

## COVID-19 in a Patient Presenting with Syncope and a Normal Chest X-ray

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### ABSTRACT

SARS-CoV-2 is a novel virus that has now affected hundreds of thousands of individuals across the world. Amidst this global pandemic, maintaining a high index of suspicion, rapid testing capacity, and infection control measures are required to curtail the virus' rapid spread. While fever and respiratory symptoms have been commonly used to identify COVID-19 suspects, we present an elderly female who arrived to the hospital after a syncopal episode. She was afebrile with a normal chest X-ray and there was no suspicion of COVID-19. She then developed a fever and tested positive for COVID-19. Our unique case underscores the increasing diversity of COVID-19 presentations and potential for initial misdiagnosis and delay in implementing proper precautions.

**KEYWORDS:** SARS-CoV-2, COVID-19, chest radiograph, imaging, syncope, isolation precautions

### CASE REPORT

A 79-year-old woman with a past medical history of coronary artery disease with multiple stents, hypertension, and congestive heart failure presented to the Emergency Department in mid-March after a syncopal episode at home. Three days prior to admission, she developed myalgias and cough followed by fevers up to 100.4 F. She called her primary care physician who was concerned for influenza and prescribed oseltamivir. Her symptoms persisted despite the medication. She was also on verapamil 60 mg a day and daily alprazolam. On the day of presentation, the patient felt lightheaded after having a bowel movement, and had a witnessed syncopal episode. EMS was called and she was transferred to a local hospital via ambulance.

Upon arrival, the patient stated that she had no report of chest pain or shortness of breath, and she denied palpitations. She had had no recent travel outside of the state or internationally. Her exam was significant for a temperature of 97.9 F, oxygen saturation of 97%, elevated blood pressure and pulse. Examination of the lungs was normal. Labs were remarkable for lymphopenia with an absolute lymphocyte count of  $0.4 \times 10^9/L$  (BUN and Creatinine were normal (17/0.66). Chest radiograph showed clear lungs. She

was transferred to the observation unit of the Emergency Department (ED) for a syncopal workup and cardiology consultation.

Several hours later, she became febrile to 101.8 F and complained of chills. The treatment team sent a respiratory pathogen panel (GenMark Dx® ePlex™), which resulted negative. Approximately 12 hours after arrival, the patient was placed on maximum isolation precautions (negative pressure room, with anyone entering the room required to wear an N95 respirator, face shield, disposable gown, and gloves) and tested for SARS-CoV-2 infection (GenMark Dx® ePlex™). The test result returned positive. The patient was subsequently admitted for further management.

Evaluation for the etiology of her syncope revealed orthostatic hypotension with blood pressure of 116/62 mmHg when supine and 85/50 mmHg when standing. Electrocardiogram and telemetry monitoring did not reveal any structural cardiac defects or arrhythmias respectively. The following day, a CT chest showed bilateral peripheral ground-glass opacities. At discharge, she continued to have intermittent low-grade fevers of 100.4–100.8 F. Given significant improvement in symptoms and resolution of lightheadedness, she was discharged home. She subsequently worsened at home and was readmitted to another hospital with respiratory failure.

### DISCUSSION

The novel coronavirus, SARS-CoV-2, was first described in Wuhan, Hubei Province, China in December 2019 and has since become a global pandemic with increasing spread throughout the United States. In a study of 1,099 patients in China with confirmed COVID-19, the most commonly reported symptom was fever (43.8% on initial admission, 88.7% during hospitalization), followed by cough (67.8%).<sup>1</sup> Atypical chest and back pain has also been reported as presenting symptoms. Syncope was not reported as a symptom in this study cohort. To our knowledge, syncope has not been described as an associated symptom of COVID-19 infection in any of the literature to date. Other studies have described normal chest imaging at presentation in patients with COVID-19.<sup>1,2</sup> Syncope may be a presenting symptom, particularly in the elderly with underlying cardiac disease.

This patient presented with lymphopenia, which has

been documented elsewhere in patients with COVID-19. In a study of 99 patients in Wuhan, China, 35% presented with decreased absolute lymphocyte count.<sup>3</sup> Yang et al. looked specifically at critically ill patients with COVID-19 in Wuhan and found that 85% of patients in their sample (n=52) were lymphopenic,<sup>4</sup> suggesting that lymphopenia may be associated with more severe disease.

We describe a 79-year-old patient presenting with syncope along with a normal chest radiograph. Additionally, our patient had no recent travel, which suggests that she became infected via community transmission. At the time of presentation, she was neither hypoxic nor febrile. Although this may be an atypical presentation, this patient ultimately tested positive for SARS-CoV-2. Maximum isolation precautions were not put in place until approximately 12 hours after the patient's arrival in the Emergency Department. A normal chest radiograph and atypical signs of infection, such as syncope, should not rule out COVID-19. It is important to keep COVID-19 in mind so as not to delay timely initiation of isolation precautions.

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