Teaching NeuroImage: Intracranial Solitary Fibrous Tumor With Liver Metastasis

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A 65-year-old woman presented with nausea, headache, and visual changes. MRI brain identified dural-based lesions involving the right cerebellum, right tentorium, and left anterior falx thought to be consistent with meningiomas (Figure, A–C). Due to unclear association between imaging findings and clinical symptoms, surveillance was recommended. Follow up was inadvertently delayed. Repeat imaging at 7 months revealed enlarging tentorial lesion, treated with gamma knife radiosurgery (GKRS) (Figure, D). Further growth prompted resection of the cerebellar lesion. Tumor cells were positive for STAT6 on immunohistochemistry, establishing solitary fibrous tumor (SFT) as the diagnosis. PET:CT identified FDG-avid hepatic lesion with biopsy confirming STAT6, CD34, and synaptophysin positive metastatic SFT (Figure, E–F). After additional GKRS, systemic therapy with sunitinib was started. SFTs are mesenchymal neoplasms predominantly affecting young adults that should be included in the differential of durally-based lesions. Given propensity for extracranial metastasis, systemic imaging should be obtained upon establishing tissue diagnosis.
Figure: MRI of the brain and PET:CT of the liver
Post-contrast T1-weighted MRI axial demonstrating lesions involving the right cerebellum (A), right tentorial leaflet (B), and left anterior falx (C). (D) Post-contrast T1-weighted MRI axial demonstrating increased size of right tentorial lesion. (E) PET:CT demonstrating lesion in the superior posterior right hepatic lobe. (F) MRI demonstrating hepatic metastasis.

References:


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