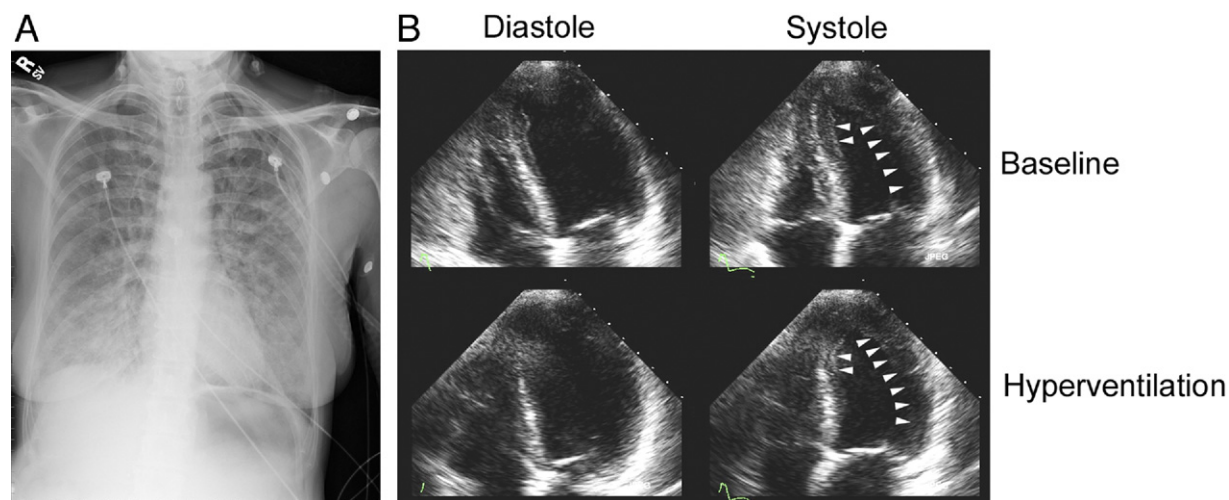


IMAGES IN CARDIOLOGY

Heavy Breathing Hits the Heart

James P. Smith, MD,* David S. Bach, MD†

Ann Arbor, Michigan



From the *Division of Nephrology, Department of Internal Medicine, University of Michigan, Ann Arbor, Michigan; and the †Division of Cardiovascular Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, Michigan. Manuscript received May 11, 2010; accepted May 22, 2010.

A 63-year-old woman was transferred to our institution for idiopathic recurrent flash pulmonary edema (A), which quickly resolved with topical nitroglycerine and intravenous furosemide. Previous evaluations included normal cardiac catheterization and echocardiograms. She exercised daily and fastidiously minimized dietary sodium. Our interview identified a consistent trigger: every episode occurred within minutes to hours of sexual activity. She described multiple post-coital events of lesser severity, in addition to those prompting her hospital stays. This led us to consider hyperventilation-induced systolic dysfunction. At rest, echocardiography revealed normal systolic function and wall motion (B, [Online Video 1](#)). Hyperventilation for 5 min reproduced symptoms and induced abnormal wall motion of the septum and entire lateral wall (B, [Online Video 2](#)). Presuming post-coital hyperventilation-induced coronary vasospasm, we prescribed long-acting nifedipine with modest symptomatic improvement. Subsequent addition of a low-dose nitrate eliminated her symptoms, and a repeat echocardiogram demonstrated normal wall motion despite hyperventilation challenge ([Online Video 3](#)).