Teaching NeuroImages: Intracranial extramedullary hematopoiesis

Blood disorders on the mind

Lily W. Zhou, MD, and Tychicus Chen, MD, FRCPC

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Correspondence

Dr. Zhou

lilyzhou@hsph.harvard.edu

Figure Extramedullary hematopoiesis on MRI

Axial (A, B) and coronal (C, D) T1-weighted MRI with contrast demonstrates multiple lobulated dural-based homogeneous enhancing lesions. There is mild mass effect with no significant associated edema on T2-weighted images (E, F).

A 73-year-old woman with JAK-2–positive polycythemia vera, myelodysplastic/myeloproliferative overlap disorder, and biopsy-proven extramedullary hematopoiesis (EMH) involving pleura and paravertebral regions presented with 6 weeks of headaches and blurry vision. Examination showed

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From the Department of Neurology, University of British Columbia, Vancouver, Canada.

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bilateral papilledema, preserved acuity, and mild right pyramidal weakness. MRI brain showed homogenously enhancing dural lesions with no associated edema (figure). She underwent external beam radiation (10 fractions, 200 cGy/fraction) for symptomatic management.

EMH is seen in myeloproliferative neoplasms and hemoglobinopathies and more commonly involves liver, spleen, and lymph nodes.¹ Intracranial EMH is rare and typically presents as dural¹ or choroid plexus-based lesions² with features of increased intracranial pressure.

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Appendix Authors

Name	Location	Contributions
Lily W. Zhou, MD	University of British Columbia, Vancouver, Canada	Involved in first draft, preparation of images, and revisions
Tychicus Chen, MD, FRCPC	University of British Columbia, Vancouver, Canada	Involved in first draft, preparation of images, and revision

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