

## Saddle Pulmonary Embolus

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A 27-year-old man with recent intramedullary rod placement for open tibia fracture repair presented with sudden-onset dyspnea and chest pain followed by a syncopal event. His initial vital signs showed hypoxia (arterial oxygen saturations, 80% while breathing room air), tachycardia (heart rate, 115-120/min), and hypotension (blood pressure, 82/40 mm Hg). A computed tomographic pulmonary angiograph demonstrated a large saddle embolus extending into the right and left pulmonary arteries, the proximal lobar arteries, and several segmental branches bilaterally (image A). An echocardiograph showed right-sided heart strain with a D-shaped interventricular septum (image B), a dilated right ventricle with decreased systolic function, global hypokinesis, and sparing of the right ventricular apical region consistent with a positive McConnell sign. The saddle pulmonary embolus likely occurred secondary to the patient's recent surgical procedure. The patient received tenecteplase intravenously, with subsequent resolution of the thrombosis and its associated symptoms. A repeated echocardiograph demonstrated resolution of the right-sided heart strain and normalization of the biventricular size and function.

A pulmonary embolism is an obstruction of the pulmonary artery or 1 of its branches by a thrombus, tumor, air, or fat matter. A saddle pulmonary embolism is a thromboembolus that occurs at the bifurcation of the main pulmonary artery.<sup>1</sup> It represents a potentially large, unstable clot associated with sudden hemodynamic collapse. Untreated pulmonary embolisms have a high mortality rate.<sup>2-4</sup> (doi:10.7556/jaoa.2015.069)

### References

1. Ryu JH, Pellikka PA, Froehling DA, Peters SG, Aughenbaugh GL. Saddle pulmonary embolism diagnosed by CT angiography: frequency, clinical features and outcome. *Respir Med.* 2007;101(7):1537-1542.
2. Kucher N, Goldhaber SZ. Management of massive pulmonary embolism. *Circulation.* 2005;112(2):e28-e32.
3. Meyer G, Vicaut E, Danays T, et al. Fibrinolysis for patients with intermediate-risk pulmonary embolism. *N Engl J Med.* 2014;370(15):1402-1411. doi:10.1056/NEJMoa1302097.
4. Weitz JI, Eikelboom JW, Samama MM; American College of Chest Physicians. *New antithrombotic drugs: Antithrombotic Therapy and Prevention of Thrombosis.* 9th ed. American College of Chest Physicians Evidence-Based Clinical Practice Guidelines [review]. *Chest.* 2012;141(2)(suppl):e120S-e151S. doi:10.1378/chest.11-2294.

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