1277P Stereotactic radiation therapy in melanoma brain metastasis: A European, multicentric cohort

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Background: Brain metastases are frequent in patients with melanoma and stereotactic radiotherapy is one of the main treatment options. We report the efficacy and safety of hypofractionated stereotactic radiation therapy (HFSRT) and stereotactic radiosurgery (SRS), and its role in melanoma brain metastasis management.
Methods: On behalf of the French-speaking neuro-oncologist association (ANOCEF), we retrospectively collected clinical data of 150 patients and 299 brain metastases from melanoma treated with SRS or HFRSRT in 6 radiation oncology departments in France and in Germany. The primary endpoint was the response to the treatment according to RANO criteria. Secondary endpoints were overall survival (OS).

Results: We conducted a Bayesian multivariate logistic regression for treatment response probability. Age, control of disease and stereotactic radiosurgery have an odds ratio (OR) of 1.02 [1.00 – 1.05], 4.61 [1.15 – 18.24] and 4.33 [0.94 – 18.38] respectively and a probability of being > 1 of 94%, 99% and 97% respectively. BRAF mutation, time between dosimetric MRI and treatment, Ipilimumab administration, multiple brain metastases and WHO performans status have an OR of 0.559 [0.21 – 1.33], [0.79 – 0.94], 0.57 [0.17 – 1.39], 0.41 [0.11 – 1.04] and 0.63 [0.25 – 1.28] respectively and a probability of being < 1 of 91%, 100%, 91%, 97% and 91% respectively. Median OS was 11 months [8 – 20] and the multivariate Cox analysis estimated a Hazard ratio of 0.37 (p = 0.007) and 0.8 (p = 3.7E-6) for the control of the disease and the brain progression-free survival respectively.

Conclusions: We report the results of one of the largest cohort of patients treated with SRS and HFSRT for melanoma brain metastases. Our analysis suggests that the age of the patient, the control of the disease and SRS are associated with higher response probability while BRAF mutation, the time between dosimetric MRI and treatment, Ipilimumab administration, multiple brain metastases and poor WHO PS are associated with lower response probability.

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