

# Acute amnesia associated with damaged fiber tracts following anterior fornix infarction

Qing Yong Zhu, MD, PhD, Hong Can Zhu, MD, PhD, and Cheng Ru Song, MD

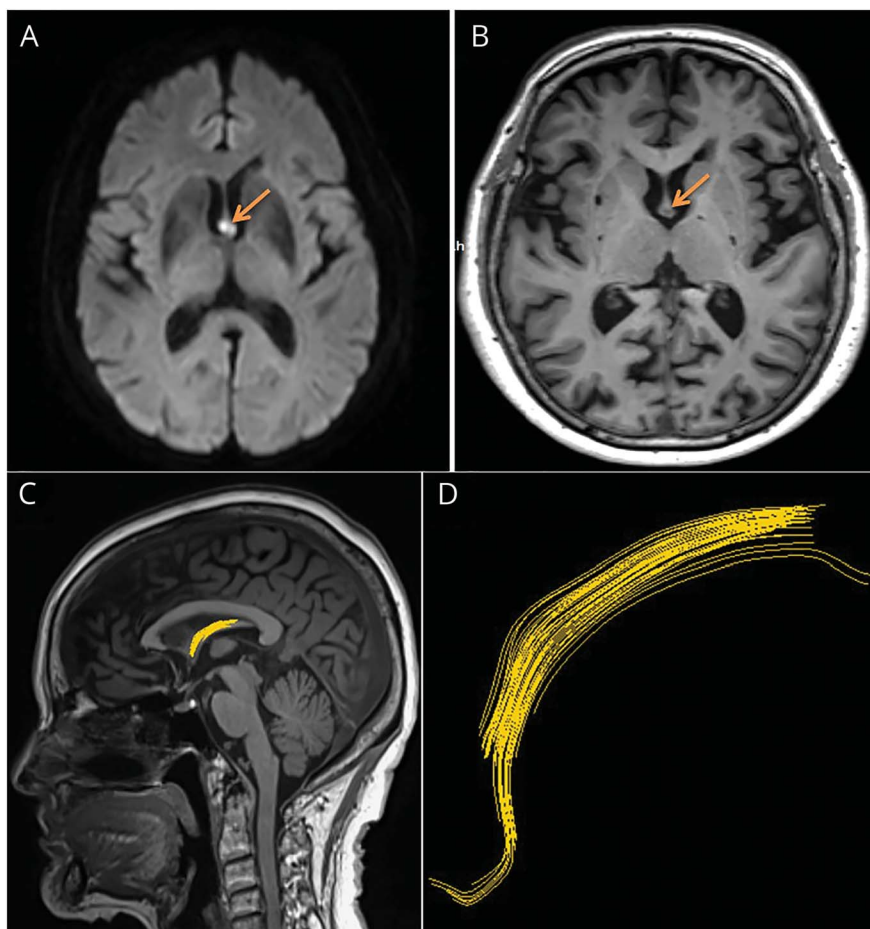
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**Correspondence**

Dr. H.C. Zhu

hcan\_zhu@126.com

**Figure** Brain MRI and diffusion tensor tracking of anterior fornix infarction



(A) Axial diffusion-weighted imaging reveals an acute infarction of the anterior fornix (arrow). (B) Repeat T1-weighted brain MRI at 17 days after onset shows hypointense lesions in the same region (arrow). (C, D) Diffusion tensor tracking demonstrates that few fibers were followed.

A 78-year-old woman developed sudden-onset confusion and memory impairment. Examination demonstrated both retrograde and anterograde amnesia. Mini-Mental State Examination score of 17 exhibited poor performance in delayed recall and orientation function. Brain diffusion-weighted imaging revealed an acute infarction of the anterior fornix. Repeat T1-weighted images at 17 days after onset showed hypointense lesions in the same region. Meanwhile, diffusion tensor tracking was performed and demonstrated that few fibers were followed (figure), using Siemens (Munich, Germany) Syngo software with the measures of fractional anisotropy threshold 0.15 and angle 30. The fornix constitutes a core element of the Papez circuit<sup>1,2</sup> and acute amnesia was the result of damaged fiber tracts following anterior fornix infarction in this patient.

From the Departments of Neurology (Q.Y.Z., H.C.Z.) and Magnetic Resonance Imaging (C.R.S), The First Affiliated Hospital of Zhengzhou University, China.

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### Author contributions

Dr. Qing Yong Zhu: study concept and design, drafting the manuscript. Dr. Hong Can Zhu: revising the manuscript, interpretation of data. Dr. Cheng Ru Song: analysis and acquisition of radiologic data.

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