

# Breast cancer intracranial metastases whole brain radiation therapy

Historically, breast cancer (BCIM). were treated with [whole brain radiation therapy](#) (WBRT) or with surgery if possible. The role of WBRT after the surgical resection of a single metastasis has been well established for controlling local recurrence <sup>1)</sup>.

The use of WBRT has come under recent criticism because of the possibility of neurocognitive decline related to brain radiation <sup>2)</sup>.

The rise of stereotactic radiosurgery has become an alternative for patients with limited disease due to its advantage of a single-session delivery and a minimal delay for systemic therapy. Both local therapy and systemic treatment enhance OS <sup>3)</sup>. In 420 patients with BM receiving WBRT, the median survival in a scenario of BM in patients without and with systemic treatment after WBRT was 3 and 10 months, respectively ( $P < 0.0001$ ). No survival benefit for systemic treatment was observed only in the triple-negative subset. In all other subgroups (HER2-positive, luminal A and B), a survival benefit from systemic treatment could be achieved.

Radiotherapy after surgery for the management of primary breast cancer is necessary in patients with brain progression later <sup>4)</sup>.

see [Breast cancer intracranial metastases stereotactic radiosurgery](#).

<sup>1)</sup>

McPherson CM, Suki D, Feiz-Erfan I, Mahajan A, Chang E, Sawaya R, Lang FF. Adjuvant whole-brain radiation therapy after surgical resection of single brain metastases. *Neuro Oncol*. 2010 Jul;12(7):711-9. doi: 10.1093/neuonc/noq005. Epub 2010 Feb 14. PubMed PMID: 20156806; PubMed Central PMCID: PMC2940658.

<sup>2)</sup>

Mehta M. The dandelion effect: treat the whole lawn or weed selectively? *J Clin Oncol*. 2011 Jan 10;29(2):121-4. doi: 10.1200/JCO.2010.33.3294. Epub 2010 Dec 6. PubMed PMID: 21135269.

<sup>3)</sup>

Niwińska A, Murawska M, Pogoda K. Breast cancer subtypes and response to systemic treatment after whole-brain radiotherapy in patients with brain metastases. *Cancer*. 2010 Sep 15;116(18):4238-47. doi: 10.1002/cncr.25391. PubMed PMID: 20549816.

<sup>4)</sup>

Wang Y, Ji Z, Lin FH, Wang XH, Wan-Ming H, He ZQ, Duan H, Guo CC, Zhang XH, Mou YG. Outcome and prognostic value of treatment for brain metastases and the primary tumor in patients with breast cancer brain metastases. *Clin Neurol Neurosurg*. 2018 Apr 23;170:43-46. doi: 10.1016/j.clineuro.2018.04.026. [Epub ahead of print] PubMed PMID: 29727800.

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