

# Teaching NeuroImages: Transependymal Oozing of Intrathecal Contrast Mimicking Intracerebral Hemorrhage

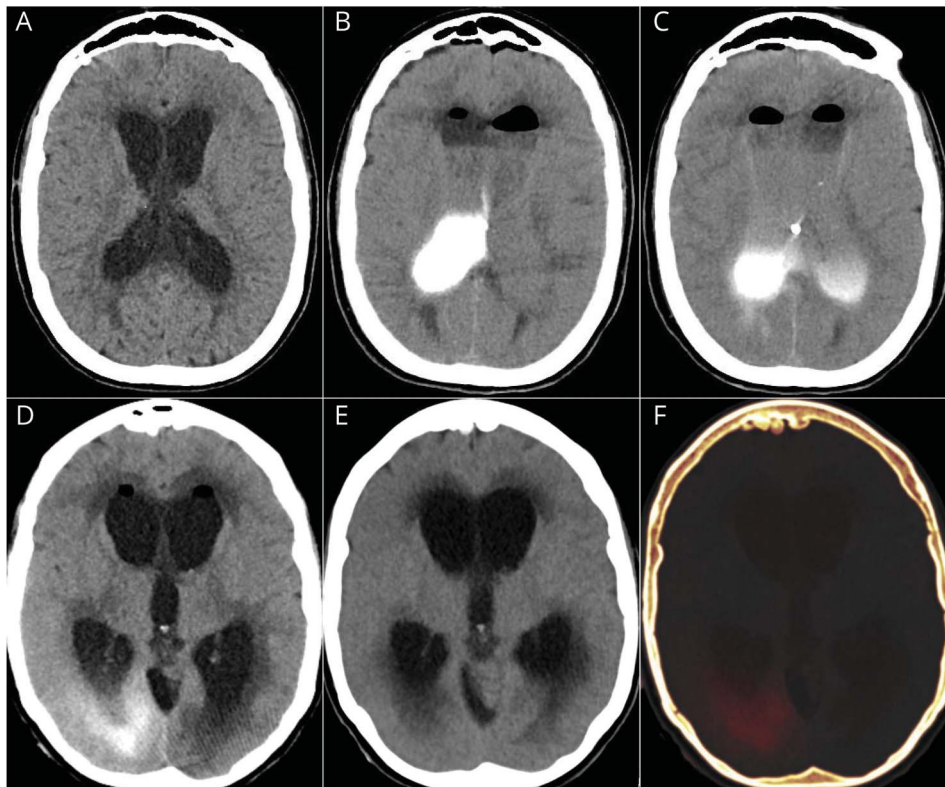
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**Figure** Transependymal Oozing of Iodinated Contrast Into Periventricular Brain Parenchyma



(A) Baseline CT shows hydrocephalus. (B) Ventriculogram shows hyperdense contrast (Omnipaque180, 10 mL). (C) Subtle hyperdense parenchymal contrast (day 1). Dual-energy CT (day 5) confirms parenchymal involvement: (D) initial image, (E) reconstructed image assessing for blood, (F) fused overlay showing contrast (red). Parenchymal contrast resolved on CT 17 days postventriculogram.

A 58-year-old woman presented with headache and nausea after resection of a craniocervical junction meningioma. CT head showed acute hydrocephalus (figure, A). CT ventriculogram showed no concern for CSF leak. Contrast remained in the ventricles on first postprocedure image (figure, B), but repeat CT head showed transependymal movement of contrast into brain parenchyma over the next several days (figure, C–F). Glymphatic clearance of intrathecal contrast has been shown to be reduced in patients with idiopathic normal-pressure

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hydrocephalus, which may facilitate intraparenchymal oozing.<sup>1</sup> It may linger after intrathecal contrast has washed out and is indistinguishable from blood without dual-energy CT.<sup>2</sup>

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### Disclosure

The authors report no disclosures relevant to the manuscript. Go to [Neurology.org/N](http://Neurology.org/N) for full disclosures.

### Appendix Authors

Name	Location	Contribution
<b>Bryan J. Neth, MD, PhD</b>	Mayo Clinic, Rochester, MN	Designed and conceptualized report, drafted and revised the manuscript for intellectual content

### Appendix (continued)

Name	Location	Contribution
<b>Rafid Mustafa, MD</b>	Mayo Clinic, Rochester, MN	Designed and conceptualized report, drafted and revised the manuscript for intellectual content
<b>Sherri Braksick, MD</b>	Mayo Clinic, Rochester, MN	Designed and conceptualized report, revised the manuscript for intellectual content
<b>Eelco F.M. Wijdicks, MD, PhD</b>	Mayo Clinic, Rochester, MN	Designed and conceptualized report, revised the manuscript for intellectual content

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