

Transient global amnesia associated with acute bacterial endocarditis; A case report

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Abstract

Introduction: Transient global amnesia (TGA) is a sudden loss of memory without definite etiology. Some cardiac conditions like myocardial infarction, mitral valve prolapse, takotsubo syndrome, and arrhythmias have been described in the literature as offenders. To our knowledge, there is no report of an association between TGA and endocarditis or even septicemia.

Case presentation: The patient was a 52-year-old man with a history of hypertension and aortic valve surgery which was presented to the emergency department with TGA. On brain CT scan and MRI there was not any pathological finding and EEG has revealed normal features without any epileptiform discharge. During evaluations, the diagnosis of acute bacterial endocarditis has established by the presence of positive blood culture and vegetation on the aortic valve in trans-esophageal echocardiography. At 6 months follow-up, and after receiving appropriate antibiotic therapy and cardiac surgery, he was symptom-free at all.

Conclusion: Association between TGA and cardiovascular disorders like myocardial infarction and takotsubo syndrome has been described. Neurological complications occur in about one-fourth of patients with infective endocarditis, but there is not any report of the association between TGA and acute bacterial endocarditis. Cardiovascular disorder studies are just limited to case reports without any clarification of mechanism and pathophysiology.

Keywords: Multiple Sclerosis, Tuberculin Test, Tuberculosis, Case report

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Introduction

Transient global amnesia (TGA) is a sudden loss of memory, in both retrograde and anterograde, which lasts up to 24 hours and there is not any other neurologic deficit (1). TGA usually affects patients between the ages of 40 and 80. Patients with this condition are often described--wrongly--as being confused (11). The etiology remains unclear, and several causes have been suggested, such as ischemic events, epileptic phenomena, and migraine-related and venous flow abnormalities. (1-3) In some literature and case reports association between TGA and some conditions such as brain tumors (4), myocardial infarction (5), mitral valve prolapse (6), takotsubo syndrome, and arrhythmias have been described. Brain imaging may be considered and electroencephalography is recommended when episodes are

brief and recurrent, but otherwise, no investigations are necessary in most cases. Data on long-term prognosis are limited, but available information suggests that the relapse rate is low, the risk of stroke and seizures is not considerably increased, and the cognitive outcome is generally good. (12) The diagnosis is dependent on eliminating other more serious etiologies including toxic ingestions, acute strokes, complex partial seizures, and central nervous system infections. Transient global amnesia confers no known long-term risks; however, when abnormal signs or symptoms are present, they take precedence and guide the formulation of a differential diagnosis and investigation. (13) To our knowledge, there is no report of an association between TGA and endocarditis or even septicemia. infective endocarditis (IE) is an uncommon infection of cardiac valves associated with bacteremia. It increasingly

affects elderly patients with chronic disease and artificial cardiac devices. The presentation, however, remains subtle and varied, with nonspecific symptoms ranging from those resembling a mild viral infection to septic shock and multiorgan failure. IE carries the potential to cause significant morbidity and mortality through its impact on cardiac function and embolic complications (14).

Here in this paper, a case of TGA associated with bacterial endocarditis and surgical history of aortic valve replacement (AVR) is presented.

Case presentation

The patient was a 52-year-old man, without a family history of cerebrovascular or cardiovascular disease, with a past medical history of hypertension and surgical history of aortic valve replacement (AVR) due to the bicuspid aortic valve and severe aortic regurgitation with no complication about six months before recent presentation.

He presented to our center with a severe fever and shivering from the day before. His family mentioned that he had encountered sudden confusion and asked questions like “where am I?” repeatedly.

The First observation showed that he had been experiencing moments of memory lapse. They didn't mention any physical or emotional stress, head trauma, heavy work, and no other neurological or general symptoms except moderate low back pain.

He had been independent in whole daily activities and had not experienced such a situation before.

on the initial evaluation the patient was awake but disoriented to time and place, still asking the same questions (what happened? Where did I come from? Where am I now?) but was oriented to his personal identity. He revealed no abnormality in the neurologic examination

The patient was febrile (T=38/7 C orally); had tachycardia (PR=103bpm) and He had leukocytosis (15.000 with 80% PMN (, and ESR was 80. in blood pressure monitoring there was no event of hypotension, in the cardiac examination he had hyperdynamic and laterally displaced cardiac impulse, early systolic apical murmur, and diastolic murmur in the right upper sternal border, Other systemic examinations were normal.

On brain CT scan and MRI there was not any pathological finding and EEG revealed normal features without any epileptiform discharge.

After about 14-15 hours of the first visit, he has gradually become conscious and all the evidence of confusion faded. The patient has a memory gap of events during the attack.

According to clinical suspicion trans-thoracic and then trans-esophageal echocardiography was run which showed prosthetic aortic valve dehiscence with large vegetation and severe paravalvular regurgitation and another large vegetation on anterior mitral valve leaflet (Figure 1 and 2). Blood culture was positive for staphylococcus and therefore the diagnosis of acute bacterial endocarditis was established.

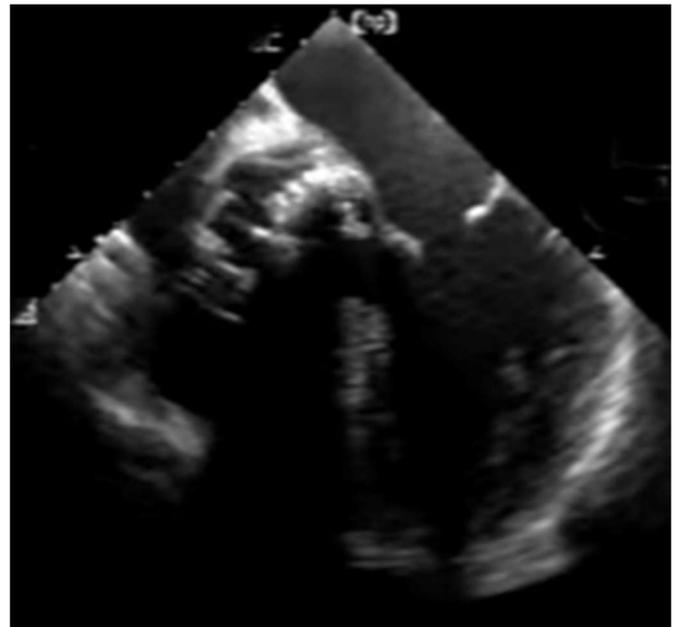


Figure 1. Trans-thoracic echocardiography

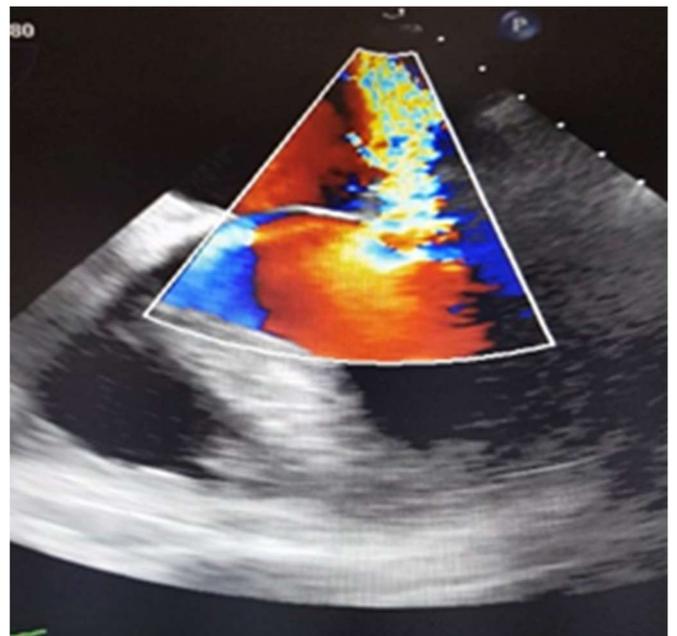


Figure 2. Trans-esophageal echocardiography

He received broad-spectrum antibiotics and cardiac surgery (AVR and MVR) was done immediately without any complications.

At the 6-month follow-up, the patient became normal and there was no evidence of cognitive or memory malfunction at the end.

Discussion

Briefly, the patient was a 52-year-old man, with a past medical history of hypertension and an aortic valve surgery ago due to aortic regurgitation with no complication about six months before the study time. He presented to our center with a severe fever and shivering from the day before. he had been experiencing moments of memory lapse. He revealed no abnormality in neurologic examination and on brain CT scan

and MRI there was not any pathological finding and EEG has revealed normal features without any epileptiform discharge. Transient global amnesia is not a rare condition but its pathophysiology is not clear yet. Some authors suggest that the mechanism of the disease may be similar to that of cerebral ischemia, epilepsy, or migraine (1, 7, 8). Some factors such as sexual activity, exposure to cold water, psychological stress, physical exhaustion, celebration, and stressful medical examination are also considered to be precipitating factors for TGA (9, 10). Neurological complications occur in about one-fourth of patients with infective endocarditis. Brain MRI represents a major tool for the identification of asymptomatic lesions, which occur in most patients with infective endocarditis. The usefulness of systematic brain imaging and the preferred treatment of patients with infective endocarditis and silent brain lesions remains uncertain. In patients with neurological complications, cardiac surgery can be safely performed early, if indicated (15).

Association between TGA and cardiovascular disorders like myocardial infarction and takotsubo syndrome has been described, but there is not any report of the association between TGA and acute bacterial endocarditis. Cardiovascular disorder studies are just limited to case reports without any clarification of mechanism and pathophysiology.

Declarations

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Conflict of interest

The authors have no conflicts of interest to disclose.

Consent for publication

This manuscript has been approved for publication by all authors.

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