Gliosarcoma with prominent smooth muscle component: A report of 10 cases.

Khanna M, Siraj F, Chopra P, Bhalla S, Roy S.
Department of Pathology, Sir Ganga Ram Hospital, Rajender Nagar, New Delhi - 110 060, India.

Abstract
Background and Aim: Gliosarcoma (GS) is an uncommon malignant tumor of the brain, consisting of malignant glial, usually a glioblastoma (GB), as well as sarcomatous component; the latter is usually in the form of fibrosarcoma. We report a series of 10 GSs with prominent smooth muscle component, which is a rare occurrence. Settings and Design: Out of a series of 225 cases of GB admitted in our hospital, 10 were diagnosed as GS with prominent smooth muscle component, gliomyosarcoma (GMS). Materials and Methods: This is an observational study based on the experience with 225 cases of GB, encountered between 1995 and 2008, in our hospital. The tumors showing prominent spindle cell component were stained with reticulin and 20 with strongly positive reticulin stain were diagnosed as GS. They were further studied by immunohistochemical staining for glial fibrillary acidic protein (GFAP), smooth muscle actin (SMA), desmin and factor VIII antigen. Results: Out of 225 cases of GB, 20 were diagnosed as GS. Ten of these showed prominent smooth muscle component and were diagnosed as GMS. They revealed varying degrees of SMA and factor VIII Ag positivity. In the sarcomatous component, SMA and factor VIII positive cells were seen close to the vessel walls as well as away from them. Conclusion: GMS containing prominent smooth muscle component may not be as rare as has been reported in the literature. Both GS and GMS appear to arise from the vessel wall at least in some cases, suggesting their possible vascular origin.

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