Brain metastases from cancer of unknown primary site

In 30% of patients with brain metastases (BM), neurological symptoms are the first clinical manifestation of systemic malignancy, referred to as BM from cancer of unknown primary site (BM-CUPS).

Lung cancers are the most common primary tumour in cancer of unknown primary site (BM-CUPS) accordingly, CT alone shows similar overall sensitivity for detecting the primary tumor as FDG-PET/CT. Yet, FDG-PET/CT improves the accuracy of staging by detecting more metastases, reflected by decreased graded prognostic assessment GPA scores and decreased predicted survival. Therefore, randomized trials on patients with BM should standardise methods of staging, notably when stratifying for GPA [1].

Case series

Between January 1985 and December 2000, 916 patients with brain metastases were treated with whole brain radiation therapy (WBRT) at the Department of Radiotherapy, University Hospital Freiburg. In 47 patients, a primary tumor could not be identified (cancer of unknown primary (CUP)). Sixteen patients had a solitary brain metastasis, 31 patients presented with multiple brain metastases. Surgical resection was performed in 15 patients, biopsy alone in 12 patients. WBRT was applied with daily fractions of 2 or 3 Gy to a total dose of 50 or 30 Gy, respectively. According to the recursive partitioning analysis (RPA) classes of the Radiation Therapy Oncology Group for patients with brain metastases none of the patients met the criteria for Class I, 23 for Class II, and 24 for Class III. The median overall survival (OS) for all patients with brain metastases (n = 916) was 3.4 and 4.8 months for patients with CUP (p = 0.45). In patients with CUP (n = 47) the median OS for patients with a single brain metastasis was 7.3 versus 3.9 months for patients with multiple brain metastases (p = 0.05). Median OS for patients with a Karnofsky performance status (KPS) > or = 70 was 6.3 months versus 3.2 months for KPS < 70 (p = 0.01). At multivariate analysis performance status and resection status could be identified as independent prognostic factors for the OS [2].

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2)
Bartelt S, Lutterbach J. Brain metastases in patients with cancer of unknown primary. J Neurooncol. 2003 Sep;64(3):249-53. PubMed PMID: 14558600.