

Recurrent Postcoital Transient Global Amnesia Associated with Diffusion Restriction within the Left Hippocampus

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Abstract

Presentation

We present a case of recurrent transient global amnesia (TGA) triggered by sexual intercourse. In both episodes, onset of retrograde and anterograde amnesia was within 10 minutes of sexual intercourse.

Diagnosis

MRI performed within 24 hours of the first episode identified the classical TGA radiological findings of diffusion restriction within the left mesial temporal lobe. The second episode was not associated with MRI changes, but imaging was performed more than 72 hours after event.

Discussion

This case highlights sexual intercourse as a trigger of recurrent TGA and the importance of early MRI to identify changes in the mesial temporal lobes.

Keywords: Transient Global amnesia, Postcoital, stroke mimic.

Introduction

TGA is a syndrome of sudden onset anterograde and retrograde amnesia that can last for up to 24 hours. It can present a diagnostic challenge as its mechanism is poorly understood and it has many potential mimics. Increased use of MRI has identified diffusion restriction within the mesial temporal memory circuits which can be supportive of the diagnosis¹. This case highlights the importance of recognizing the key clinical features of TGA and then identifying potential triggers. It also supports the hypothesis that the sensitivity for MRI changes in TGA is greatest in the first 48 hours after the event.

Case Report

A 66 year-old man presented with a one hour history of retrograde and mild anterograde amnesia. His past medical history was significant for hypertension, gout, hypercholesterolemia, and an episode of TGA 7 years previously. On the afternoon of presentation, he had engaged in sexual intercourse 10 minutes before the onset of memory disturbance. After seeing the date on his phone, he became distressed that he had forgotten his wedding anniversary the day before. He had, in fact, celebrated his wedding anniversary with his wife and family on the previous day. His autobiographical memory remained intact, but he had no memory of that morning or the celebrations the day before. He repetitively questioned his wife and daughter over the events of that morning and the previous day. No other focal neurological symptoms were reported and upon arrival to the emergency department his neurological examination was completely normal. He had similar stereotyped presentation with TGA 7 years prior, with an identical postcoital onset. At that time, MR imaging of the brain performed within 24 hours identified a tiny punctate area of diffusion restriction within the left mesial temporal lobe (shown in Fig. 1). On this occasion, MRI performed after 72 hours showed no diffusion restriction or other focal abnormalities.

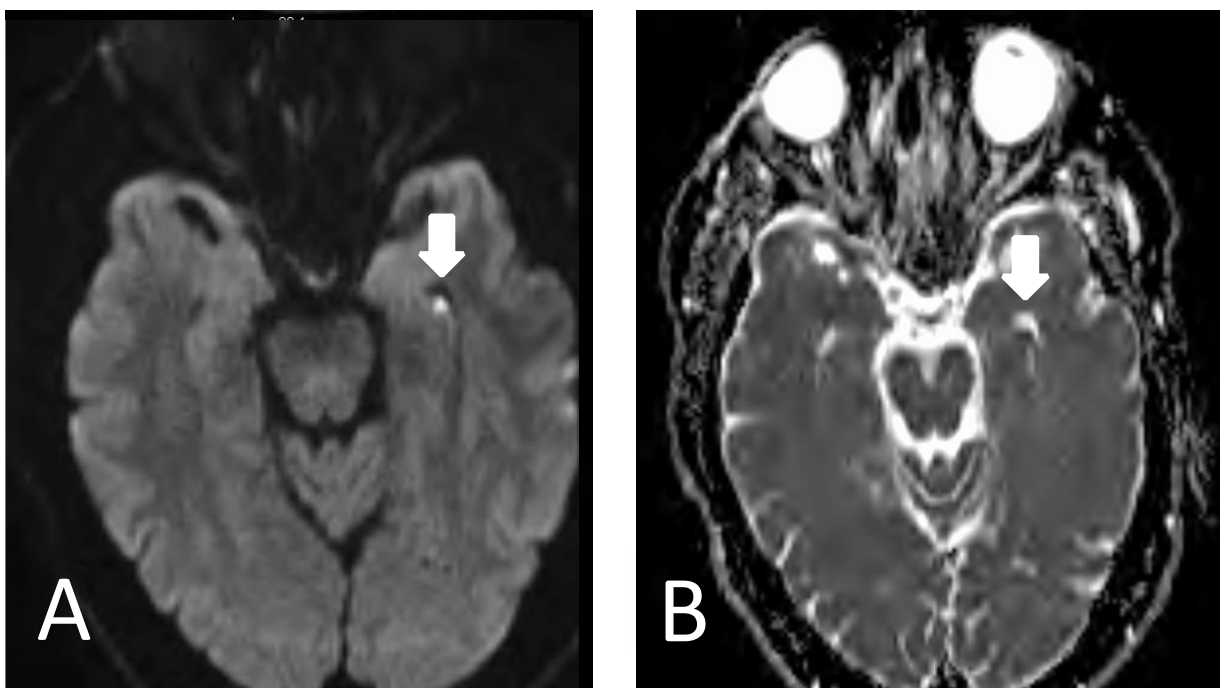


Figure 1: MRI Brain with DWI (panel A) and ADC (Panel B) sequences demonstrating punctate area of diffusion restriction in the left lateral hippocampus 24 hours post first presentation with TGA.

Discussion

The precipitation of TGA has been linked with several activities including physical exertion, immersion in cold or hot water, emotional stress, pain, Valsalva-associated manoeuvres, and sexual intercourse¹. TGA usually occurs in people between 50 and 70 years of age, often in isolation as a once off event, but studies report an annual recurrence rate of between 6% and 10%².

Various competing pathophysiological mechanisms have been proposed including focal ischaemia, venous flow abnormalities, migraine and epileptic phenomena¹. Areas of restricted diffusion have been identified in the hippocampi of patients with TGA, usually the left hippocampus, but sometimes bilaterally.

Unlike ischemic stroke, the lesions often have a short lifespan and tend to be identified if imaging is performed within 48 hours of symptom onset³. Despite the utility of these MRI findings, TGA remains a clinical diagnosis primarily made on the bases of a typical history without associated focal neurological deficits. It is important to question directly with regard to potential triggers. The key feature of the history is repetitive questions and an inability to retain the answers given, therefore, an eyewitness account is critical in making the diagnosis. This case highlights that sexual intercourse can be a precipitant of recurrent TGA and MRI changes are helpful but not always identified.

Statement of Ethics:

The authors confirm that the approval of an institutional review board was not required for this work as it is a single case report without any ethical conflicts. Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Declaration of Conflicts of Interest:

The authors have no conflicts of interest to declare.

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