Breast Cancer Brain Metastases Patient Pathway

Epidemiology

20%-40% of mBC

- HER2+,HR- ≈ 45%
- TNBC ≈ 34%
- HR+ ≈ 14%

More common in gBRCA1m vs. gBRCA2m

Clinical presentation

Seizures, motor dysfunction, hemiparesis, aphasia, personality changes, visuospatial changes, symptoms of high intracranial pressure

Work up

- MRI - pre- and post-contrast T1-weighted, T2-weighted and/or T2-fluid-attenuated inversion recovery (FLAIR) and diffusion weighted imaging (DWI) sequences
- (Biopsy if uncertain diagnosis)

Ref: Darlix et al Br J Cancer 2019;221:991; Raghavendra et al JCO Oncol Pract 2024;00:1; Le Rhun et al Ann Oncol 2021;32:1332; Vogelbaum et al J Clin Oncol 2022;10:492; Lin et al Am Soc Clin Oncol Educ Book 2017;37:45.

* Treatment decision are typically made in a multi-disciplinary treatment conference

Factors affecting treatment decision*

- Breast cancer subtype
- Extracranial control
- Performance status and expected survival
- Number of metastases and associated symptoms or asymptomatic
- GPA-DS score
- Surgical resectability
- Large tumor volume with mass effect

Surgery

- Favorable prognostic factors
- Singel lesion or oligometastatic
- Mass effect or impending herniation
- Presence of CNS-associated symptoms

Stereotactic radiosurgery (SRS)

- Single or oligometastatic disease
- Surgically ineligible – deep lesions
- Presence of CNS-associated symptoms
- Lesion size (≤ 3-4cm)
- Post-surgical SRS
- Repeat SRS possible

Whole Brain Radiotherapy (WBRT)

- Multiple lesions (>10)
- Uncontrolled extracranial disease
- Life expectancy < 3months

Systemic therapy

- Breast cancer subtype (particularly HER2+)
- Asymptomatic/ stable disease
- Post surgery/ RT
- Not eligible for surgery and/or radiotherapy

The need for palliative care should be continuously assessed. Follow-up is recommended with 3-monthly intervals.