Lipomatous supratentorial primitive neuroectodermal tumor with glioblastomatous differentiation

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Abstract

Cases of cerebral neuroblastoma or supratentorial primitive neuroectodermal tumor with malignant gliomatous components are relatively uncommon. Less frequent is the combination of these 2 elements with a mesenchymal component. This is a case report of a lipomatous supratentorial primitive neuroectodermal tumor with glioblastomatous differentiation occurring in a 48-year-old woman. She presented with headaches and confusion. A right parietal lobe mass was excised and subsequently recurred, requiring additional surgery 10 months later. The patient died 13 months after initial surgery. Histologic findings showed a proliferation of small rounded synaptophysin-positive neural cells consistent with neuroblastoma. These cells were arranged against a benign lipomatous background. The second resection consisted primarily of glioblastomatous-like tissue with intermixed lipomatous component. The glioblastoma component was marked by prominent cellularity, moderate nuclear pleomorphism, readily identifiable mitotic activity, vascular proliferative changes, and necrosis. The glioblastomatous component of the tumor demonstrated glial fibrillary acidic protein immunoreactivity. A Ki-67 labeling index of 18.9% was noted in the initial resection. The literature on similar-appearing lesions is reviewed.

Keywords: Neuroblastoma, Glioblastoma multiforme, Adipose tissue, Supratentorial primitive neuroectodermal tumor, Lipoma