

# PubMed

U.S. National Library of Medicine  
National Institutes of Health

Display Settings:  Abstract



[J Neurooncol.](#) 2010 Jun 13. [Epub ahead of print]

## Symptomatic spinal metastases of intracranial glioblastoma: clinical characteristics and pathomechanism relating to GFAP expression.



Maslehaty H, Cordovi S, Hefti M.

Department of Neurosurgery, University Hospitals Schleswig-Holstein, Campus Kiel, Arnold-Heller-Strasse 3, 24105, Kiel, Germany, h.maslehaty@gmx.de.

### Abstract

To demonstrate clinical characteristics of symptomatic spinal metastases of intracranial glioblastoma multiforme (GBM) and different spreading mechanisms relating to astrocytic cell differentiation, we present an extraordinary case of a 47-year-old patient with rapid progressive paraplegia due to coincident intramedullary and leptomeningeal dissemination of a supratentorial GBM. Serial biopsies of the intracranial, leptomeningeal, and intramedullary GBM lesions of our patient were analyzed for glial fibrillary acidic protein (GFAP). Furthermore, we present 19 additional cases of intracranial GBM with symptomatic spinal seeding, identified through literature review. GFAP expression was high in intracranial and intramedullary tumors, but low in leptomeningeal dissemination of our patient. Mean patient age was 45 years. Mean interval between identification of spinal metastases and death was 4.5 months. Mean overall survival was 18.6 months. Location of symptomatic spinal metastases was more frequently leptomeningeal (14 cases) than intramedullary (7 cases). The case presented herein supports the hypothesis of higher incidence of low GFAP expression in GBM cells in leptomeningeal manifestations after primary intracranial GBM. Because of the proposed tendency for early leptomeningeal spread from primary tumors with low astrocytic differentiation (low GFAP expression), patients with these tumors should be followed more closely to identify leptomeningeal tumor progression early on. Early identification of leptomeningeal spread could enable these patients to benefit from radiation therapy before they develop severe neurological deficits, which might translate into longer acceptable quality of life for these mostly young patients. This is an important finding, but further prospective studies are needed to verify our observations.

PMID: 20549302 [PubMed - as supplied by publisher]

[LinkOut - more resources](#)