radiotherapy (3D-CRT) techniques and compared with IMRT plans. The 3D-CRT plans were prepared using 3-4 fields and IMRT plans consisted of 7-8 fields. The primary objective was to treat the planning target volume and to minimize the dose to organs at risk (OAR). Volumetric analysis, target coverage, and conformity of prescribed doses were used in plan comparison.

Results: Treatment tolerance was very good in all patients. Only 12 patients needed steroids during treatment. Adjustment of the dose distribution to the target volume was improved and the critical structures were better spared in the IMRT plans than in 3D-CRT plans. For all patients the mean dose and the maximum dose to OAR were significantly reduced in IMRT plans. With respect to target volume, IMRT technique reduced the maximum dose while increasing the minimum dose, resulting in improved conformity. In same patients with tumors located very close to OAR it was impossible to give 60Gy for target volume with 3D-CRT technique because of not acceptable doses in OAR.

Conclusion: The IMRT technique combined with concurrent temozolamide is well tolerated and offers significant advantages comparing to 3D-CRT. Application of IMRT allows dose reduction at OAR without compromising target coverage.

EP-1133
Long-term follow-up and prognostic factors in low-grade glioma (WHO II) postoperatively irradiated.
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Purpose or Objective: There is little consensus about the optimal treatment for low-grade glioma (LGG), and the clinical management of LGG is one of the most controversial areas in neurooncology. Radiation therapy is one option for treatment of patients with LGG whereas other options include postoperative observation. The aim of the study is to report the long-term follow-up of a cohort of adult patients with LGG post-operatively irradiated in one institution, and to identify prognostic factors for progression free survival.

Material and Methods: Between 1975 and 2005, 180 patients with LGG (WHO II) received postoperative irradiation after non radical (subtotal or partial) excision. Patients had to be 18 years of age or older, and have histologic proof of gemistocytic astrocytoma (GA). Radiotherapy was given between 3 to 10 weeks after surgery. The treatment fields were localized and included the preoperative tumor volume, with a 1-2 cm margin, treated to a total dose of 50 to 60 Gy in 25 to 30 fractions over 5 to 6 weeks.

Results: Actuarial ten-year progression free survival (APFS) in the whole group was 19%. The worse prognosis was reserved for patients with GA. Ten-year APFS rates for GA, PA and FA were 10%, 18% and 22% respectively.

Conclusion: The findings from our long-term cohort of 180 patients with LGG confirmed by uni- and multivariate analysis demonstrated that only astrocytoma histology significantly determined the prognosis. The best survival is reserved for patients with the fibrillary variant, and the worst for the gemistocytic one.

EP-1134
Proton therapy re-irradiation for large-volume recurrent high-grade gliomas
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Purpose or Objective: To report preliminary results of re-irradiation with proton therapy (PT) for large-volume recurrent high-grade gliomas (rHGG).

Material and Methods: Between January and September 2015 eight patients (pts) with rHGG (7 glioblastoma - GBM, 1 anaplastic oligodendroglioma - AOD) were re-irradiated with PT. Age at re-irradiation was between 40 and 64 years while Karnofsky performance status was 60-100%. Minimum time between prior radiotherapy and PT was 8 months. Target definition was based on CT, MR, and 18F-DOPA PET imaging. GTV included any area of contrast enhancement at MR imaging after contrast medium administration plus any uptake regions at PET imaging. CT was implemented by adding to GTV a 3-mm uniform margin manually corrected in proximity of anatomical barriers. CTV was expanded by 4 mm to create PTV. PTV volume varied between 55 and 260 cc. The patient with AOD received 50.4 GyRBE in 28 fractions (fx) while GBM pts 36 GyRBE in 18 fx. Four GBM pts also received concomitant temozolomide (75 mg/m2/day, 7 days/week). All pts were treated with active beam scanning PT using 2-3 fields with single field optimization technique.

Results: All pts completed the treatment without breaks. Registered acute side effects (according to Common Terminology Criteria for Adverse Events versione 4.0) include skin erythema with pruritus, alopecia, fatigue, conjunctivitis, and headache. All the side effects were grade 1 or 2. There were no grade 3 or higher toxicities. One patient developed grade 1 neutropenia. Three pts started PT under steroids (2-8 mg/day); two of them reduced the dose during PT, one kept the same steroids dose. None of remaining pts needed steroids therapy. During follow-up two pts developed radionecrosis (diagnosed at imaging) with mild symptoms controlled with steroids. All pts are alive. Four pts have stable disease one months after PT, three pts have stable disease three months after PT, and one pts progressed five months after PT.

Conclusion: PT re-irradiation of large volume rHGG is feasible and safe even with concomitant chemotherapy administration. Longer follow-up is necessary to assess definitive efficacy.

EP-1135
Hypofractionated Stereotactic Radiation Therapy for cavernous sinus meningiomas
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Purpose or Objective: We evaluate the tolerance and efficiency of robotic hypo fractionated stereotactic radiotherapy (hSRT) for patients with Cavernous sinus meningiomas in our Institution.

Material and Methods: We retrospectively reviewed patients who were treated with robotic hSRT for Cavernous sinus meningioma. Multidisciplinary staff approved treatment. A dose of 36 Gy was prescribed in 9 fractions. Treatment was delivered every other day.

Results: Between 2010 and 2013, 18 evaluable patients with a total 18 lesions were treated in our institution with hSRT