Primary human glioblastomas - prognostic value of clinical and histopathological parameters.

Habberstad AH, Lind-Landström T, Sundstrøm S, Torp SH.

Department of Laboratory Medicine, Children's and Women's Health, Norwegian University of Science and Technology (NTNU), Department of Oncology, and Department of Pathology and Medical Genetics, St. Olavs Hospital, Trondheim, Norway.

Abstract

Background: Glioblastoma (GBM) is the most common primary malignant human brain tumor with a poor prognosis. The diagnosis of GBM is based on histological features, however, few studies have evaluated their prognostic relevance in light of the latest WHO classification of 2007. Aim: In this study we have evaluated the prognostic value of several clinical and histological characteristics encountered in human GBMs according to the WHO 2007 criteria. Material and methods: 199 patients with primary GBM consecutively operated and histologically reviewed according to the 2007 WHO scheme, were included. Several clinical and histological features were recorded and related to survival. Results: Mean age of the GBM patients at diagnosis was 62 years (range 21 - 84). Male/female ratio was 1.3/1, and the median survival was 8.0 months (95% CI: 7.1 - 9.0 months). In a multivariate COX analysis age, WHO performance score, subcortical localization, extent of surgery, radiation treatment, chemotherapy, and the presence of large necrosis had individual effect on overall survival (p < 0.05). In addition, females, tumors with angiocentric growth, with pseudopalisades, or without lymphocyte infiltration were related to shorter survival in univariate analyses (p < 0.05). Conclusion: Our findings confirm the strong prognostic value of age, treatment, performance score, and localization for glioblastoma patients. Amongst the histopathological features only large necrosis was an independent prognostic factor.

PMID: 22939176 [PubMed - in process]