45TH ANNUAL DIAGNOSTIC SLIDE SESSION 2004

CASE 2004-7

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Clinical History:

The patient was a 38year old woman, who had worsening headaches since February 2002 following mild trauma and later developed balance problems. MRI examination demonstrated a left cerebellar mass which, at that time, was thought to be a vascular anomaly. In late 2002, she presented with worsening headaches, severe nausea and vomiting, and ataxia. MRI showed obstructive hydrocephalus and the left cerebellar mass. She underwent resection of the mass with VP shunt placement in January 2003. The cerebellar mass proved to be a medulloblastoma and she underwent radiotherapy and chemotherapy. In February 2003, she developed diplopia, nystagmus, gait difficulty and a left facial droop. Imaging showed posterior fossa edema; her symptoms improved with high dose steroids. In May 2003, she presented with worsening of balance problems, difficulty in walking and confusion and later became unresponsive. Imaging showed post-operative changes and possible post-radiation changes (hyperintensity in T2 weighted and FLAIR MR images) in the left cerebellum. In addition there was a new medial temporal FLAIR abnormality (right>left) which was worrisome for an inflammatory or neoplastic process. Cerebrospinal fluid analysis showed increased protein with normal sugar and a total of 6 cells/mcl (2 nucleated cells/mcl; lymphocytes 71%, macrophages 27%, neutrophils 2%). Subsequent imaging a week later showed progression of gyral/ leptomeningeal enhacement. A biopsy of the right temporal lobe was performed and appropriate treatment initiated. However, she worsened clinically and expired.

Necropsy findings:

General- The main finding was bilateral pulmonary embolism and necrotizing pneumonia.

Gross Neuropathologic findings- The temporal lobes bilaterally were discolored with numerous petechial hemorrhages. Coronal sections showed diffuse dark discoloration and petechial hemorrhages involving bilateral temporal, occipital and right frontal lobes, bilateral hippocampi, basal ganglia and thalami. Sections of the brainstem showed focal softening and dark discoloration. There was a well-demarcated pigmented cavity measuring 1.3cm in the left cerebellar hemisphere.

Material submitted:

An H&E section of the cerebral cortex/ brainstem and an unstained slide.

Points for discussion: 1. Diagnosis
2. Pathogenesis