Prediction of short survival in patients with brain metastases based on three different scores: a role for 'triple-negative' status?

Abstract:
To evaluate models predicting short survival in patients with brain metastases treated with whole-brain radiotherapy (WBRT). This was a retrospective analysis of 312 patients. Each patient was assigned to three different four-tiered prognostic scores: the Basic Score for Brain Metastases (BSBM), the Graded Prognostic Assessment (GPA) and the score developed by Rades et al. In addition, a 'triple-negative' cohort was evaluated (all three scores predicted unfavourable prognosis, n=30). No statistically significant survival differences were found between the most unfavourable BSBM, GPA, Rades et al. and 'triple-negative' groups. The BSBM best predicted short survival: patients classified in the unfavourable group (Karnofsky performance status <80, uncontrolled primary tumour and presence of extracranial metastases) had a 12.5% survival at 4 months and a 0% 1-year survival. Patients in this group who survived for 4 months or more had simultaneously detected cancer and brain metastases, were treatment naive, and received systemic therapy in addition to WBRT. Excluding this type of patient from the analysis resulted in survival figures that were indistinguishable from those obtained with best supportive care without WBRT in other studies. Although continuous research is necessary to identify patients who can be managed safely and palliated without WBRT, we feel that a model of the BSBM unfavourable group (Karnofsky performance status <80, uncontrolled primary tumour and presence of extracranial metastases) is a useful tool for selecting patients who may benefit from WBRT.
performance status<80, uncontrolled primary tumour and presence of extracranial metastases) and no intent to treat systemically might form a basis for validation in other large databases. The triple-negativity criterion was not superior for predicting poor prognosis.