Atypical meningioma mimicking high-grade glioma

Figure 1 Magnetic resonance imaging

Fluid-attenuated inversion recovery sequence, left frontal mass with infiltrative margins, and vasogenic edema compressing the left lateral ventricle (A). T2-weighted gradient-recalled echo image, foci of hypointensity, attributable to calcification, hemorrhage, or both (B). Post gadolinium-contrast, T1-weighted imaging, heterogeneous contrast enhancement (C, D). No classic signs of meningioma including dural tail, or CSF cleft.

A 52-year-old man presented following a motor vehicle collision. Examination revealed a Glasgow Coma Scale score of 15, with right lower extremity paresis. Noncontrast CT demonstrated a left frontal lesion. MRI further characterized the mass within the left superior frontal gyrus, suspicious for high-grade glioma (figure 1). Intraoperatively, the mass exhibited invasive margins, gross hypervascularity, and hemorrhage, without apparent dural attachment. Preliminary diagnosis was glial neoplasm. Final pathology was consistent with meningioma with focal brain invasion and rhabdoid differentiation, without anaplastic features, World Health Organization (WHO) grade II (figure 2). Outcome is correlated with WHO grade.¹ Brain invasion is a new WHO diagnostic criterion of atypical meningioma.²

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(A) Transitional meningioma with secretory areas, 10 $\times$ magnification. (B) Rare psammoma body, 40 $\times$. (C) Rhabdoid differentiation with eosinophilic cytoplasmic inclusions and nuclei with prominent nucleoli, without frank atypia or mitoses, 40 $\times$. (D) Focal brain invasion, 10 $\times$. (E) Diffuse epithelial membrane antigen positivity, 40 $\times$. (F) Electron microscopy: concentric arrays of intermediate filaments within tumor cells.

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