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NEUROLOGY BOARD REVIEW MANUAL

Diagnosis and Management of Syncope

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I. INTRODUCTION

Evaluating a patient who experiences the sudden loss of consciousness remains an important challenge for the clinician. Causes of syncope are varied, and its etiology is often unknown despite available neurologic and cardiac testing. In cases of syncope, certain aspects of presentation and initial evaluation may warrant further testing to avoid life-threatening recurrence. This article illustrates the common presentation, initial evaluation, and management of patients with presumed syncope. A case patient is presented to highlight features of the management of patients with syncope.

II. INITIAL EVALUATION

CASE PATIENT 1 PRESENTATION

Patient 1 is a 72-year-old woman who presents to the emergency department because she "passed out." This incident occurred after she had finished eating breakfast. When she rose to take her dishes to the kitchen, she felt slightly nauseated and then perceived the room becoming dark. She turned to sit back down, and the next thing she knew her husband was helping her off the floor. She denies any chest pain, palpitations, or shortness of breath before the event. Her husband believes she was unconscious for approximately 30 seconds and noted no abnormal movements, loss of bowel or bladder control, disorientation, or somnolence after the event. He states that she felt "clammy" when he picked her up but that she recognized him immediately. Patient 1 is currently without symptoms except for feeling fatigued.

- **Which of the following statements is/are TRUE?**
  - A) A transient ischemic attack (TIA) is the likely cause of patient 1's loss of consciousness.
  - B) Based on her presentation, a cardiac cause for patient 1's symptoms can be excluded.
  - C) Tonic/clonic movements are only seen in loss of consciousness secondary to seizures.
  - D) The reported duration of patient 1's episode excludes a syncopal event.
  - E) None of the above

DISCUSSION

The correct answer is E. Syncope is defined as a sudden, transient loss of consciousness and postural tone. Recovery from syncope is spontaneous. The pathophysiologic mechanism underlying this disorder is transient reduction of cerebral blood flow or of essential elements (oxygen, glucose/nutrients) to areas of the brain that support consciousness (ie, the brain stem reticular activating system). After 8 to 10 seconds, this reduction of flow results in loss of consciousness.[1] In her initial evaluation, the question of whether patient 1 truly experienced a syncopal event must be determined. Patients may often describe dizziness, lightheadedness, vertigo, "drop attacks" of narcolepsy, or focal neurologic events that do not fulfill the definition of syncope.

Seizures may result in loss of consciousness, and certain characteristics are more strongly associated with seizure activity. During a seizure, patients may have a blue (but not pale) complexion, engage in tongue biting, froth at the mouth, and have tonic/clonic movements (although this may also be seen in neurally mediated syncope). After a seizure, patients may have aching muscles and lethargy. Disorientation after the event suggests seizure activity and not syncope. Although event duration is not part of the formal definition, seizure activity is more likely when loss of consciousness extends for more than 5 minutes.[2]

In patient 1's case, more information is needed before a cardiac cause for her symptoms can be ruled out. It is essential to determine if a cardiac condition is involved because a higher mortality is associated with underlying structural heart disease. Cerebrovascular events and TIAs are rare causes of loss of consciousness. Vertebrobasilar insufficiency may cause drop attacks or a loss in postural tone.