

## > THE PATIENT

20-year-old woman

## > SIGNS & SYMPTOMS

- 2 syncopal episodes
- Nausea
- Dizziness

## > THE CASE

A 20-year-old woman presented to clinic with a chief complaint of 2 syncopal episodes within 10 minutes of each other. She reported that in both cases, she felt nauseated and dizzy before losing consciousness. She lost consciousness for a few seconds during the first episode and a few minutes during the second episode. Both episodes were unwitnessed.

The patient denied any fasting, vomiting, diarrhea, palpitations, chest pain, incontinence, oral trauma, headaches, fevers, chills, or tremors. Her last menstrual period started 3 days prior to presentation. The patient was taking sertraline 25 mg once daily for anxiety and depression and norethindrone acetate–ethinyl estradiol tablets 20 µg daily for birth control. She also was finishing a 7-day course of metronidazole for bacterial vaginosis. She reported having started the sertraline about 10 days prior to the syncopal episodes. She denied any personal history of drug or alcohol use, syncope, seizures, or any other medical conditions. Family history was negative for any cardiac or neurologic conditions.

The patient appeared euvolemic on exam. Overall, the review of the respiratory, cardiac, and neurologic systems was unremarkable. An electrocardiogram, obtained in clinic, showed a normal sinus rhythm and QT interval. Orthostatic blood pressure and heart rate measurements were as follows: supine, 122/83 mm Hg and 67 beats/min; seated, 118/87 mm Hg and 60 beats/min; and standing, 123/83 mm Hg and 95 beats/min. In addition to the increase in pulse between sitting and standing, the patient reported feeling nauseated when transitioning to a standing position.

Laboratory work-up included a comprehensive metabolic panel, complete blood count, and thyroid-stimulating hormone test. The results showed mild erythrocytosis with a hematocrit and hemoglobin of 46.1% and 15.6 g/dL respectively, as well as mild hypercalcemia (10.4 mg/dL).

## THE DIAGNOSIS

An increase in heart rate of more than 30 beats/min when the patient went from a sitting to a standing position pointed to a diagnosis of postural orthostatic tachycardia syndrome (POTS). This prompted us to stop the sertraline.

## DISCUSSION

POTS is a type of intolerance to orthostasis related to a significant increase in pulse without resulting hypotension upon standing. Other symptoms that accompany this change in position include dizziness, lightheadedness, blurry vision, and fatigue. Syncope occurs in about 40% of patients with POTS, which may be more frequent than for patients with orthostatic hypotension.<sup>1</sup>

The overall prevalence of POTS is 0.2% to 1%; however, it is generally seen in a 5:1 female-to-male ratio.<sup>2,3</sup> POTS is often idiopathic. That said, it can also be caused by medi-

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*The authors reported no potential conflict of interest relevant to this article.*

doi: 10.12788/fjp.0204



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cation adverse effects, hypovolemia, and stressors, including vaccinations, viral infections, trauma, and emotional triggers. On physical exam, this patient did not appear to be hypovolemic, and she reported normal oral intake prior to this visit. Since the patient had started taking sertraline about 10 days prior to her syncopal episodes, we suspected POTS secondary to sertraline use was the likely etiology in this otherwise healthy young woman.

### Syncope could indicate a larger cardiovascular problem

The differential diagnosis of dizziness with loss of consciousness includes anemia, vasovagal syncope, orthostatic hypotension, dehydration, electrolyte imbalance, arrhythmia, prolonged QT syndrome, cardiac valve or structure abnormality, and seizure. Most of these differentials can be ruled out from basic laboratory tests or cardiac imaging. In POTS, the diagnostic work-up is essentially normal compared to other causes of syncope. Orthostatic hypotension, for example, is similar; however, there is an additional change in the arterial blood pressure.

### Unintended adverse effects

Selective serotonin reuptake inhibitors (SSRIs), such as sertraline, are known to have fewer cardiovascular adverse effects compared to older antidepressants such as tricyclic antidepressants and monoamine oxidase inhibitors.<sup>4</sup> However, case reports have shown an association between SSRIs and syncope.<sup>4-6</sup> SSRIs have also been tied to increased heart rate variability.<sup>7</sup>

**■ Nearly 2 weeks after stopping sertraline, our patient presented to clinic and was given a diagnosis of streptococcal pharyngitis. She said she'd had no additional syncopal**

episodes. Twenty days after sertraline cessation, the patient returned for follow-up. Her blood pressure and heart rate were as follows: supine, 112/68 mm Hg and 61 beats/min; seated, 113/74 mm Hg and 87 beats/min; and standing, 108/74 mm Hg and 78 beats/min.

Thus, after cessation of sertraline, her orthostatic heart rate changes were smaller than when she was first examined. Her vital signs showed an increase in pulse of 26 beats/min between lying and sitting, without any reports of nausea. She had no further complaints of dizziness or syncopal episodes.

## THE TAKEAWAY

We don't always know how a patient will respond to a newly prescribed medication or lifestyle change. A proper review of a patient's history and medication use is a pivotal first step in making any diagnosis. **JFP**

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