with and without abscopal responses was respectively of 22.4 months (range 2.5-50.3) and 8.3 months (range 7.6-9.0). 11 out of 13 patients with local response showed an abscopal effect.

Conclusion: The RT after ipilimumab treatment may be an option for further potentiate its effect. Local response to RT might be predictive for the abscopal response and outcome. Further studies are warranted in this field to better understand and define the role of RT in combination or sequencing with ipilimumab treatment.

EP-1393

Radiological responses of melanoma brain metastases to radiosurgery and patient prognosis

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Purpose or Objective: The aim of this study was to analyze differences in radiological responses of melanoma brain metastases after Gamma Knife radiosurgery and their correlation with patient survival.

Material and Methods: We retrospectively analyzed 78 patients treated with Gamma Knife radiosurgery for melanoma brain metastases between 2009 and 2015 in the Radiosurgical centre (Saint-Petersburg, Russia) and subjected to follow-up MRI examinations. Patients receiving BRAF inhibitor therapy or ipilimumab were not included in the study. The group consisted of 63 men and 15 women with a mean age of 52 years. The median KPS was 80%. According to RPA, 14 patients were in Class I, 61 patients in Class II, and 3 patients in Class III. Most of the patients presented with multiple brain metastases (87%). Radiosurgery was performed with Gamma Knife 4C and Perfection units; the mean dose delivered to the tumor margin was 20 Gy at 50% isodose. After treatment, the patients underwent at least one control MRI examination with standard protocols (2 mm T2 and 1 mm T1 with double contrast enhancement) at 8 weeks and at regular 3-month intervals thereafter. MR images were analyzed with Gamma Plan software. Volumetric measurements of metastases on pre- and post-treatment images were performed in order to determine different types of radiological response. We divided the patients into groups according to the type of radiological response and compared Kaplan-Meier survival curves in these groups with the log-rank test.

Results: We found that patients with melanoma brain metastases had different radiological reactions to Gamma Knife radiosurgery. We distinguished several types of radiation response: sustained decrease in tumor volume, prolonged stabilization of tumor volume, transient increase in tumor volume due to intratumoral bleeding with subsequent decrease in tumor size, transient increase in tumor volume due to radiation-induced necrosis followed by tumor shrinkage. Statistical analysis revealed that a rapid decrease in tumor volume was associated with poor prognosis. Median overall survival of this group of patients was about two times less compared with patients whose radiation response developed slowly after the first 2 months of radiosurgery (p < 0.0001). Stratification to RPA classes revealed that patients with a rapid response have poorer survival prognosis than those with a slow response in the corresponding RPA classes.

Conclusion: Melanoma brain metastases showed different radiological responses to radiosurgery. Rapid shrinkage of brain metastases is associated with poor survival, which may indicate more aggressive biological behavior of this tumor subtype. Different radiation sensitivity of melanoma brain metastases to Gamma Knife radiosurgery may be associated with molecular characteristics of cell subpopulations, which determine biological tumor behavior and affect patient prognosis.

EP-1394

Radiotherapy for adult T-cell leukemia-lymphoma: a single institutional experience

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Purpose or Objective: Adult T-cell leukemia-lymphoma (ATLL) is a rare disease and a peripheral T-cell malignancy associated with human T-cell lymphotropic virus type 1 (HTLV-1) infection. ATLL treatment is based on subclassification, and intensive multidrug chemotherapy regimens are often used for aggressive subtypes. However, disease progression occurs in most of patients. There are only a few reports for the radiotherapy in patients with ATLL. Therefore, the role of radiotherapy for ATLL is not well investigated even for the palliation. The purpose of this study was to evaluate the efficacy and toxicity for the radiotherapy in patients with ATLL.

Material and Methods: Between April 1983 to October 2013, 44 patients with 205 ATLL tumor lesions were treated with radiotherapy at our institution. Sites of tumor lesions were as follows; 184 lesions were in the skin, 13 lesions in the lymph nodes, 6 lesions in the central nervous system, and 2 lesions in the bone. Acute type on ATLL subtypes was seen in 8 patients, chronic type in 7 patients, lymphoma type in 10 patients, smoldering type in 15 patients and others in 4 patients. Median total dose of radiotherapy was 29 Gy (range, 2-60 Gy), and the median fractionated dose was 3 Gy (range, 1-7 Gy). For the skin tumor lesions, 45 Gy in 15 fractions was selected in 33 lesions, 30 Gy in 10 fractions in 38 lesions, 28 Gy in 4 fractions in 21 lesions and 20 Gy in 5 fractions in 19 lesions and others in 73 lesions. Only 4 of 44 patients were treated with total skin irradiation, and the remaining 40 patients received conventional radiotherapy for local tumor. Efficacy and toxicity of the radiotherapy for ATLL were retrospectively evaluated, and the predictors of a long-term survival were analyzed.

Results: The median follow-up period was 206 days. Objective tumor response rates were 98%. Four of 6 tumor lesions with stable disease or progressive disease on objective tumor response were associated with aggressive subtypes or tumor sites of the central nervous system. In-field recurrence after radiotherapy was recognized in 3 (2%) lesions. Two-year and 5-year overall survival rates were 76% and 44%, respectively. Median overall survival time in patients with indolent subtypes (chronic or smoldering type) of ATLL was 23 months, while in patients with aggressive subtypes (acute or lymphoma type) was 6 months, and the difference was significant. Acute toxicities of Grade 2 dermatitis were seen in 3 patients. Acute toxicity of Grades 3-5 was not observed. Late toxicity of Grade 2 was also not recognized.

Conclusion: Radiotherapy for ATLL was mainly used for the skin lesion and well tolerated, and could achieve excellent local tumor control without inducing severe toxicity. Radiotherapy should be selected to improve the quality of life, and be incorporated into combined modality therapy for ATLL.

EP-1395

Choroidal melanoma: is radiosurgery more efficient?


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Purpose or Objective: Choroidal melanoma is a rare tumor and a peripheral T-cell malignancy associated with human T-cell lymphotropic virus type 1 (HTLV-1) infection. ATLL treatment is based on subclassification, and intensive multidrug chemotherapy regimens are often used for aggressive subtypes. However, disease progression occurs in most of patients. There are only a few reports for the radiotherapy in patients with ATLL. Therefore, the role of radiotherapy for ATLL is not well investigated even for the palliation. The purpose of this study was to evaluate the efficacy and toxicity for the radiotherapy in patients with ATLL.

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Conclusion: Radiotherapy for ATLL was mainly used for the skin lesion and well tolerated, and could achieve excellent local tumor control without inducing severe toxicity. Radiotherapy should be selected to improve the quality of life, and be incorporated into combined modality therapy for ATLL.