

Musical murmurs on transcranial ultrasound in childhood migraine with aura



A 12-year-old girl presented with headache, nausea, decreased level of consciousness, and diplopia. Brain MRI, arteriography (figure e-1 on the *Neurology*[®] Web site at www.neurology.org), vasculitic markers, and CSF were normal, as were EEGs and ECGs. Transcranial color-coded ultrasonography of the basilar artery revealed typical musical murmurs (“seagull cry”) indicative of a hemodynamically significant stenosis (video).¹ Sumatriptan provided symptomatic relief; basilar flow normalized on ultrasonography (figure e-2). The clinical presentation suggested childhood migraine with aura; the ultrasound and normal arteriography suggested focal, transient vasospasm during a migraine attack. Topiramate was effective long-term. The high prevalence of childhood migraine (up to >20%)² suggests that ultrasound may be a useful diagnostic tool.

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Supplemental data at
www.neurology.org

1. Lin SK, Ryu SJ, Chang YJ, Lee TH. Clinical relevance of musical murmurs in color-coded carotid and transcranial duplex sonographies. *Am J Neuroradiol* 2006;27:1493–1497.
2. Gelfand AA, Fullerton HJ, Goadsby PJ. Child neurology: migraine with aura in children. *Neurology* 2010;75:e16–e19.

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