glands was 1.47 Gy and median dose to affected lenses was 1.05 Gy. Age and blood cholesterol level in patients with cataract were significantly higher. Patients with dry eye were significantly older. Only 2 patients with visual problems attributable to radiation treatment (RION) were seen. They did not have any risk factors. Maximum and median delivered doses to neuro-optic structures were not higher than 57.30 Gy and 54.60 Gy respectively.

Conclusion: Conclusion: Low percentages of cases with radiation-induced high grade optic toxicities show that modern treatment techniques and doses are safe. In very few patients with optic side effects, doses to organs at risk were higher than the defined constraint doses. This observation leads to the problem of additional risk factors coming into play. The role of risk factors and safety of higher radiation doses in high grade meningiomas should be investigated in more comprehensive studies.

EP-1113

Light seeing in radiotherapy of patients with brain tumours and head and neck malignancies

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Purpose or Objective: Evaluating the radiation doses delivered to different parts of the visual pathway for better understanding of light vision in radiotherapy patients.

Material and Methods: 20 patients with brain tumors and head and neck malignancies who received radiotherapy and experienced any kind of light or color vision during radiation treatment. All the components of visual pathway including lenses, eyeballs, retinas, optic nerves, chiasm, optic tracts, optic radiations and visual occipital cortices were contoured.

Results: 11 patients were male (55%) and 9 were female (45%). Age median was 56 years. The range of dose/fraction and total prescribed dose were 1.8-3.5 Gy and 36-70.4 Gy respectively. Twelve patients reported white, 11, blue, 2, yellow and 2, gray color visions. Seven patients experienced more than one color, while 2 patients did not attribute any special color to their light seeing experiences. Four patients had a kind of smell experience and 1 patient had a taste experience.

Conclusion: Cherenkov radiation in eye ballsmay be the origin of light seeing experiences in patients receiving radiation treatment for head and neck malignancies, since treatments are performed with ionizing radiations with energy capable to produce this effect. Also this effect may be due to phosphenes produced by radiation treatment in different parts of the visual pathway (from retina to visual cortex). In order to investigate the mechanism of this phenomenon in patients and to define a radiation dose threshold - if the origin of this phenomenon is phosphenes produced in visual pathway - larger studies are needed.

EP-1114

Clinical outcomes in modern management of infratentorial ependymoma

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Purpose or Objective: Ependymomas are central nervous system (CNS) tumors that due to their rare prevalence have considerable controversy regarding their prognostic factors and clinical management. As such, many of the reported series involve accumulation of patient data that spans many decades, making current management decisions difficult. In this study, we report the outcomes and possible prognostic factors of patients with histologically confirmed infratentorial ependymomas treated in the modern era.

Material and Methods: A retrospective chart review of our patient registry was conducted to identify 15 patients diagnosed with infratentorial ependymoma between 2007-2013. Mean age at diagnosis was 29 years (range 1.0-79.0 years). There were 8 males and 7 females, with headache being the most common presenting symptom among the entire cohort. Eleven were newly diagnosed with ependymoma and the remaining 4 were recurrent patients who had failed primary therapy. Of the newly diagnosed patients, all received surgery and post-operative radiation therapy (RT) with a mean dose of 54.3 Gy (range 45.0-59.4 Gy). Two also received chemotherapy. Patients in the recurrent group experienced only local recurrences after initial treatment and underwent salvage RT with a mean dose of 45.6 Gy (range 15.0-59.4 Gy).

Results: With a mean follow-up time of 15 months (range 1.4-61.7 months) for the cohort, a significant difference in overall survival (OS) was found between primary and recurrent patients (p=0.0082). Overall, 9 patients (60%) had no acute complications with the remainder Grade I or II following initial wretreatment. All the free of late complications throughout follow-up. Moreover, there were no statistically significant differences in OS or local control when tumor size or RT dose were analyzed.

Conclusion: Our findings indicate that recurrence is a prognostic factor for decreased OS in patients with infratentorial ependymomas. Involved field radiation therapy following surgical resection of these tumors offers high locaol