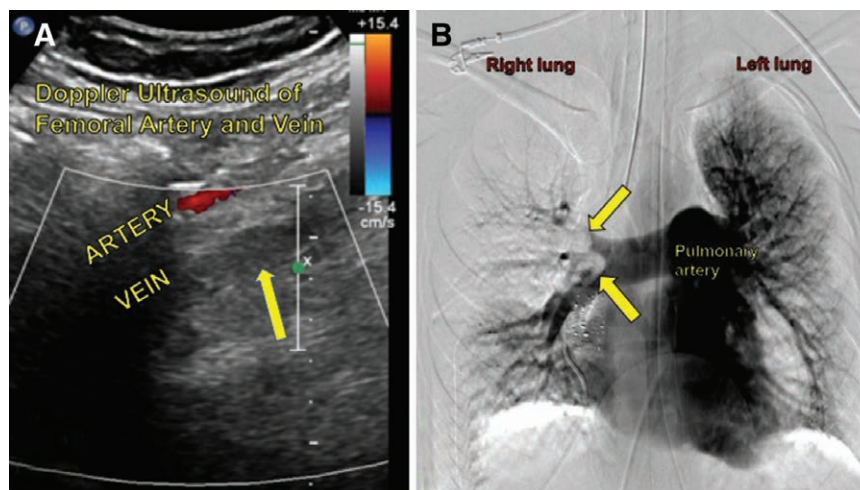


# Images in Anesthesiology: Pulmonary Thromboembolism

Denis H. Jablonka, M.D., Abhay Srinivasan, M.D., Alan Jay Schwartz, M.D., M.S.Ed., Rajeev Subramanyam, M.D., M.S.



Acute pulmonary embolism is a life-threatening event. The most frequent source of pulmonary embolism is iliofemoral deep venous thrombosis, shown in the femoral vein sonogram, as an echogenic density within the lumen with no intraluminal flow (arrow in image A). Supplemental Digital Content 1 (<http://links.lww.com/ALN/B780>) shows significant emboli occluding the right upper and middle lobe pulmonary arteries with near complete lack of perfusion of these two lobes (arrows in image B) on a pulmonary angiogram, a gold standard test for detecting pulmonary embolism. Supplemental Digital Content 2 (<http://links.lww.com/ALN/B781>) shows recanalization with prompt treatment using intraarterial and systemic tissue plasminogen activator and suction thrombectomy.

Preventive measures include heparin, intermittent pneumatic compression device, aspirin, oral anticoagulants, and statins.<sup>1</sup> Neuraxial blockade, by reducing mediator release and increasing venous flow, may also help preventing thrombus formation.<sup>1</sup> Pulmonary embolism under anesthesia presents with tachycardia, arrhythmias (often atrial fibrillation), or sometimes specific electrocardiogram changes including right heart strain or the rare but classic “S1, Q3, T3” pattern.<sup>2</sup> Loss of cardiac output occurs if a massive pulmonary embolus impedes right ventricular ejection. Unable to compensate for a sudden rise in the pulmonary vascular resistance, the right ventricle dilates restricting the left ventricle function.<sup>3</sup> Care of a perioperative patient with acute pulmonary embolism focuses on immediate restoration of pulmonary

blood flow. Norepinephrine may be the vasopressor of choice for resuscitation pending definitive treatment,<sup>3</sup> and nitric oxide may lower pulmonary vascular resistance. In impending circulatory collapse, fibrinolysis is lifesaving, and if contraindicated, then extracorporeal membrane oxygenation support should be considered, pending interventional or surgical pulmonary thrombectomy.

## Competing Interests

The authors declare no competing interests.

## Correspondence

Address correspondence to Dr. Subramanyam: [subramanyr@email.chop.edu](mailto:subramanyr@email.chop.edu)

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From the Department of Anesthesiology and Critical Care (D.H.J., A.J.S., R.S.); and the Division of Interventional Radiology, Department of Radiology (A.S.), Children's Hospital of Philadelphia, Philadelphia, Pennsylvania.

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