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Teaching NeuroImage: Intracranial Solitary Fibrous Tumor With Liver Metastasis

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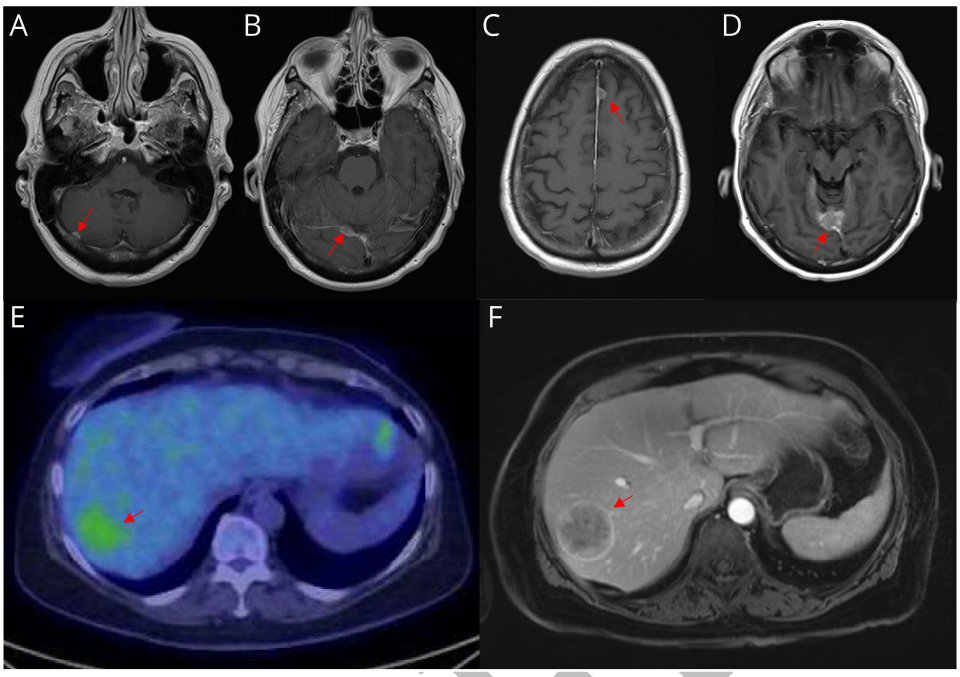
A 65-year-old woman presented with nausea, headache, and visual changes. MRI brain identified dural-based lesions involving the right cerebellum, right tentorium, and left anterior falx thought to be consistent with meningiomas (Figure, A–C). Due to unclear association between imaging findings and clinical 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[1]. Given propensity for extracranial metastasis, systemic imaging should be obtained upon establishing tissue diagnosis[2].

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:

1. David N Louis, Arie Perry, Pieter Wesseling, Daniel J Brat, Ian A Cree, Dominique Figarella-Branger, Cynthia Hawkins, H K Ng, Stefan M Pfister, Guido Reifenberger, Riccardo Soffietti, Andreas von Deimling, David W Ellison, The 2021 WHO Classification of Tumors of the Central Nervous System: a summary, Neuro-Oncology, Volume 23, Issue 8, August 2021, Pages 1231–1251, https://doi.org/10.1093/neuonc/noab106
2. Ratneswaren T, Hogg FRA, Gallagher MJ, Ashkan K. Surveillance for metastatic hemangiopericytoma-solitary fibrous tumors-systematic literature review on incidence, predictors and diagnosis of extra-cranial disease. J Neurooncol. 2018 Jul;138(3):447-467. doi: 10.1007/s11060-018-2836-2. Epub 2018 Mar 17. PMID: 29551003.

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