Background: Brain metastases occur in 10% to 15% of all women with breast cancer. The diagnosis-specific Graded Prognostic Assessment (GPA) was published to clarify prognosis for breast cancer with brain metastases (BCBM). This study evaluated Breast-GPA in the outcomes in BCBM at single tertiary center.

Methods: A single institution retrospective database of 161 BCBM was analyzed after obtaining IRB approval. Prognostic factors significant for survival were analyzed by multivariate Cox regression.

Results: The patients with triple negative disease, >2 extracranial sites of metastases, uncontrolled primary cancer and supra-tentorial and infra-tentorial location of BCBM were predictors of poor survival. The Conventional GPA was prognostic for survival (p = .002) but not for PFS.

Conclusions: Patients with triple negative disease, >2 extracranial sites of metastases, uncontrolled primary breast cancer and supra-tentorial and infra-tentorial location of BCBM lead to inferior outcomes in BCBM. A revised GPA model was predicted for four groups with different outcomes. Independently prognostic for survival (multivariable Cox proportional hazards model).

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