CLINICAL VIGNETTE

A Classic Case of Transient Global Amnesia

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Case Presentation

A 61-year-old woman with breast cancer and hyperlipidemia presented with sudden short-term memory loss approximately one minute after engaging in sexual intercourse. She had no recollection of her current setting and surroundings but was able to recall facts from two years ago. She complained of an occipital headache and nausea, but denied dizziness, weakness, numbness/tingling, visual disturbance, palpitations, fevers/ chills and recent illness. There was no associated head trauma or syncope.

Urgent care evaluation was unrevealing with normal vitals, blood chemistry, blood count, and ECG. The urinalysis demonstrated small leukocytes but otherwise unremarkable. Physical neurologic exam was without focal signs or symptoms. She was alert and oriented to self and her spouse but could not recall the date, location, or situation. She was prescribed ondansetron, nitrofurantoin, and acetaminophen, and advised to follow up for head imaging due to concern for metastasis to the brain given her active breast cancer.

Approximately four to five hours later, her memory started to recover, and she was able to recall all current affairs soon thereafter except for the amnesic event itself. She presented to her primary care physician the next day for follow up and head imaging. MRI brain subsequently showed a punctate focus of diffusion abnormality in the left hippocampus, as can be seen in the setting of transient global amnesia.

Discussion

Transient global amnesia (TGA) is an uncommon neurological disorder of unclear etiology characterized by the acute onset of anterograde amnesia. Episodes are self-limiting and resolve within 24 hours with full recovery except for the actual amnesic event itself. It is rare in individuals younger than 50 years of age, estimated at 5.2 to 10 per 100,000 per year.[1] However, among those 50 years and older, the incidence increases to 23.5 to 32 per 100,000 with no gender difference.[2]

In addition to acute amnesia, patients may present with nausea, vomiting, headache, blurry vision, lightheadedness and disorientation. TGA is often preceded by a stressful physical or psychological event, both positive and negative, including acute illness, sexual intercourse, birth announcements, and financial struggles.[3,4] In light of the COVID-19 pandemic and its associated stressors, recent evidence suggests an increased incidence of TGA with one hospital in Germany diagnosing 16 patients with TGA over a 3.5-month period while the average number of patients diagnosed in the same period over the last 10 years was 9.7.[5] It remains controversial whether cerebrovascular risk factors increase the risk of TGA with many case-control studies not finding a difference, whereas another study based on the National Inpatient Sample found that patients were more likely to have hypertension, hyperlipidemia or prior ischemic disease.[6,7] A history of migraine headache is the only diagnosis found to be definitively associated with TGA with six fold more prevalence.[7]

The initial evaluation and management includes an accurate, preferably witnessed history, detailed neurologic exam, and exclusion of other diagnoses that may cause impaired memory or delirium. Abnormal findings like fever, visual deficits, or gait imbalance are suggestive of other pathologies such as infection, stroke, structural brain disease, intoxication, or metabolic encephalopathy. Diagnostic testing includes obtaining vitals, blood chemistry, glucose, toxicology screen, and neuroimaging, preferably non-contrast brain MRI or CT. If the patient is symptomatic and presents to an emergency facility, IV thiamine may be considered for potential Wernicke-Korsakoff syndrome and the patient should be observed until evaluation for other causes is complete with improvement in their symptoms.[8]

There is currently no consensus on the underlying pathophysiological mechanism for TGA, although magnetic resonance diffusion-weighted imaging and the clinical presentation suggests that the primary site of involvement is the hippocampus as was seen in our case.[9] TGA largely remains a clinical diagnosis with diagnosis criteria established in 1990 by Hodges and Warlow, which remain applicable.[10] All conditions must be met in order to confirm the diagnosis of TGA (Table 1).

TGA is reported to have a low recurrence rate although reports vary between 2.9% to 23.8%.[11] It is generally considered a benign process with no definitive risk of mortality, epilepsy, stroke, or dementia as compared with age-matched controls.[11] However, recent literature questions the benign nature by suggesting there may be a higher risk of stroke based on a large propensity-matched cohort study.[12] Studies are conflicting on whether there are long-lasting effects of TGA, specifically with mild cognitive impairment and primary progressive aphasia,[13,14] but risks remain low.

Table 1.

Hodges and Warlow Criteria for TGA
Attacks must be witnessed from a capable observer who was present for most of the attack
There must be anterograde amnesia during the attack
There must be no clouding of consciousness or loss of identity. Cognitive impairment is limited to amnesia (no aphasia or apraxia)
There must be no focal neurological signs and symptoms before or after the attack
Epileptic features must be absent
Attacks must resolve within 24 hours
There must be no recent head injury or active epilepsy

Conclusion

The etiology of TGA remains unclear, although there are postulated risk factors such as elderly age, history of migraine, and occurrence of stressful events. Due to its uncommon occurrence, TGA should be regarded as a diagnosis of exclusion. However, considering the current COVID-19 pandemic and its associated stressors, a higher incidence of TGA may be possible. Clinicians should continue to focus on ruling out other potential critical causes of memory loss, such as stroke, infection, or malignancy. Given the distressing nature of its symptoms, a vital part of clinical management of TGA is to provide reassurance for the patient as TGA is generally considered benign with a good prognostic outcome.

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