

Evaluation of Pericarditis Using Right Ventricular and Left Ventricular Pressure Waveforms

Pericarditis is a condition in which the pericardium becomes inflamed. In some cases, scarring and thickening of the pericardium occurs resulting in constrictive pericarditis, which can lead to long-term heart failure like problems. While noninvasive methods exist for diagnosing various pericardium conditions, at times the results are inconclusive, and invasive cardiac catheterization is necessary.

In these cases, fluid-filled transducers are generally used to measure left ventricular and right ventricular pressures for comparison of LV and RV waveform areas during inspiration and expiration. In patients with constrictive pericarditis, these changes are discordant in that LV systolic pressure increases at expiration do not correlate with expected RV systolic pressure increases. LV systolic pressure decreases at inspiration show increases in RV systolic pressures.

The Mikro-Cath™ pressure catheter provides a direct high-fidelity measure of right and left ventricular blood pressure, resulting in cleaner waveform tracings and easier identification of discordant systolic and diastolic values for comparison purposes.

In the example below, a patient suspected of having constrictive pericarditis was catheterized with a Mikro-Cath for left ventricular pressure measurement and a fluid-filled transducer for right ventricular pressure measurement. Note the discordance in the LV and RV systolic pressures in the highlighted waveforms below.

Left and Right Ventricular Pressure Waveforms

