

Answers to the Medical Quiz

There is a large enhancing mass in the right occipitoparietal lobe extending into the splenium of the corpus callosum. The ipsilateral calcified choroid glomus is displaced anteriorly. The enhancement consists of a thick nodular rim surrounding a low attenuation centre of necrosis. It is surrounded anteriorly by a large field of low attenuation consistent with cerebral edema. The prominent edema has contributed to mass effect compressing the ipsilateral lateral ventricle with a subfalcial herniation of the right cerebral hemisphere. Notice the effacement of the cortical sulci and Sylvian cistern on the right side.

The presence of an extensive column of edema in the clinical context of an enhancing brain mass should suggest a high-grade glioma or metastasis. Malignant glioma is the leading possibility when a solitary, peripherally enhancing, deep hemispheric lesion is discovered.¹ Cerebral metastases often generate considerable edema which may be responsible for the symptoms rather than the tumor itself. However, when a second lesion is found in such a case it favors metastases. This sign is not constant as some rare gliomas may be multicentric. The commonest primary malignant neoplasms to metastasise to the brain include carcinoma of the lung, breast, melanoma and hypernephroma. Metastases from adenocarcinoma of the colon, ovarian carcinoma and choriocarcinoma are not uncommon.

The other differential diagnosis in this case will include a cerebral abscess and primary CNS lymphoma.

A pyogenic abscess generally has a thin, smooth enhancing wall surrounding a low attenuation centre. Occasionally, the deeper side of the abscess adjacent to the ventricle is thinner than the lateral wall due to poor response of the deeper white fibres of the brain to an inflammatory insult. Many cystic gliomas may very closely resemble an abscess.

The thick irregular enhancing wall in this case rules out a pyogenic abscess. Pyogenic or fungal abscesses may generate thick walls, loculated or semisolid contents resembling a high-grade glioma or metastasis. Primary CNS lymphoma occurs in immunodeficient hosts. This lesion may present in a variety of ways to mimic other pathologies.² A large rim enhancing mass with severe surrounding edema with subfalcial herniation simulating a glioblastoma may just represent a primary CNS lymphoma. This must always be considered along with gliomas and metastases. Parenchymal involvement by systemic lymphoma typically infiltrates the meninges. The clinical context, however, helps to separate CNS lymphoma.

This patient died within 48 hours after admission. A confirmation of a radiological diagnosis of a high-grade glioblastoma was not made.

REFERENCES

1. Yock DH. Computed tomography of CNS disease. Chicago: Year Book Medical Publishers, 1984;30.
2. Yock DH. Computed tomography of CNS disease. Chicago: Year Book Medical Publishers, 1984;86.



Figure 1