

Amnesia as a sex-related adverse event

Introduction

Transient global amnesia is the name given to an abrupt attack of impaired anterograde memory of brief (<24 hours) duration. The clinical phenotype is quite characteristic, the patient repeatedly asking the same questions without clouding of consciousness or focal neurological signs (Fisher and Adams, 1964). Prognosis is good, with generally full recovery albeit without recollection of the amnesic period, and the recurrence rate is low (about 3% per annum). Episodes may be precipitated by an emotional event, particularly in women, and after physical exertion, particularly in men (Quinette et al, 2006). An unusual example of the latter syndrome is reported.

Discussion

Amnesia is one of the recognized acute neurological consequences of sexual activity (Larner, 2008). It was noted as a precipitating factor for transient global amnesia in two out of 17 patients by Fisher and Adams (1964), and in a later report on a series of 85 episodes of transient global amnesia (Fisher, 1982) was found to be the second most common recognized precipitating event (seven out of 26).

More recent large series of transient global amnesia reported between 3% (Hodges and Warlow, 1990) and 4.9% (Quinette et al, 2006) of cases occurring after intercourse. Individual cases have also been occasionally presented (e.g. Bucuk et al, 2004; Gallagher et al, 2005), including examples of recurrent episodes of amnesia after intercourse (Bermejo and García-Cobos, 2010).

The current case is the first such example the author has encountered in a series of 16 consecutive transient global amnesia cases (M:F = 5:11) observed in general neurology and memory clinics over a 9-year period (2002–10 inclusive) (Larner, 2007; Lim and Larner, 2008), in a total of 9468 referrals. These figures are

indicative of the infrequency with which transient global amnesia presents to neurologists, most cases being seen, if they present to clinical attention at all, by GPs and general physicians who may be unfamiliar with the condition. Misdiagnosis as epilepsy, stroke or transient ischaemic attack (as in this case) may occur and lead to inappropriate investigation, treatment and management, the latter including cessation of driving privileges (Larner, 2007). Generally reassurance alone is required.

The pathogenesis of transient global amnesia is uncertain but it is thought to relate to temporary hypoperfusion of the memory-related structures in the medial temporal lobe. Neuroimaging techniques have produced some evidence of acute focal reductions in brain perfusion. The relationship of transient global amnesia onset to unaccustomed exertion, as in this case, suggests the possible importance of

the Valsalva manoeuvre as a trigger, and the increased incidence of jugular vein valve insufficiency noted in transient global amnesia patients may predispose to vascular events (Bartsch and Deuschl, 2010).

Emotionally charged events as well as straining may be a precipitant of transient global amnesia (Quinette et al, 2006). Hypertension was the most common vascular risk factor in one series (11 out of 28 cases) although no vascular risk factor was noted in about half the cases (Chen et al, 1999). Hence transient global amnesia may in fact be a form of transient cerebral ischaemia, albeit with different prognostic implications to hemisphere transient ischaemic attacks.

Conclusions

Amnesia may occur as a sex-related adverse event, since transient global amnesia may on occasion be precipitated by sexual

Case Report

A previously healthy 61-year-old man was referred following an episode of memory loss. Somewhat abashed, he reported that about 7 weeks earlier he and his wife had been making love at 5 o'clock one morning, 'not something we usually do'. He then got up and was found in the kitchen some minutes later by his wife. She reported that he was repeatedly asking 'Where am I?'. Questioned by her, he had forgotten the names of his medications (for high blood pressure) and the fact that his son had recently passed his driving test. However, these functions returned after a period of about 4 hours, since when there had been no recurrence and no other neurological symptoms. He attended his GP a day or two after the event, and a provisional diagnosis of transient ischaemic attack was made. The patient was commenced on aspirin, non-urgent structural brain imaging was arranged and he was referred to the neurology clinic.

The clinical and informant history was entirely in keeping with proposed diagnostic criteria for transient global amnesia (Hodges and Warlow, 1990; Quinette et al, 2006). The provisional diagnosis of transient ischaemic attack was rescinded. The standard magnetic resonance brain scan was within normal limits (diffusion-weighted imaging was not performed).

LEARNING POINTS

- Transient global amnesia is a syndrome of abrupt anterograde memory impairment of brief (<24 hours) duration.
- Diagnosis of transient global amnesia can usually be made on the basis of the clinical history, particularly from an informant.
- Because of its abrupt onset, transient global amnesia may sometimes be mistaken for transient ischaemic attack, with subsequent inappropriate management.
- Sexual activity may be a trigger for transient global amnesia, as may other forms of unaccustomed exercise or emotional upset.

Dr AJ Larner is Consultant Neurologist in the Walton Centre for Neurology and Neurosurgery, Fazakerley, Liverpool L9 7LJ

intercourse, most particularly in men. Awareness of this possible diagnosis, and particularly its differential diagnosis from transient ischaemic attacks, is important to ensure appropriate management and the avoidance of unnecessary investigation, treatment and advice. **BJHM**

Bartsch T, Deuschl G (2010) Transient global amnesia: functional anatomy and clinical implications. *Lancet Neurol* **9**: 205–14

Bermejo PE, García-Cobos E (2010) Recurrent post-coital transient global amnesia. *Rev Neurol* **51**: 316–17

Bucuk M, Muzur A, Willheim K, Jurjevic A, Tomic

Z, Tuskan Mohar L (2004) Make love to forget: two cases of transient global amnesia triggered by sexual intercourse. *Coll Anthropol* **28**: 899–905

Chen ST, Tang LM, Hsu WC, Lee TH, Ro LS, Wu YR (1999) Clinical features, vascular risk factors, and prognosis for transient global amnesia in Chinese patients. *J Stroke Cerebrovasc Dis* **8**: 295–9

Fisher CM (1982) Transient global amnesia. Precipitating activities and other observations. *Arch Neurol* **39**: 605–8

Fisher CM, Adams RD (1964) Transient global amnesia. *Acta Neurol Scand* **40**(Suppl 9): 1–81

Gallagher J, Murphy MS, Carroll J (2005) Transient global amnesia after sexual intercourse. *Ir J Med Sci* **174**: 86–7

Hodges JR, Warlow CP (1990) Syndromes of transient amnesia: towards a classification: a study of 153 cases. *J Neurol Neurosurg Psychiatry* **53**: 834–43

Larner AJ (2007) Transient global amnesia in the district general hospital. *Int J Clin Pract* **61**: 255–8

Larner AJ (2008) Transient acute neurologic sequelae of sexual activity: headache and amnesia. *J Sex Med* **5**: 284–8

Lim R, Larner AJ (2008) Transient global amnesia: is female sex a risk factor for hospitalisation? *Eur J Neurol* **15**(suppl3): 303 (abstract P2369)

Quinette P, Guillery-Girard B, Dayan J et al (2006) What does transient global amnesia really mean? Review of the literature and thorough study of 142 cases. *Brain* **129**: 1640–58