Prognostic significance of c-Met expression in glioblastomas.

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BACKGROUND: The authors investigated whether expression of c-Met protein in glioblastomas is associated with overall survival and biologic features representing tumor invasiveness in patients with glioblastomas. METHODS: Paraffin-embedded specimens of glioblastomas from 62 patients treated in a single institution were assessed by immunohistochemical (IHC) analysis of c-Met expression. On the basis of the clinical data for these patients, the association between c-Met expression and clinicobiologic features representing tumor invasiveness was analyzed. RESULTS: c-Met overexpression was detected in 29.0% (18 of 62) of glioblastomas. In patients with c-Met overexpression, the median survival was 11.7 months (95% confidence interval [95% CI], 9.9 months-13.5 months), compared with a median survival of 14.3 months (95% CI, 7.6 months-21.0 months) for patients whose tumors had no or little expression of c-Met (P = .031). On the radiographic analysis, 9 of 18 patients (50%) with tumors overexpressing c-Met demonstrated invasive and multifocal lesions on the initial magnetic resonance images, whereas only 9 of 44 patients (20.5%) with tumors that expressed no or little c-Met demonstrated these features (P = .030). Using immunohistochemistry, we also found a significant association between c-Met expression and matrix metalloproteinase-2,-9 (P = .020 and P = .013). Furthermore, Myc overexpression was found to be closely correlated with c-Met overexpression on IHC analysis (P = .004). CONCLUSIONS: The authors suggest that c-Met overexpression is associated with shorter survival time and poor treatment response in glioblastomas, the mechanism for which is elevated tumor invasiveness on the molecular and clinical phenotypes. This implies that more effective therapeutic strategies targeting c-Met receptors may have important clinical implication. Cancer 2008. (c) 2008 American Cancer Society.

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