Surgical management of melanoma brain metastases in patients treated with immunotherapy.

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Abstract
Object Despite the increasing use of immunotherapy in the treatment of metastatic melanoma, the effects of this therapy on the management of patients with associated brain metastases are not completely defined. The authors undertook this study to determine the effectiveness of resection and the effects of immunotherapy on brain metastasis management.

Methods The authors analyzed data pertaining to consecutive patients with metastatic melanoma treated with immunotherapy within 3 months of discovery of brain metastases that were surgically resected. Results Forty-one patients (median age 44.4 years, range 19.2-63.1 years) underwent resection of 53 brain metastases (median number of metastases 1, range 1-4). The median metastasis volume was 2.5 cm\(^3\). Fifteen patients underwent whole-brain radiation therapy (WBRT) and 26 patients did not. Duration of survival from brain metastasis diagnosis was not significantly different between patients who received WBRT (mean 24.9 months) and those who did not (mean 23.3 months) (p > 0.05). Local and distant brain recurrence rates were not statistically different between the WBRT (7.1% and 28.6%, respectively) and non-WBRT (7.7% and 41.0%) groups for the duration of follow-up (p > 0.05). An objective systemic response to immunotherapy was associated with increased duration of survival (p < 0.05). Conclusions Resection of melanoma brain metastases in patients treated with immunotherapy provides excellent local control with low morbidity. An objective response to systemic immunotherapy is associated with a prolonged survival in patients who have undergone resection of melanoma brain metastases. Moreover, adjuvant WBRT in melanoma immunotherapy patients with limited metastatic disease to the brain does not appear to provide a significant survival benefit.

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