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# Serum levels of glial fibrillary acidic protein correlate to tumour volume of high-grade gliomas.

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### Abstract

**OBJECTIVES:** To investigate serum levels of glial fibrillary acidic protein (GFAP) and S-100B in patients with newly diagnosed high-grade gliomas. **MATERIALS AND METHODS:** GFAP and S-100B were measured by enzyme-linked immunosorbent assay techniques in preoperative serum from 31 patients with high-grade gliomas. A database with clinical, radiological and histological variables was created for statistical analyses. **RESULTS:** Mean serum levels of 239 ng/l (range 30-1210 ng/l) for GFAP and 58.3 ng/l (range 22-128 ng/l) for S-100B were found. Of the 31 patients, 16 had elevated levels of GFAP while only two showed increased S-100B concentrations. Tumour size was the only variable significantly associated with serum levels of GFAP ( $P < 0.0001$ ) with a linear correlation coefficient of 0.67. **CONCLUSIONS:** Serum levels of GFAP demonstrated a linear correlation to tumour volume in patients with high-grade gliomas. GFAP seems to be a more reliable biomarker in patients with high-grade gliomas than the commercially available S-100B.

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