Sarcoma arising as a distinct nodule within glioblastoma: a morphological and molecular perspective on gliosarcoma.

Department of Pathology, Neuropathology Unit, University of California at San Francisco, Room M551, 505 Parnassus Avenue, San Francisco, CA, 94143-0102, USA.

Abstract
Gliosarcoma is a variant of glioblastoma and is characterized by distinct glial and sarcomatous components. Typically, there is no macroscopic boundary between the components and special stains are often required to distinguish the glial and sarcomatous elements. Some studies suggest similar genetic alterations in both components pointing to a common origin. We present an extreme case of gliosarcoma arising as a discrete fibrous nodule adjacent to a typical glioblastoma. A 65 year-old woman presented with progressive weakness, seizures and right-sided hemiparesis. CT scan demonstrated an irregular enhancing left frontal lobe mass and an adjacent discrete nodule with different imaging characteristics. The unique nature of this macroscopically biphasic neoplasm allowed us to compare the molecular characteristics of glial and sarcomatous elements which were strikingly similar except for small losses and gains in Chr 3. Studies are under way to determine the significance of chromosome 3 alterations in gliosarcomas.

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