# Diagnostik und Therapie früher und fortgeschrittener Mammakarzinome



Guidelines Breast
Version 2022.1D

## ZNS-Metastasen beim Mammakarzinom

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# ZNS-Metastasen beim Mammakarzinom



Guidelines Breast
Version 2022.1D

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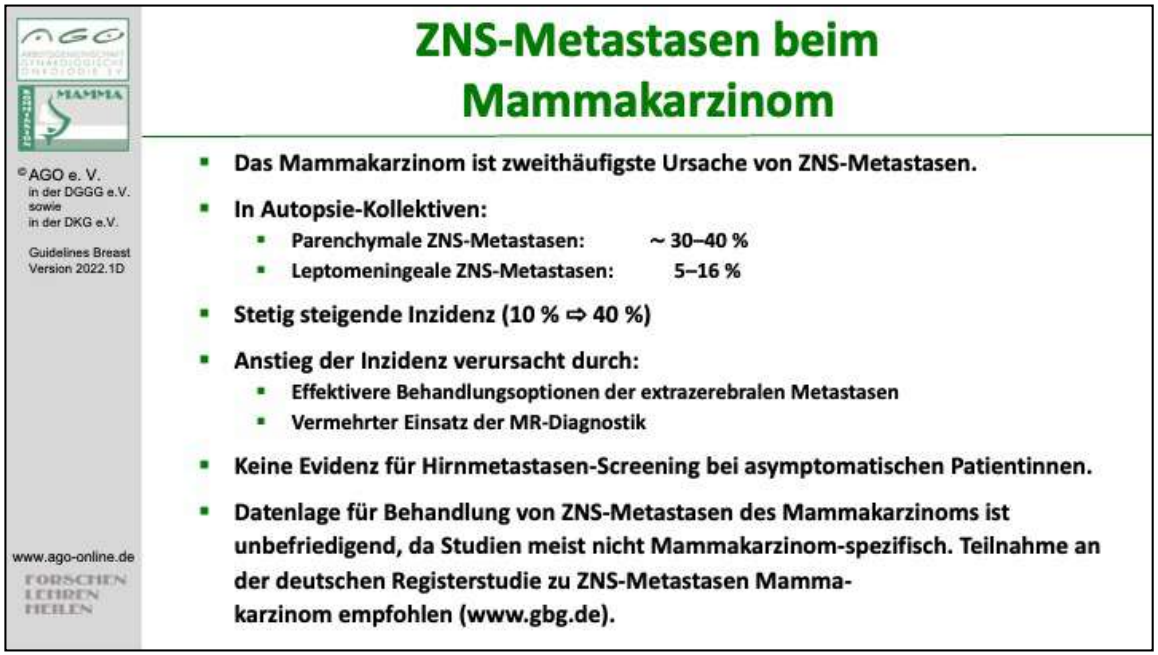



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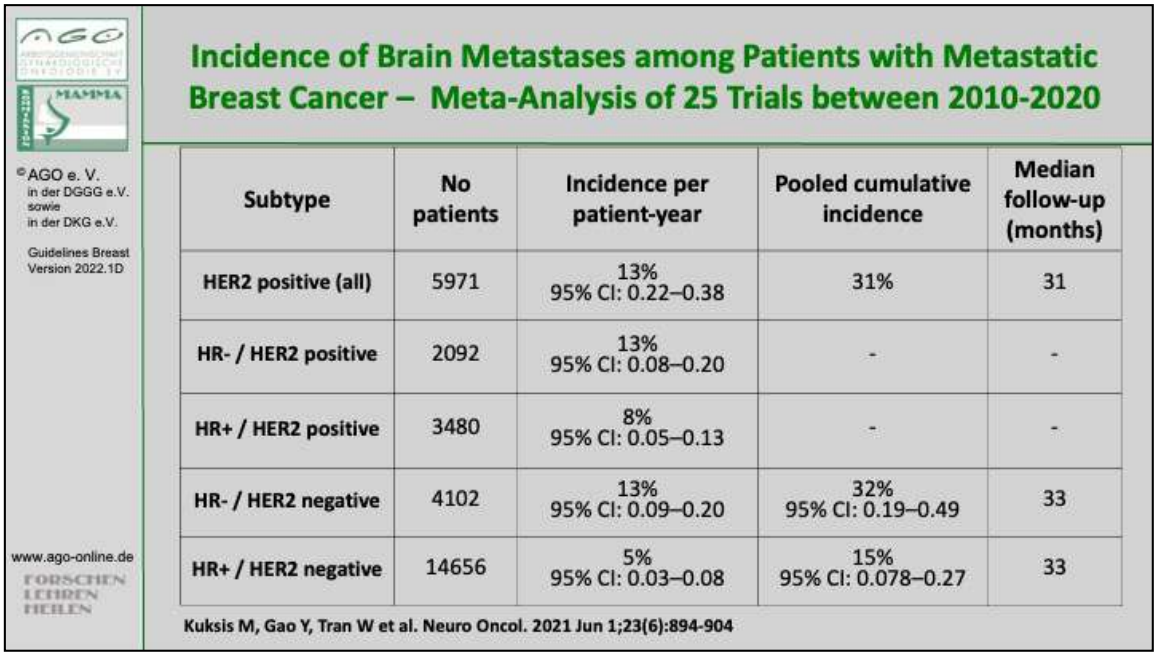


## Incidence of Brain Metastases among Patients with Metastatic Breast Cancer – Meta-Analysis of 25 Trials between 2010-2020

| Subtype | No patients | Incidence per patient-year | Pooled cumulative incidence | Median follow-up (months) |
|---|---|---|---|---|
| HER2 positive (all) | 5971 | 13%<br>95% CI: 0.22–0.38 | 31% | 31 |
| HR- / HER2 positive | 2092 | 13%<br>95% CI: 0.08–0.20 | - | - |
| HR+ / HER2 positive | 3480 | 8%<br>95% CI: 0.05–0.13 | - | - |
| HR- / HER2 negative | 4102 | 13%<br>95% CI: 0.09–0.20 | 32%<br>95% CI: 0.19–0.49 | 33 |
| HR+ / HER2 negative | 14656 | 5%<br>95% CI: 0.03–0.08 | 15%<br>95% CI: 0.078–0.27 | 33 |

Kuksis M, Gao Y, Tran W et al. Neuro Oncol. 2021 Jun 1;23(6):894-904

1. Kuksis M, Gao Y, Tran W et al.: The incidence of brain metastases among patients with metastatic breast cancer: a systematic review and meta-analysis Neuro Oncol. 2021 Jun 1;23(6):894-904



Risk factors (see also references slide CNS incidence)

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

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

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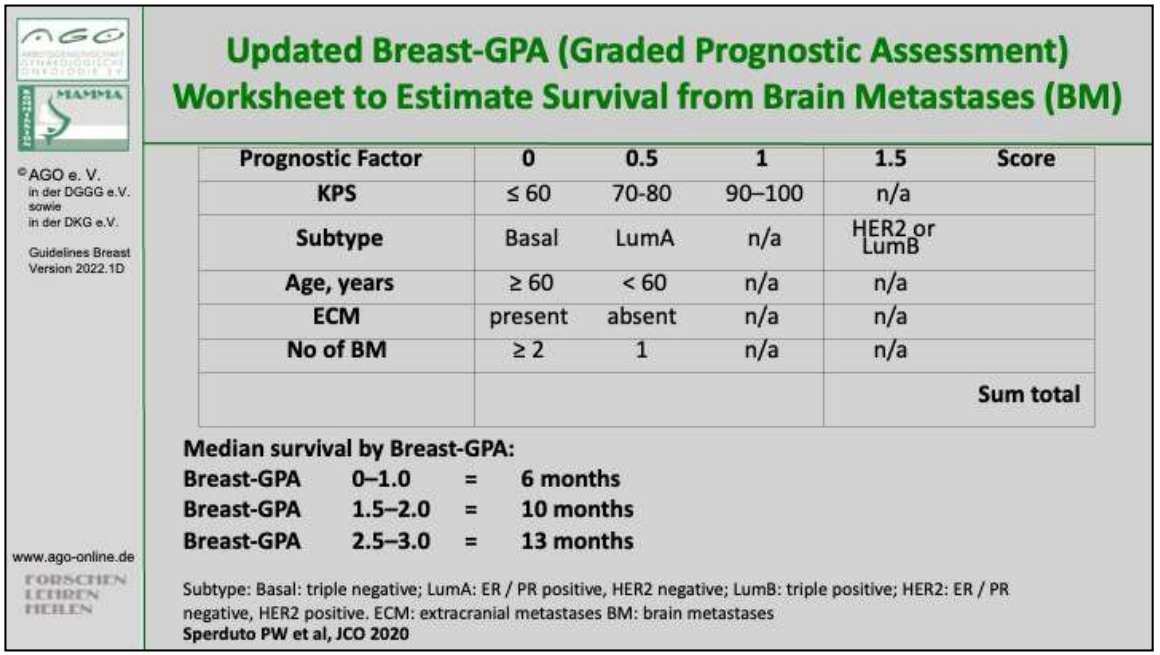

## Updated Breast-GPA (Graded Prognostic Assessment)
## Worksheet to Estimate Survival from Brain Metastases (BM)



| Prognostic Factor | 0 | 0.5 | 1 | 1.5 | Score |
|---|---|---|---|---|---|
| KPS | ≤ 60 | 70-80 | 90–100 | n/a | |
| Subtype | Basal | LumA | n/a | HER2 or LumB | |
| Age, years | ≥ 60 | < 60 | n/a | n/a | |
| ECM | present | absent | n/a | n/a | |
| No of BM | ≥ 2 | 1 | n/a | n/a | |
| | | | | | Sum total |

**Median survival by Breast-GPA:**

**Breast-GPA 0–1.0 = 6 months**
**Breast-GPA 1.5–2.0 = 10 months**
**Breast-GPA 2.5–3.0 = 13 months**

Subtype: Basal: triple negative; LumA: ER / PR positive, HER2 negative; LumB: triple positive; HER2: ER / PR negative, HER2 positive. ECM: extracranial metastases BM: brain metastases

**Sperduto PW et al, JCO 2020**



Breast-GPA

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Prognostic Factors for Survival

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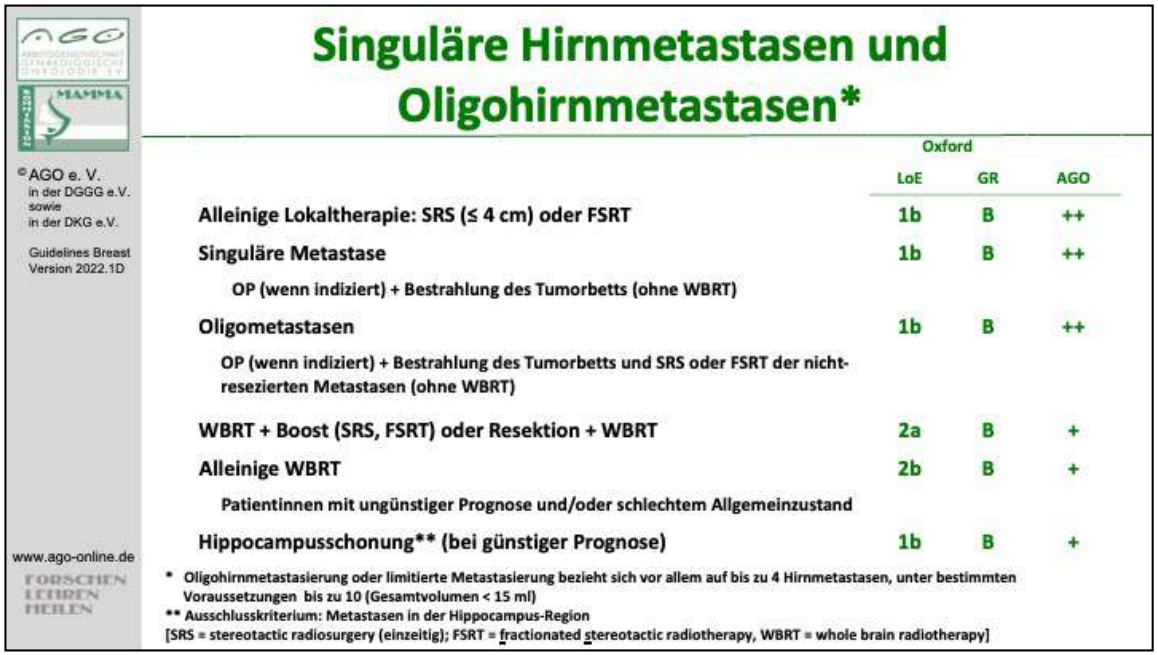

# Singuläre Hirnmetastasen und Oligohirnmetastasen*



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| | Oxford LoE | GR | AGO |
|---|---|---|---|
| **Alleinige Lokaltherapie: SRS (≤ 4 cm) oder FSRT** | 1b | B | ++ |
| **Singuläre Metastase** | 1b | B | ++ |
| **OP (wenn indiziert) + Bestrahlung des Tumorbetts (ohne WBRT)** | | | |
| **Oligometastasen** | 1b | B | ++ |
| **OP (wenn indiziert) + Bestrahlung des Tumorbetts und SRS oder FSRT der nicht-resezierten Metastasen (ohne WBRT)** | | | |
| **WBRT + Boost (SRS, FSRT) oder Resektion + WBRT** | 2a | B | + |
| **Alleinige WBRT** | 2b | B | + |
| **Patientinnen mit ungünstiger Prognose und/oder schlechtem Allgemeinzustand** | | | |
| **Hippocampusschonung** (bei günstiger Prognose)** | 1b | B | + |

* Oligohirnmetastasierung oder limitierte Metastasierung bezieht sich vor allem auf bis zu 4 Hirnmetastasen, unter bestimmten Voraussetzungen bis zu 10 (Gesamtvolumen < 15 ml)
** Ausschlusskriterium: Metastasen in der Hippocampus-Region
[SRS = stereotactic radiosurgery (einzeitig); FSRT = fractionated stereotactic radiotherapy, WBRT = whole brain radiotherapy]


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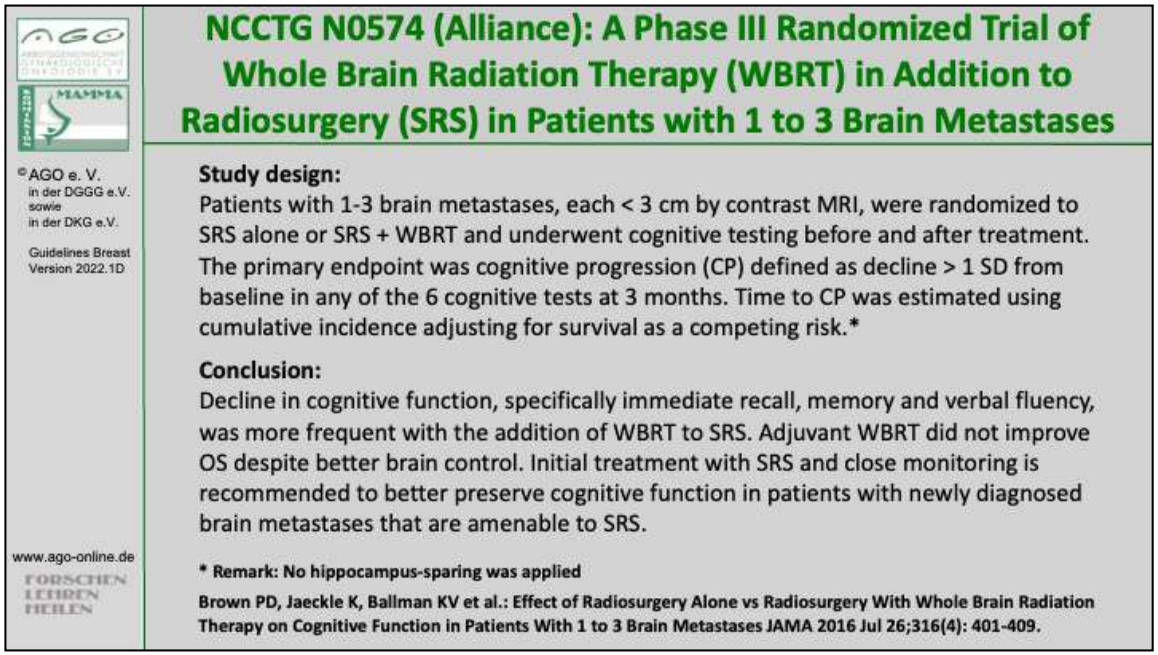


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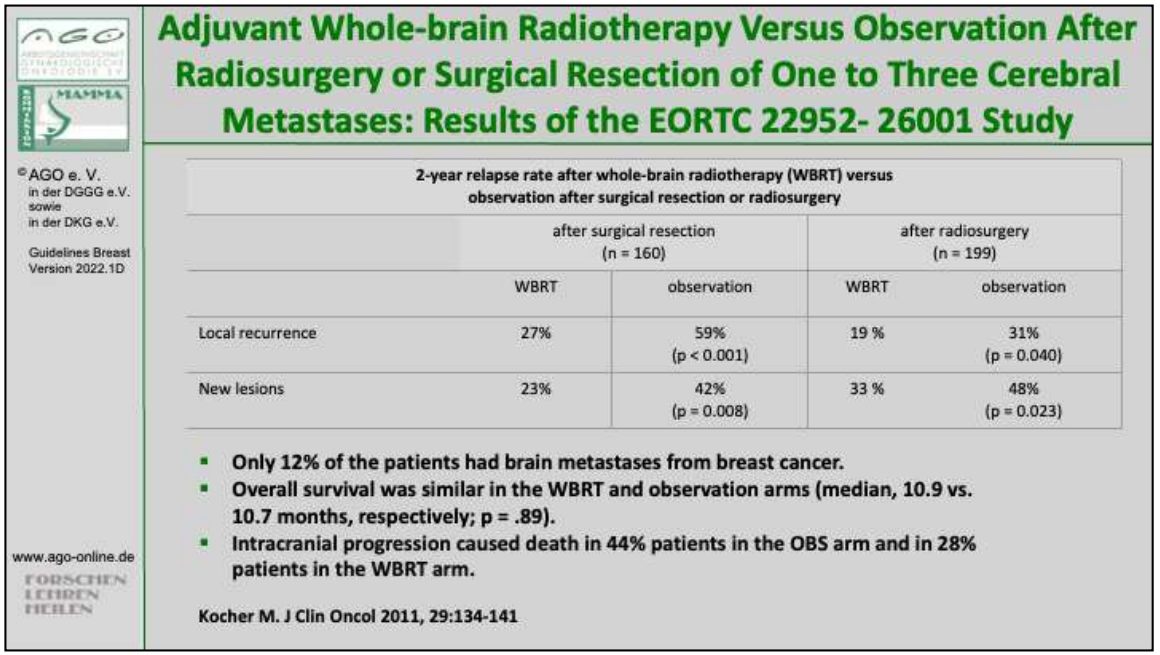


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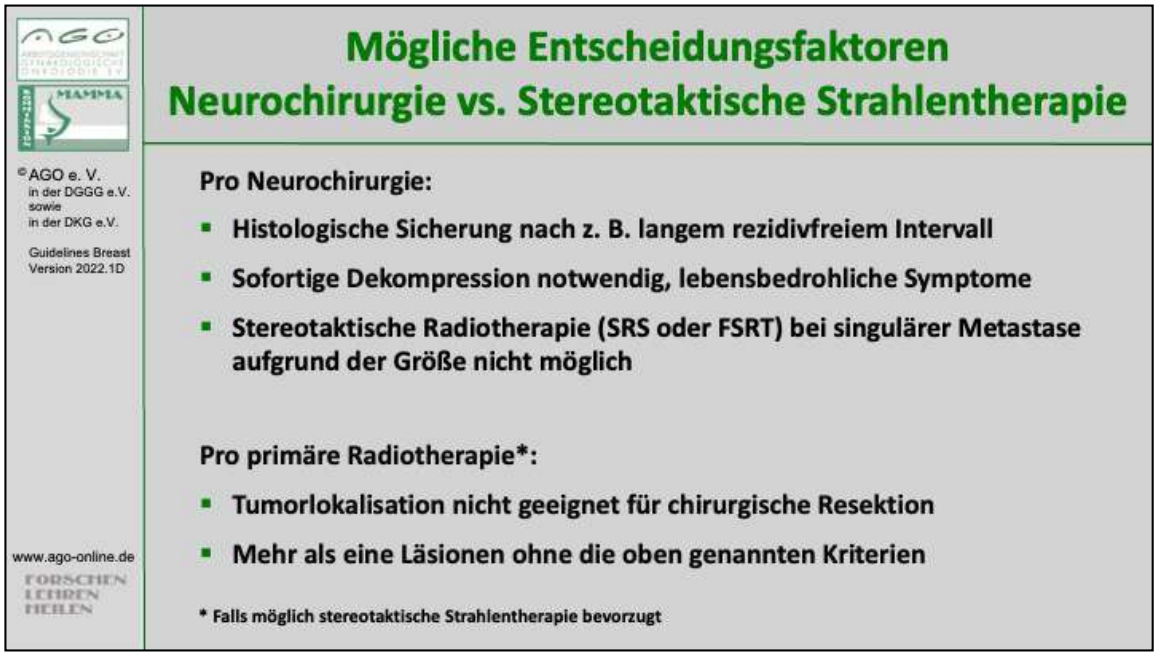



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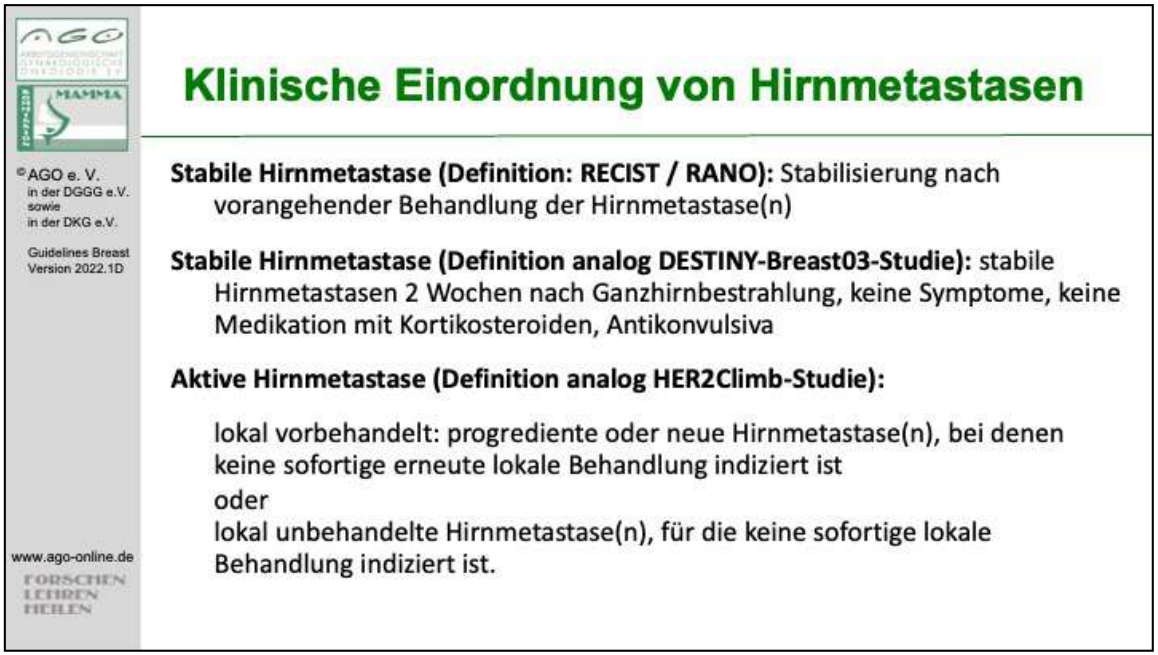



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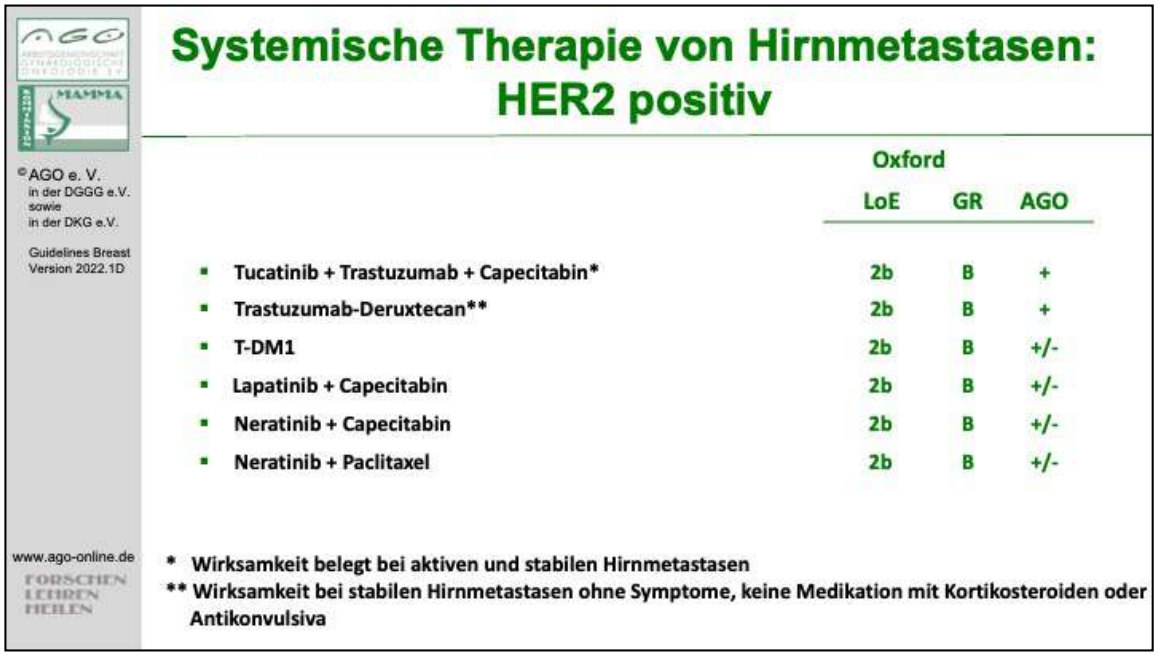



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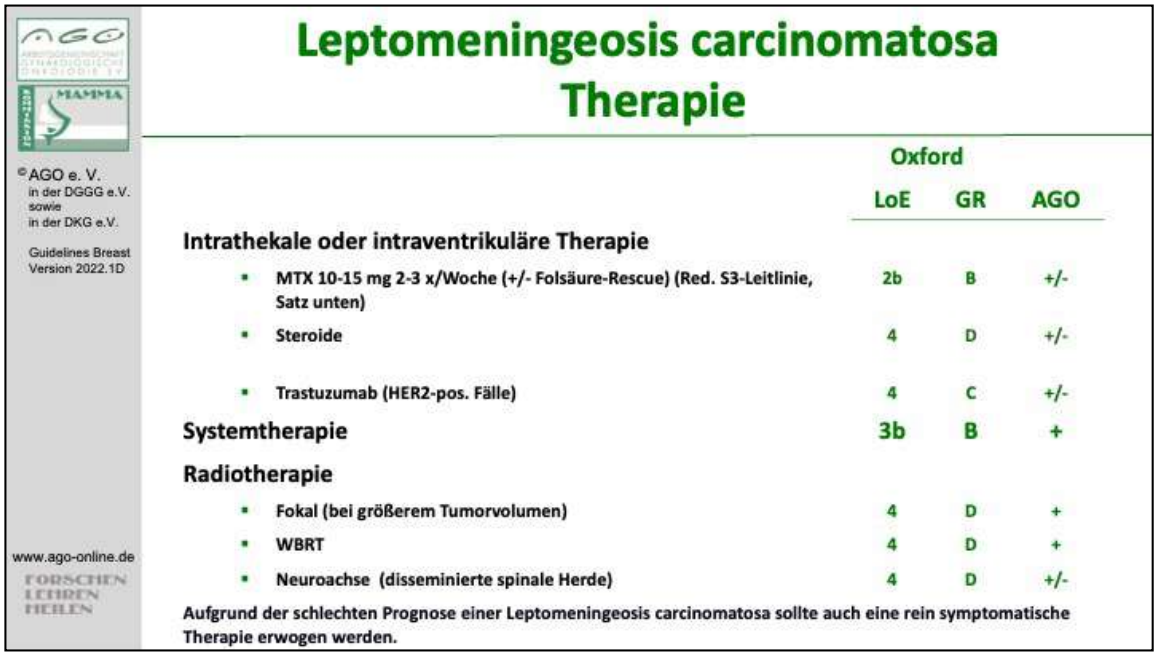



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