ZNS-Metastasen beim Mammakarzinom
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- **Versionen 2003–2018:**
  Bischoff / Diel / Fehm / Friedrich / Gerber / Huober / Loibl / Lück / Maass / Müller / Nitz / Jackisch / Jonat / Junkermann / Rody / Schütz / Stickeler / Witzel

- **Version 2019:**
  Solbach / Witzel

unter Mitarbeit von:
Petra Feyer und Dirk Rades (DEGRO)


Risk factors (see also references slide CNS incidence)


Brain metastases (BM) are more likely to be estrogen receptor negative, and overexpress HER2 or EGFR

There is no evidence for BM-screening in asymptomatic BC-patients
**Breast-GPA**


**Prognostic Factors for Survival**


Rades Score* – zur Abschätzung des Mortalitätsrisikos bei Hirnmetastasen (BM)

<table>
<thead>
<tr>
<th>Prognostic Factor</th>
<th>Überleben nach 6 Monaten (%)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 60 Jahre</td>
<td>43</td>
<td>4</td>
</tr>
<tr>
<td>≥ 60 Jahre</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>Karnofsky-Index</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 70</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>≥ 70</td>
<td>53</td>
<td>5</td>
</tr>
<tr>
<td>Extrakranielle Metastasen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nein</td>
<td>51</td>
<td>5</td>
</tr>
<tr>
<td>Ja</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td>Intervall von Erstdiagnose bis WBRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 8 Monate</td>
<td>32</td>
<td>3</td>
</tr>
<tr>
<td>&gt; 8 Monate</td>
<td>36</td>
<td>4</td>
</tr>
</tbody>
</table>

Median survival by Rades-Score:
- Rades-Score 9–10 = 2 months
- Rades-Score 11–13 = 3 months
- Rades-Score 14–16 = 5 months
- Rades-Score 17–18 = 12 months

* Based on a multivariate analysis of 1,085 patients treated with WBRT alone for brain metastases, a scoring system was developed, validated in 350 new patients


7. Kocher M, Soffietti R, Abacioglu U et al.: Adjuvant whole-brain radiotherapy versus observation after radiosurgery or surgical


7. Ling DC, Vargo JA, Wegner RE et al.: Postoperative stereotactic radiosurgery to the resection cavity for large brain metastases:


NCCTG N0574 (Alliance): A Phase III Randomized Trial of Whole Brain Radiation Therapy (WBRT) in Addition to Radiosurgery (SRS) in Patients with 1 to 3 Brain Metastases

Study design:
Patients with 1-3 brain metastases, each < 3 cm by contrast MRI, were randomized to SRS alone or SRS + WBRT and underwent cognitive testing before and after treatment. The primary endpoint was cognitive progression (CP) defined as decline > 1 SD from baseline in any of the 6 cognitive tests at 3 months. Time to CP was estimated using cumulative incidence adjusting for survival as a competing risk. *

Conclusion:
Decline in cognitive function, specifically immediate recall, memory and verbal fluency, was more frequent with the addition of WBRT to SRS. Adjuvant WBRT did not improve OS despite better brain control. Initial treatment with SRS and close monitoring is recommended to better preserve cognitive function in patients with newly diagnosed brain metastases that are amenable to SRS.

* Remark: No hippocampus-sparing was applied


7. Krop IE, Lin NU, Blackwell K et al.: Trastuzumab emtansine (T-DM1) versus lapatinib plus capecitabine in patients with HER2-


Radiochemotherapy


Re-Bestrahlung bei Rezidiv


8. Teplinsky E, Esteva FJ: Systemic therapy for her2-positive central nervous system disease: Where we are and where do we go from


Systemic therapy for patients with brain metastases


Anticonvulsants


Steroids


7. Grossman SA, Finkelstein DM, Ruckdeschel JC et al.: Randomized prospective comparison of intraventricular methotrexate and


Trastuzumab intrathecal


2. Stemmler HJ, Schmitt M, Harbeck N et al.: Application of intrathecal trastuzumab (Herceptin trade mark) for treatment of meningeal


**MTX high dose**