Teaching NeuroImage: Rapidly Changing Symptoms with Multistep Migration of Clot in the Posterior Circulation Following Tenecteplase for Acute Ischemic Stroke

Author(s):
Katrina Hannah D Ignacio, MD¹; Diana J Kim¹; Johnston Jr. T Te¹; Andrew Demchuk¹,²

Corresponding Author:
Katrina Hannah D Ignacio, kathaignacio@gmail.com

Affiliation Information for All Authors: 1. Department of Clinical Neurosciences, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada; 2Department of Radiology, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada

Equal Author Contribution:
Katrina Hannah D. Ignacio and Diana J. Kim contributed equally to this work. (Co-first authors)

Contributions:
Katrina Hannah D. Ignacio: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Study concept or design; Analysis or interpretation of data; Additional contributions (in addition to one or more of the above criteria)
Diana J. Kim: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Study concept or design; Analysis or interpretation of data; Additional contributions (in addition to one or more of the above criteria)
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Case:

A 70-year-old man presented with acute vertigo and ataxia. CT-angiogram revealed left V3 segment vertebral artery occlusion (Figure 1A-B). He received Tenecteplase (0.25mg/kg IV bolus) and was transferred to our comprehensive stroke center due to risk of early neurological deterioration from clot migration that would necessitate thrombectomy. Repeat CTA revealed migration to V4 segment with PICA re-opacification and improving symptoms (Figure 1C-D). Two hours post-Tenecteplase, he developed aphasia, right hemianopia and sensorimotor symptoms (NIHSS 15). Angiogram showed a left P1 PCA thrombus. Attempted thrombectomy resulted in further migration to P2. MRI demonstrated multiple infarcts (Figure 2), representing stepwise ischemia from dynamic clot movement. Clot reformation from hypercoagulability or re-embolization seemed unlikely given short time course and exclusive posterior circulation involvement.

Clot migration is frequent in anterior circulation post-thrombolysis and may be more common after Tenecteplase.\textsuperscript{1,2} Thrombolysis in posterior circulation strokes similarly requires close observation for neurologic deterioration which may warrant further management with thrombectomy.\textsuperscript{2}
References:


Figure 1. CTA and angiogram timestamped images. Initial V3 occlusion (A) with patent V4 (B). Post-tenecteplase V3 recanalization (C) with V4 occlusion to basilar artery (D) and PICA re-opacification (E). Later thrombus migration to P1 (F). Post-thrombectomy embolization to P2 (G).

Figure 2. Diffusion-weighted axial MRI images. Left lateral medullary (A) and cerebellar (B) infarcts from VA occlusion. Thalamic (C) and temporo-occipital (D) infarcts from PCA occlusion.
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