

IMAGES IN EMERGENCY MEDICINE

Cardiovascular

Man with convulsive syncope**Satheesh Gunaga DO^{1,2,3}** | **Dennis Smythe BS^{1,3}** | **Nathaniel Shearer DO^{1,3}** |
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Email: sgunaga1@hfhs.org**KEYWORDS**

convulsive syncope, pulmonary thrombectomy, sPESI, submassive pulmonary embolism, syncope

1 | CASE

A 48-year-old male collapsed during a physical therapy session at a rehab facility. Bystanders reported the patient lost consciousness briefly with abnormal jerking movements, bowel incontinence, and returned to baseline within 1 minute. His recent medical history includes a right tibial fracture and ureterolithiasis requiring ureteral stenting. In the emergency department (ED), he was tachycardic but hemodynamically stable, with mildly elevated troponin and d-dimer levels.

2 | DIAGNOSIS: SUBMASSIVE PULMONARY EMBOLISM

Submassive pulmonary embolism (PE) was revealed by computed tomography (CT) pulmonary angiography (Figure 1). Despite hemodynamic stability, this patient displayed right heart strain findings on both electrocardiogram and CT scans, with mildly elevated cardiac biomarkers. These findings were concerning for severe thrombotic burden and the patient underwent urgent pulmonary thrombectomy (Figure 2). Much can be learned from this case. First, it highlights that not all that shakes are seizures. Myoclonic jerking, often seen in syncope patients,

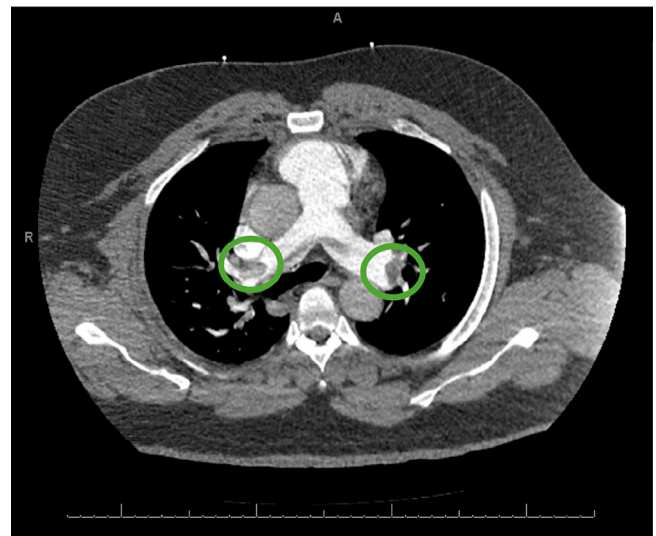


FIGURE 1 Computed tomography pulmonary angiography demonstrates the presence of significant bilateral and saddle pulmonary embolism.

can often be mistaken for seizure activity by bystanders, leading to potential anchoring bias in ED diagnosis.¹ Second, syncope should not

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FIGURE 2 This figure demonstrates significant pulmonary artery segmental and subsegmental clot burden removed by urgent pulmonary thrombectomy.

Simplified pulmonary embolism severity index score (sPESI)³

Parameters	Score Assigned
Age > 80 Years	+1
History of Cancer	+1
History of Chronic Cardiopulmonary Disease	+1
Heart Rate \geq 110 bpm	+1
Systolic BP < 100 mmHg	+1
O2 Saturation < 90%	+1

> The Simplified PESI score predict 30-day outcome of patients with PE, consolidating the criteria from the original PESI
 > 0 Points- Low Risk: 1.1% risk of death, with 1.5% having recurrent thromboembolism or non-fatal bleeding
 > \geq 1 points- High Risk: 8.9% risk of death

FIGURE 3 The simplified pulmonary embolism (PE) severity index (sPESI) is a validated tool for pulmonary embolism risk stratification.

be viewed as a definitive diagnosis, but rather as a symptom. It is essential to remember that syncope can be the primary presenting symptom in severe conditions such as PE, ruptured ectopic pregnancies, abdominal aortic aneurysms, gastrointestinal bleeds, and acute myocardial infarctions.² Finally, in patients presenting with submassive PE, using simplified pulmonary embolism severity index (sPESI)

scores >1 to identify high-risk PE patients, then strategically collaborating with your institution's PE rescue team can facilitate prompt clot removal (Figure 3).³ Recent pulmonary thrombectomy trials demonstrate reduction in mortality and long-term thrombotic burdens of PE.^{4,5}

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

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