Mystery Case: Idiopathic bilateral stenosis of the foramina of Monro

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Figure 1 MRI of the brain

Axial T2-weighted images demonstrate dilated lateral ventricles. The third ventricle is slit-like. There is downwards transtentorial herniation of the midbrain.

A 42-year-old man presented with chronic, continuous, bifrontal pressure headaches, slightly worse in the morning, forgetfulness, and confusion. There was no history of prior CNS hemorrhage or infection. The neurologic examination was unremarkable. No papilledema was present. Neuroimaging demon-

strated symmetric enlargement of the lateral ventricles, a slit-like third ventricle, and downwards transtentorial herniation (figure 1). No mass lesion or abnormal enhancement was seen. A diagnosis of idiopathic bilateral stenosis of the foramina of Monro was considered. The patient underwent endoscopic

Figure 2 Intraoperative endoscopic photographs

(A) Intraoperative endoscopic photograph shows a thin, translucent membrane covering the left foramen of Monro (asterisk). There is no evidence of tumor. (B) A Fogarty catheter was inserted through this web and inflated. (C) After removal of the catheter, a patent foramen of Monro is seen. A septostomy was subsequently performed to allow CSF flow from the right lateral ventricle into the now patent left foramen of Monro.

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foraminoplasty of the left foramen of Monro and septoplasty (figure 2). Follow-up demonstrated resolution of the hydrocephalus and regression of symptoms. Nine cases of idiopathic bilateral stenosis of the foramina of Monro have been published.¹ Bilateral lateral ventricular hydrocephalus and a slit-like third ventricle in the absence of focal mass lesion or abnormal enhancement at the foramina of Monro should raise a red flag for this uncommon treatable entity.²

AUTHOR CONTRIBUTIONS

Dr. Raz: manuscript drafting and literature research. Dr. Fatterpekar: revising the manuscript for intellectual content. Dr. Davis: revising the manuscript for intellectual content and literature research. Dr. Huang: manuscript drafting and revising the manuscript for intellectual content. Dr. Loh: revising the manuscript for intellectual content.

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MYSTERY CASE RESPONSES

The Mystery Case series was initiated by the *Neurology*[®] Resident & Fellow Section to develop the clinical reasoning skills of the trainees. Residency programs, medical student preceptors, and individuals were invited to use this Mystery Case as an education tool. Responses were solicited through a group e-mail sent to the AAN Consortium of Neurology Residents and Fellows and through social media.

All the answers that we received came from individual residents rather than groups and they were all well-reasoned and thoughtful. The majority of them came through social media. Respondents all correctly identified the symmetric enlargement of the lateral ventricles associated with a small third ventricle. Putative diagnoses included noncommunicating hydrocephalus (13%), normal pressure hydrocephalus (68%), chronic meningitis (8%), and aqueductal stenosis (4%).

This Mystery Case illustrates idiopathic bilateral stenosis of the foramina of Monro, an uncommon cause of noncommunicating hydrocephalus.

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