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# Hippocampal Dot sign in wake-up transient global amnesia

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## Description

A 67-year-old lady with hypertension and diabetes mellitus presented to emergency department with memory impairment since waking up in the morning. She was repeatedly asking same questions like "what is the time now? Did I have breakfast?" etc. There was no history of any stressful events or doing any Valsalva manoeuvre previous day. There was no h/o headache or vomiting. No past history of obstructive sleep apnoea, epilepsy or migraine. On examination she had impaired recent memory with preserved immediate and remote memory. Her language functions and sensory motor system were normal. She became normal 12 hours after the onset and she does not remember how, when and why she came to hospital. Her initial magnetic resonance imaging (MRI) Brain was normal. MRI brain done 48 hours after the onset showed hippocampal dot sign on left side (Figures 1,2,3).

Transient global amnesia (TGA) is a reversible, benign, mostly non-recurrent clinical syndrome of anterograde amnesia lasting up to 24 h, manifesting as repetitive questioning and occasionally retrograde amnesia, without any gross neurological deficit [1]. The common precipitating factors include emotional stress, physical exertion, pain, exposure to extreme temperatures, high altitude and the Valsalva maneuver. Various theories have been postulated, including venous congestion, focal ischemia, migraine as well as epilepsy. Classic DWI findings in TGA consist of unilateral or bilateral small punctuate hyper-intense lesions in the CA1 region of the hippocampal cornu ammonis (hippocampal dot sign) [2]. MRI done during the event is often normal. Hippocampal dot sign is present in up to 70% of patients with a mean size of 4 mm (range 1.7-8.6 mm) if MRI is done 12-48 h after symptom resolution [3]. These lesions can be bilateral and even multifocal. Lesion detection is enhanced by high-resolution DWI, higher B-values, thin slice thickness (2-3 mm), and a delay of 48-72 h between symptom onset and scanning [4].

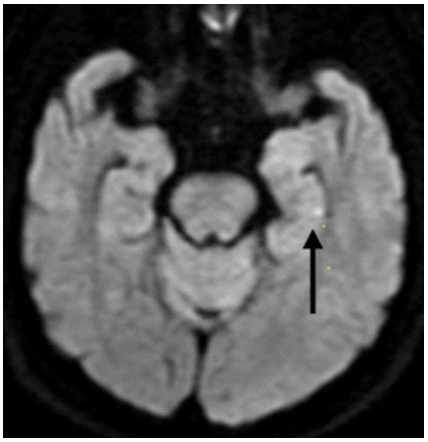

**Figure 1:** MRI Brain axial diffusion weighted image showing left hippocampal hyperintensity (Hippocampal dot sign) (black arrow). Corresponding apparent diffusion coefficient map showed hypointensity.

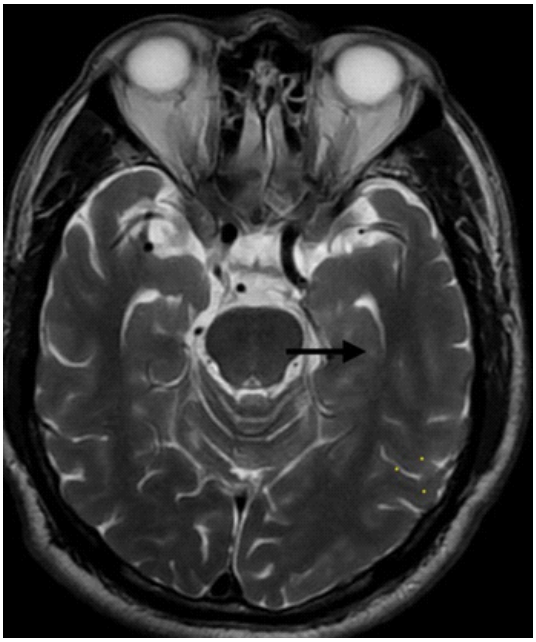

**Figure 2:** MRI brain axial T2 weighted image showing subtle hyperintensity left hippocampus (black arrow).

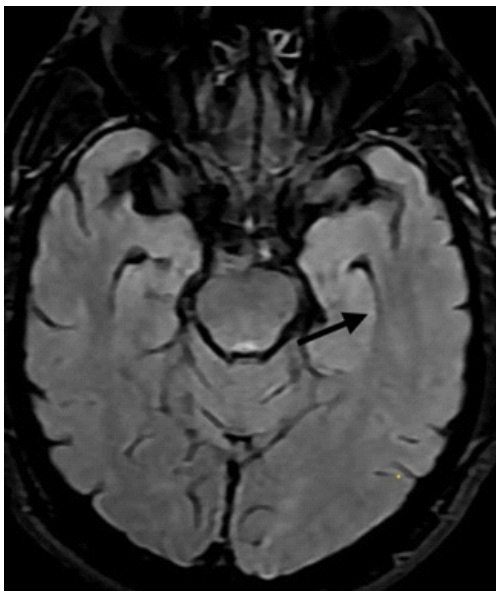

**Figure 3:** MRI brain axial Fluid attenuated inversion recovery image showing subtle hyperintensity left hippocampus (black arrow).

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