Whole brain radiotherapy for melanoma brain metastases - which patients are likely to live ≤3 months after treatment?

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Background

- Whole brain radiotherapy (WBRT) may be the only tumor-directed treatment alternative for many patients with melanoma brain metastases (MBM)
- The value of WBRT in patients with brain metastases and short expected survival is controversial
- Cancer patients with ≤3 months (mo) expected overall survival (OS) are generally considered to be unfit for further tumor-directed treatments
- It is therefore important to identify factors associated with short survival (*i.e.* ≤3 mo) in patients with MBM

Aim

- To identify factors associated with short (≤3 mo) and longer (>6 mo) survival after WBRT for MBM, including the diagnosis-specific graded prognostic assessment (DS-GPA)

Methods

- 294 patients treated from 2011-2017 with WBRT as first radiotherapy (RT) for MBM were identified at two RT units
- Median OS after start of RT was calculated for all patients
- Complete clinical data at time of first RT were available for 241 patients
- In these 241 patients, those with ≤3 mo (N=131/241) and >6 months (N=66/241) OS after start of WBRT were compared by a 2x2 cross-table analysis using the X^2-test

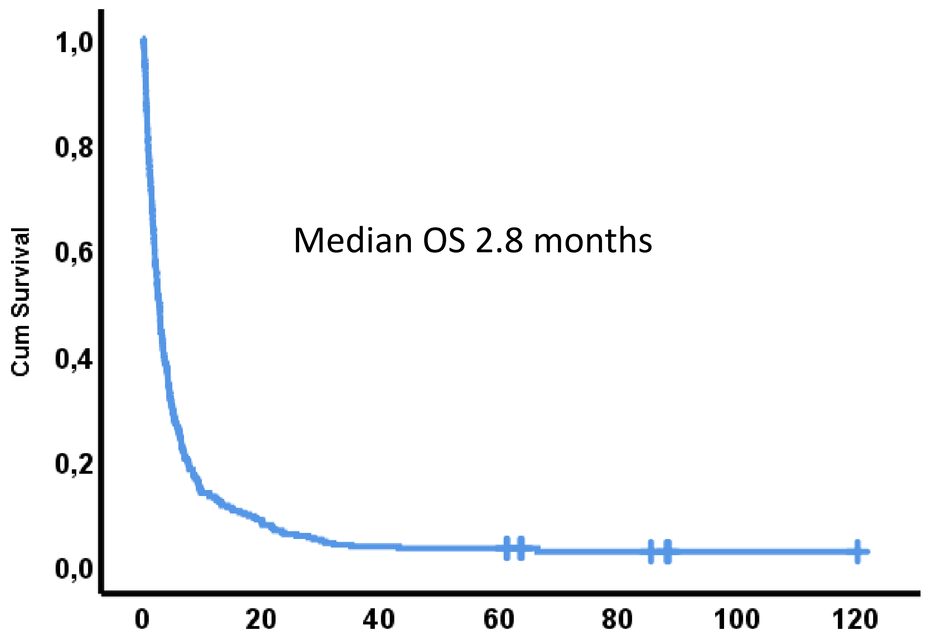
This study is part of «Brain metastases in Norway» – a comprehensive research project on BM treatment and outcomes

Brain Metastases in Norway

- **WP1 Prospective cohort study (inclusion completed 03/21)**
- **WP2 Clinical studies**
- **WP3 Molecular research**
- **WP4 Patient's and next-of-kin's perspective (interview study - inclusion completed 04/21)**
- **WP5 Health economics/cost perspective**
- **WP6 Dissemination and cooperation**
- **WP7 Guidelines and clinical care pathways**

Results

OS after start of WBRT for all patients (N=294)



Comparing pts with ≤3 mo and >6 mo OS after start of WBRT

	≤3 mo OS	>6 mo OS	*p*
N (%)	131/241 (54)	66/241 (27)	
Median age (range)	70 (28-94)	62 (28-89)	
Male	66%	67%	0.89
Age ≥70	52%	23%	<0.001
ECOG >1	48%	11%	<0.001
ECM present	94%	83%	0.013
BRAF neg/unknown	73%	50%	0.002
DS-GPA 0-1	77%	17%	<0.001
Median OS (months)	1.4	12.5	

Discussion and conclusions

- DS-GPA was confirmed as a prognostic tool and useful in WBRT treatment decision making
- Age ≥70, ECOG status >1, presence of extracranial metastases, BRAF negative or unknown status and, correspondingly, DS-GPA score 0-1 were identified as factors associated with survival ≤3 months
- In patients with these factors, WBRT should be carefully considered, and most likely be omitted, as these patients may have little benefit due to short OS, risking burdensome side-effects and less time at home at the end of life

Interested in collaboration? Please contact: Olav E. Yri (olavy@ous-hf.no) or prof. Stein Kaasa (stein.kaasa@medisin.uio.no)

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