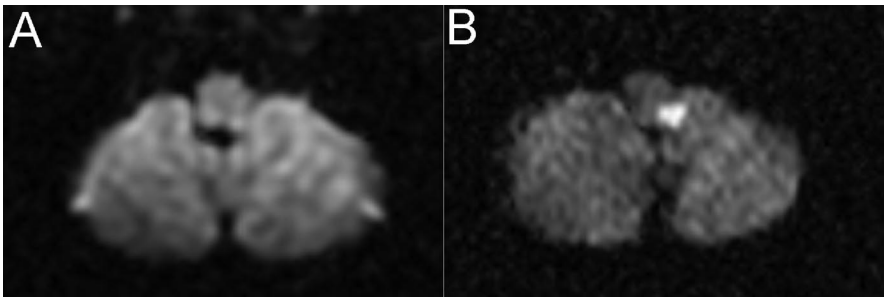

Figure. (A) Diffusion-weighted imaging performed on day 1 of symptoms shows no evidence of acute ischemia. (B) Repeat study performed 2 days later reveals a left lateral medullary infarction.

False-negative diffusion-weighted imaging with lateral medullary infarction

Rakesh Khatri, MD; James Leach, MD; and Matthew L. Flaherty, MD

A 55-year-old[1] man awoke with left ear pain, vertigo, vomiting, left facial numbness, and ataxic gait. MRI including diffusion-weighted imaging (DWI) performed 2 hours later showed no evidence of acute infarction (figure, A). Repeat MRI 2 days later showed DWI and FLAIR changes consistent with a left lateral medullary infarction (figure, B).

False-negative DWI has been reported in 5% of ischemic stroke cases, most commonly brainstem infarcts imaged within 24 hours of onset. Possible explanations include lesions too small for the resolution of the DWI echoplanar sequence, insufficient signal-to-noise ratio in the first hours after onset, and magnetic susceptibility artifacts causing image distortions.[1] The clinical history and examination remain fundamental aspects of patient assessment in the era of advanced neuroimaging.

Reference

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