A giant dumbbell-shaped primitive neuroectodermal tumor in the brain

A 5-year-old girl presented with an 8 × 10-cm dumbbell-shaped mass in her left occipitoparietal region (figure 1). A preoperative CT angiogram demonstrated a large subcutaneous mass with abundant blood vessels (figure 2A). MRI revealed a giant extracranial–intracranial space-occupying lesion (figure 2, B–D). After endovascular embolization, we resected the tumor (figure 2E). The postoperative pathologic diagnosis was primitive neuroectodermal tumor (figure 2F). Primitive neuroectodermal tumor extension to the brain is rare; imaging is not pathognomonic and requires confirmation by pathology. Early intervention is preferable.

Figure 1 Dumbbell-shaped mass measuring 8 × 10 cm

Image after the hair removal showing a giant dumbbell-shaped mass in the left occipitoparietal region.

Figure 2 Neuroimaging

(A) Preoperative CT angiogram showing the skull involvement and superficial blood supply of the mass. (B–D) Preoperative MRI showing the intracranial involvement of the same tumor. (E) Gross specimen of the resected tumor. (F) Pathologic image of the tumor (hematoxylin & eosin, ×400).
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