



FIGURE 4-16 Electrocardiographic (ECG) (A) and Swan-Ganz flotation catheter (C) recordings are shown. The recordings of a catheter in the radial artery and Swan-Ganz floating catheter in the right atrium are shown in B and D, respectively. The left portion of tracing C was obtained with the balloon inflated, yielding the pulmonary arterial wedge pressure. The right portion of tracing C was recorded with the balloon deflated, depicting the pulmonary arterial pressure. In this patient, the pulmonary arterial wedge pressure (i.e., left ventricular filling pressure) is normal, and the pulmonary artery pressure is elevated because of lung disease.

TABLE 4-4 DIFFERENTIAL DIAGNOSIS USING A BEDSIDE BALLOON FLOW-DIRECTED (SWAN-GANZ) CATHETER

DISEASE STATE	THERMODILUTION CARDIAC OUTPUT	PCW PRESSURE	RA PRESSURE	COMMENTS
Cardiogenic shock	↓	↑	nl or ↓	↑ Systemic vascular resistance
Septic shock (early)	↑	↓	↓	↑ Systemic vascular resistance; myocardial dysfunction can occur late
Volume overload	nl or ↑	↑	↑	
Volume depletion	↓	↓	↓	
Noncardiac pulmonary edema	nl	nl	nl	
Pulmonary heart disease	nl or ↑	nl	↑	↑ PA pressure
RV infarction	↓	↓ or nl	↑	
Pericardial tamponade	↓	nl or ↑	↑	Equalization of diastolic RA, RV, PA, and PCW pressure
Papillary muscle rupture	↓	↑	nl or ↑	Large v waves in PCW tracing
Ventricular septal rupture	↑	↑	nl or ↑	Artifact caused by RA → PA sampling higher in PA than RA; may have large v waves in PCW tracing

nl, Normal; PA, pulmonary artery; PCW, pulmonary capillary wedge; RA, right atrium; RV, right ventricle; ↑, increased; ↓, decreased.