

53rd ANNUAL DIAGNOSTIC SLIDE SESSION 2012

CASE 2012-7

Submitted by:

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Clinical History:

A 22-year-old man inmate with no significant past medical history was admitted with a 2-month history of gradually progressive left-sided weakness, dizziness, headaches, and vomiting. MRI revealed a 10 cm enhancing lesion situated in the right frontotemporal region with extension into the corpus callosum, suspicious for high grade glioma. A stereotactic biopsy was performed, and the patient was given the appropriate treatment based upon the pathology finding in this tissue sample. However, postoperatively his symptoms continued to progress. Subsequent neuroimaging studies revealed increased mass effect with development of midline shift, hydrocephalus related to extension of the process into the lateral ventricles (necessitating ventriculostomy placement), and acute infarction of the right cerebellum with edema causing mass effect on the brainstem. Notable, an extensive laboratory workup confirmed that he was HIV negative and not immunocompromised. However, imaging of the patient's chest revealed a right upper lobe lesion, urine culture grew out *Klebsiella pneumoniae*, and cytopathology performed on a bronchoalveolar lavage specimen indicated Herpes viral cytopathic effect (viral culture negative). A "do no resuscitate" order was issued by the family. The patient was pronounced dead shortly thereafter, and permission for a complete autopsy was obtained.

Autopsy findings:

The unfixed brain weighed 1305 grams. The cerebral hemispheres were grossly edematous. The cranial nerves and arteries at the base of the brain were enmeshed within dense clotted material that covered the ventral aspect of the brainstem and adjacent cerebellum. The right cerebellar hemisphere was infarcted. A large necrotic hemorrhagic lesion was identified in the right frontotemporal region, with hemorrhage present within the right lateral, 3rd, and 4th ventricles. Diffuse parenchymal softening was present within bilateral frontotemporal white matter and basal ganglia with blurring of the grey-white junctions. The right occipital lobe contained a firm, tan-yellow lesion (u to 3cm in maximal dimension). Brainstem structures, especially the basis pedunculi, basis pontis, and pyramids, were softened and distorted.

Material submitted:

Post contrast images of brain
Cross photo of frontotemporal lesion at autopsy
1 H&E stained microscopic section from frontotemporal lesion

Points for discussion:

1. Diagnosis.
2. Differential diagnosis based on clinical history, imaging, gross, and microscopic findings.
3. Additional studies that would be useful in diagnosing this lesion.

Learning objectives:

1. The participants will be able to generate the differential diagnosis of a brain mass in an immunocompetent patient.
2. The participant will be able to propose special stains and other studies which would aid in making the diagnosis.

