Isolated Right-sided Pulsus Alternans in Pulmonary Arterial Hypertension

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Cardiac catheterization of a 79-year-old woman with systemic sclerosis demonstrated severe pulmonary arterial hypertension: a peak systolic pulmonary pressure of 99 mmHg and a mean pulmonary artery pressure of 51 mmHg without an increase in the mean pulmonary capillary wedge pressure. Pulsus alternans was detected in the right ventricle (RV) and pulmonary artery (PA), but not in the pulmonary artery wedge position (PCW), right atrium (RA), left ventricle (LV) or in the aorta (Ao) (Picture 1).

Pulsus alternans is a mysterious phenomenon of alternating strong and weak beats with a constant beat-to-beat interval. Although its mechanism is obscure, it is considered a hallmark of advanced left ventricular dysfunction and is associated with a poor prognosis (1, 2). This pulse pattern may occur simultaneously or independently in systemic and pulmonary circulation. Isolated right-sided pulsus alternans is a rare phenomenon, and its mechanisms and clinical implications remain unknown and must be investigated in the future.

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References