Epithelioid Glioblastoma Presenting as Aphasia in a Young Adult with Ovarian Cancer: A Case Report

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The patient's steroid taper was completed on post-operative day 7. Four weeks after surgery, she underwent fractioned focal irradiation targeting the previous tumor bed in daily fractions of 2 Gy given twice per week for 6 weeks. She continued to have no new seizure activity on MRI brain with and without contrast at 3 and 6 months postoperatively which showed no evidence of tumor recurrence (fig 3). Patient has since refused adjuvant temozolamide therapy and is currently seeking nutritional therapies. She has been seizure-free throughout her clinical course and remains neurologically intact.

Discussion

The epithelioid type has been added to the classification of IDH-wildtype GBM but it is unique in its predilection for younger patients [5] and poorer prognosis. The poor prognosis may be in part due to an increased propensity for leptomeningeal dissemination [7]. Diagnosis of eGBM relies on a combination of radiologic, histologic and genetic analyses. Radiologic features of eGBM include areas of cystic necrosis with nodular enhancement, often accompanied by vasogenic edema, mass effect and midline shift [4]. Genetically, eGBM differs from traditional IDH-wildtype glioblastomas in that it often lacks identifiers such as EGFR amplification [5]. Histologically, differential diagnosis includes metastatic carcinoma, metastatic melanoma and pleomorphic xanthoastrocytoma [1,4]. Epithelioid GBM features large epithelioid cells with abundant eosinophilic cytoplasm, vesicular chromatin, multinucleated figures, fairly extensive necrosis and prominent nuclei. The appearance of the nuclei particularly may cause eGBM to be mistaken for metastatic melanoma during frozen section analysis. Its histology may also be mistaken for pleomorphic xanthoastrocytoma (PXA), a WHO grade II lesion, and its anaplastic subset (PXA-A) with shared characteristics of loosely cohesive cells with epithelial and glial markers [1]. Special stains assist in narrowing the differential as GBM is typically GFAP-positive, S-100 protein positive, negative for HMB-45 and Melan-A.

Summary

Identification and diagnosis of glioblastoma is often straightforward, however eGBM can radiographically mimic a metastatic lesion. Thus the importance of tissue sampling is paramount when differentiating from suspected cases of metastasis. As unique classifications of GBM are investigated it is important to further evaluate brain masses using histologic stains and genetic analysis for early detection of eGBM. Due to its poor prognosis and predilection for leptomeningeal dissemination, early identification of this lesion is needed for appropriate care. Here, we discuss a 29-year-old female with past medical history of ovarian cancer presenting with receptive aphasia and radiographic evidence of a temporal lesion resembling metastatic disease. Frozen section of this lesion suggested a metastasis. However, final histological evaluation of this lesion revealed eGBM, a rare and newly classified subtype of GBM by the WHO classification.

References