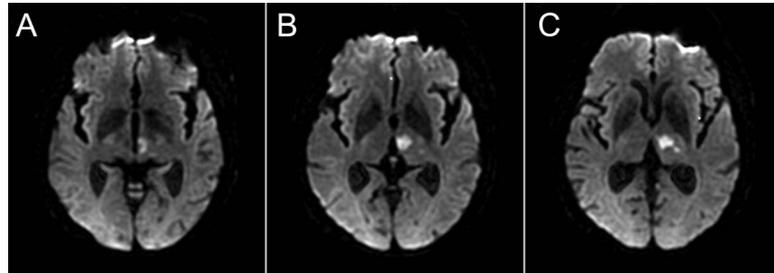


Teaching NeuroImages: Thalamic aphasia syndrome

Umair Afzal, MD
Muhammad U. Farooq,
MD, FACP, FAHA

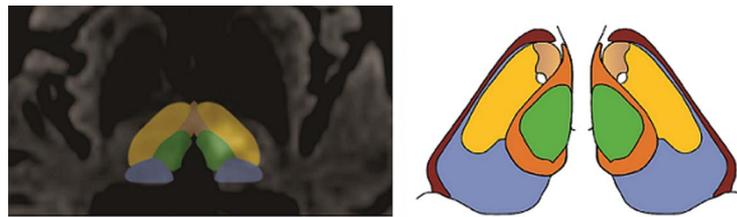
Correspondence to
Dr. Afzal:
umairfzl@live.com

Figure 1 MRI of the brain shows acute ischemic stroke involving the left thalamus



Axial diffusion-weighted images at different levels show restricted diffusion in the left thalamus. Affected thalamic nuclei include dorsomedial nucleus (A), anterior nuclear group (B), ventral nuclear group, and reticular nuclei (C).

Figure 2 Major thalamic nuclei mapped onto axial section of MRI



Reticular nucleus (red), ventral nuclear group (yellow), anterior nuclear group (brown), intralaminar nuclei (orange), dorsomedial (green), and pulvinar (blue).

An 83-year-old right-handed woman presented with sudden right-sided hemiparesis, somnolence, and loss of normal speech. Speech was nonfluent with semantic paraphasias and word-finding difficulties. Word repetition and comprehension were normal. MRI brain showed an area of restricted diffusion in the left thalamus consistent with acute infarction (figure 1). Speech fluency returned to normal after 2 days with occasional dysnomia and paraphasias.

Left thalamic infarcts can result in aphasia that is characterized by lexical-semantic deficits and intact word repetition; fluency and comprehension are variably affected.¹ Thalamic aphasia has been hypothesized to result from disconnection between cortical language centers and thalamic nuclei (figure 2).^{1,2}

AUTHOR CONTRIBUTIONS

Dr. Umair Afzal: acquisition of data, analysis and interpretation, drafting the manuscript. Dr. Muhammad U. Farooq: critical revision of the manuscript for important intellectual content and study supervision.

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REFERENCES

1. Crosson B. Thalamic mechanisms in language: a reconsideration based on recent findings and concepts. *Brain Lang* 2013;126:73–88.
2. Barbas H, Garcia-Cabezas MA, Zikopoulos B. Frontal-thalamic circuits associated with language. *Brain Lang* 2013;126:49–61.

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From the College of Human Medicine (U.A.), Michigan State University, Grand Rapids; and the Division of Stroke and Vascular Neurology (M.U.F.), Hauenstein Neuroscience Center, Saint Mary's Health Care, Grand Rapids, MI.

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Umair Afzal and Muhammad U. Farooq

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