Coma reversal after basilar artery thrombolysis

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A 36-year-old woman without prior medical problems presented 45 minutes after collapsing. Examination revealed coma with asymmetric unreactive pupils, dysconjugate gaze, absent oculoccephalic reflex, and minimal reflexive movements. Her initial National Institutes of Health Stroke Scale (NIHSS) score was 24.

Noncontrasted head CT and CT angiogram (figure 1) confirmed basilar artery occlusion (BAO). IV recombinant tissue plasminogen activator (IV rt-PA) was given 2 hours after symptom onset. Posttreatment cerebral angiography revealed a patent basilar artery and MRI demonstrated

scattered small infarctions (figure 2). Transesophageal echocardiography revealed a small patent foramen ovale without right-to-left shunt. Hypercoagulable workup showed only slightly low levels of antithrombin III and protein S function. Seventy-two hours later, she walked out of the hospital with minimal neurologic deficits, which included an incomplete left homonymous hemianopsia. Total NIHSS score at discharge was 3.

Optimal treatment for BAO is controversial. Intra-arterial (IA) rt-PA results in better recanalization rates, but outcomes may not be better than IV rt-PA.¹

Young age, short occlusion, and recanalization are associated with increased survival after BAO,² as evidenced by our patient. The additional time required for IA therapy remains to be justified. Other strategies, including a combined IV/IA bridging regimen, need to be rigorously investigated.

References

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Figure 1. (A) Unenhanced cranial CT showing relative hyperdense basilar artery as compared to the middle cerebral arteries signifying acute thrombosis. (B) CT angiogram, coronal section showing absence of flow in distal basilar artery.

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Figure 2. (A) Cerebral angiogram showing patent basilar artery 3 hours after thrombolysis with migrated clot in proximal right posterior cerebral artery. (B) Diffusion-weighted image MRI sequence performed at 8 hours demonstrated bilateral thalamic infarcts. MRI also demonstrated scattered infarctions in the right posterior cerebral artery and right superior cerebellar artery territories (not shown).

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