TITLE: Don’t get hoodwinked.. this is serious

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OBJECTIVE: Stroke is one of the leading causes of death and disability in the United States. The following case report essentially highlights how a near total resolution of symptoms can mask a hidden stroke with 100% impunity.

ABSTRACT:

Introduction

Stroke is one of the leading causes of death and disability in the United States causing an estimated financial burden of approximately 72 billion annually. Around 90% of the strokes are ischemic. Projected financial burden for 2030 is 184.1 billion USD. [1]Cardioembolic strokes amongst all have the highest mortality. [2]

The following case report highlights how the total resolution of symptoms in a patient almost masked a hidden stroke with 100% impunity. It is particularly important for primary care physicians as the facilities of a developed stroke center are not always available within their reach.

Case Report

A 72 -year old AfrIcan-American female presented with acute onset right-hand weakness of 2 days duration wherein she could not properly grasp objects in her hand. This was intermittent with three episodes each lasting about 15 minutes. There was associated inability to speak, but comprehension was intact. However, symptoms had resolved upon presentation to the ER.

Past medical history was significant for hypertension and diabetes with good medication compliance.

On examination, vital signs were normal except for high BP. Neurological examination was focal neurological deficits and NIHSS score was 0. Other system examinations were unremarkable.

Lipid profile showed low HDL. HbA1C was high 10.5%. CT Brain without contrast was negative for any acute intracranial process. However, surprisingly MRI brain and MR-angiography of brain and neck showed acute or early subacute cerebral infarction in the distribution of left MCA territory. A Transthoracic echocardiogram was negative for a thrombus.

There was internal carotid artery siphon moderate stenosis with blister-type atherosclerotic aneurysm of left cavernous carotid. Neurological evaluation suggested the likely source of the embolus to be from the stenosis but advised against endovascular intervention.

She was maintained on her home meds, aspirin, and atorvastatin and subsequently discharged.

Discussion

According to the WHO, 15 million people suffer from a stroke per year, 5 million dies and another 5 million are left with a permanent neurological deficit. [3] There has been a paradigm shift in the concept of transient ischemic attack (TIA). The American Heart Association and American Stroke Association (AHA/ASA) has redefined it as a transient neurologic dysfunction due to focal brain, spinal cord, or retinal ischemia, without any acute infarction [4,5]

Misdiagnosis or delayed diagnosis of acute ischemic stroke can result in neurologic worsening or a missed opportunity for thrombolysis. In a study, patients from the prospectively maintained Young Stroke Registry in a stroke center were reviewed to identify factors that lead to misdiagnosis of stroke. Out of 57 patients aged 16-50 who were enrolled in the registry during 2001-2006, eight patients (14%; 4 men and four women; mean age, 38 years) were misdiagnosed. Seven of these eight patients were discharged from the ER without admission. Patients age <35 years and patients with posterior circulation stroke were the ones mostly misdiagnosed. Initial evaluation of all the eight misdiagnosed patients was done in centers which were not designated primary stroke centers.[6]

The symptoms of stroke evolve with time. Involvement of classic cerebrovascular territories results in atypical presentations. Small strokes, early presentations, young age and posterior circulation strokes many a time do not lead to lateralizing motor or speech findings and therefore might be tough to diagnose clinically.

However, the initial symptoms of patients with stroke are often overlooked, particularly by physicians other than neurologists. [7] The first essential step in acute stroke care is the evaluation of stroke symptom by a neurologist.[8, 9,10]

Conclusion

In this particular case, with complete symptom resolution and negative CT brain, there was an erroneous suspicion for a TIA, but with the subsequent MRI/MRA findings, there was a paradigm shift in management. This further underscores the aforementioned new definition of TIA and the importance of having a high index of suspicion for a stroke despite complete symptom resolution.