Post Female Orgasm Transient Global Amnesia, "Forgettable Orgasms" – A Case Study

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Background: Transient global amnesia (TGA) is a well-recognised clinical diagnosis[1]. It is described as a clinical syndrome characterised by the sudden onset of anteretrograde and retrograde amnesia that lasts up to 24 hours, often preceded by emotional stress or physical effort[2]. There is dispute over the aetiology and it is often a diagnosis of exclusion. Hodges and Warlow have set out criteria for the syndrome in 1990 (see table 1) which has been used as the foundation of TGA diagnosis. There have been case reports of post-coital and post-orgasm TGA[3,4]. There has also been reported a case of TGA following a professional cello concert[5].

Herein we present a case report for a female who experienced TGA post-orgasm.

The patient presented to the Emergency Department (ED) after experiencing increasing confusion and amnesia. A clerking was undertaken followed by a CT head in ED. She could not recall the most recent pre-coital memories nor was she making new memories at this time. She could not recall how she had attended the ED and continued to ask repetitive questions. Motor and sensory functions were grossly intact.

This lady fulfilled all the Hodges and Warlow criteria for TGA. She was therefore admitted for further management.

Table 1: Diagnostic Criteria of TGA, Hodges and Warlow[6]

- ✓ Attacks must be witnessed
- ✓ There must be anterograde amnesia during the attack
- ✓ Cognitive impairment is limited to amnesia
- ✓ No clouding of consciousness or loss of personal identity
- ✓ No focal neurological signs/symptoms
- ✓ No epileptic features
- ✓ Attack must resolve within 24 hours
- ✓ No recent head injury or active epilepsy

Background to Case: 65 year old female. *SHx:* Usually fit and well. Lives with husband. Retired. Looks after grandchildren twice weekly. Aims for 10,000 steps per day. BMI normal. Active sex life. Never smoker. Occasional drinker. *PMHx:* HTN, 'Pre-diabetes'. *Meds:* Bendroflumethiazide 25mg OD (for 3 years). Atorvastatin 40mg OD (for 1 year). NKDA.

History from Husband: *(09:30)* Had breakfast in bed. *(11:30)* Tried on new clothes for husband and had intercourse. Both orgasmed (normal). Flushed to the face as usual. No head injury. No loss of consciousness. Fluctuating headache. Immediate loss of memory. Unable to form new memories. Unable to recall why new clothes had been put out. Came via 111 and UCC to ED.

Neurology: Alert GCS 15/15. No gait abnormalities. Power and tone normal in all 4 limbs. No gross loss of sensation in limbs. CN grossly intact. No facial weakness. No past-pointing. No dysdiadochokinesia. No speech changes.

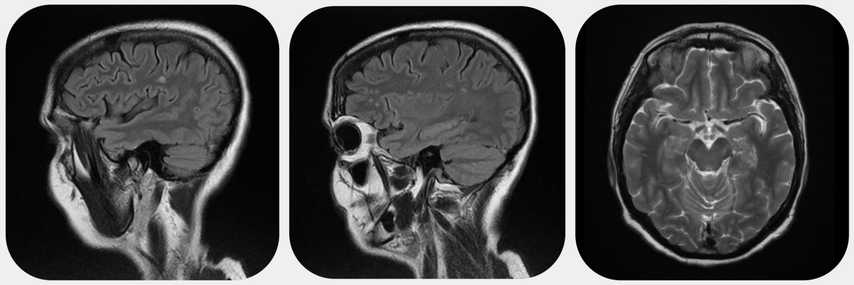
Mental State: Not orientated to time but was aware of place, recognised she was in hospital. Repeated questions such as asking what her watch was. Unable to recall any events from that day post breakfast. Formal MMSE not conducted in ED.

Body Systems: NAD

Management: Discussed with Neurology. For MRI head if CT head NAD. Admitted under medics for 3/7. Remained stable. Able to form new memories. Given Sando-K for hypokalaemia. Advised to see GP regarding vascular risk. (QRISK3 9%).

CT Head: "No acute territorial infarction, intracranial haemorrhage or mass lesion. The ventricles and basal cisterns are within normal limits. No skull fracture or sinister bone lesion. *Conclusion:* No acute intracranial findings."

MRI Head: "Multiple Punctate focal areas of brightness visualised involving both hippocampi which demonstrates low ADC. No other areas of acute infarction. No haemorrhage identified. Scattered subcortical T2 hyperintensities is visualised. Normal appearance of ventricle. No midline shift. Proximal flow voids are preserved. No evidence of intracranial mass lesion. Normal appearance of the ventricle. *Conclusion:* Focal punctate brightness visualised involving both hippocampi in the DWI images supports transient global amnesia."



Bloods: *(see table below)*

White Cell Count	11.4 x 10^9/L
Red Blood Count	5.41 x 10^12/L
Haemoglobin	164 g/L
Neutrophils	9.59 x 10^9/L
CRP	<5 mg/L
INR	1.0
Sodium	138 mmol/L
Potassium	3.0 mmol/L
eGFR	84 mL/min/1.73m2

Carotid USS:

Normal. 0% Stenosis.

Observations:

Unremarkable with BP trend…

- 156/89 on admission
- 141/88 to 135/76 during admission
- 117/70 at home 3/12 later

Follow Up: No further episodes. No further visits to GP.- despite suggestion in discharge notes.

Neurology: Recalls events of that morning up to trying on new clothes. Does not recall hospital visit until the evening when she was on the ward. Started to make new memories the same day at approximately 12 hours post event.

Social: Continues to have an active sex life. No concerns. Fit and well and continues to exercise.

Further History: Had sudden onset headache 2/52 prior to event whilst walking. Described as on top of head. Worse with footsteps. Resolved over several days. Did not take pain relief. Not thunderclap. No visual disturbance. No photophobia. No disturbance to memory. Had headaches premenstrual as a young woman.

Discussion: This case is a typical presentation of TGA with a sudden loss of memory and the inability to make new memories for up to 12 hours. CT and MRI also support this conclusion as MRI often shows high signal foci in the hippocampus[2], usually unilateral but there are case reports of bilateral signals such as that found here[7].

It is thought that physical exercise and electrolyte abnormality (low K) in this case may have been the precipitating factors. Further discussion with the patient in follow up also revealed a solitary migraine which is risk factor with a incidence rate ratio of 2.48[8].

This particular case adds credence to existing theories that TGA may have a microvascular origin since female orgasm has associated change in blood flow to the brain which may perhaps contribute[9].

Key Message: TGA has typically been associated with males post-orgasm. It should not be forgotten that females may also be at risk of this. Since TGA also is associated with risk factors for other vascular events it is important that these risk factors are modified[10].

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