

LESS IS MORE

Pulmonary Artery Rupture From Invasive Hemodynamic Monitoring

A 72-YEAR-OLD MAN WITH SYSTOLIC HEART failure (left ventricular ejection fraction, 20%) and hypertension was admitted to the hospital with 2 weeks of dyspnea at rest and a 20-lb weight gain. He reported good compliance with his outpatient regimen of lisinopril, carvedilol, spironolactone, and furosemide. Findings from physical examination were notable for a blood pressure of 95/40 mm Hg and heart rate of 105 beats/min, elevated jugular venous pressure, diffuse crackles in the lung fields, an S3 gallop, and warm extremities. The patient was admitted to the cardiac intensive care unit and administered intravenous furosemide, with a net diuresis of 2 L overnight.

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The next hospital day, the patient's creatinine level had increased from 0.8 to 1.4 mg/dL, but his dyspnea had improved. He had persistent crackles bilaterally and an S3 gallop on auscultation. Concern for worsening renal function prompted right heart catheterization for continuous hemodynamic monitoring. A pulmonary artery catheter was placed in the intensive care unit using ultrasound guidance through the right internal jugular vein. The procedure was uncomplicated and confirmed elevated left and right heart filling pressures. Diuresis was continued; isosorbide and hydralazine therapies were added to decrease his systemic vascular resistance.

Twelve hours after the pulmonary artery catheter was placed, the balloon was inflated to measure the wedge pressure. The patient abruptly began coughing large volumes of blood, and his systolic blood pressure dropped to 60 mm Hg. He was intubated emergently with a double lumen endotracheal tube. A chest radiograph confirmed that the catheter had migrated distally in the right pulmonary artery. He was selectively ventilated through the left lung and placed in the right decubitus position. Subsequent imaging showed a large right hemothorax. The catheter was removed under fluoroscopy, and the bleeding subsided over the next day. The patient remained intubated for 8 days and had a prolonged recovery but eventually left the hospital after treatment for ventilator-associated pneumonia. With fastidious monitoring of his weight and diet, he did not require hospitalization for heart failure over the subsequent year.

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Financial Disclosure: None reported.