

## **What Distinguishes Restrictive Cardiomyopathy from Heart Failure with Preserved Ejection Fraction?**

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Background: Heart failure with preserved ejection fraction (HFpEF) develops most commonly with aging and hypertensive cardiac remodeling. Patients with infiltrative or restrictive cardiomyopathy (RCM) may be difficult to distinguish from HFpEF, as diastolic dysfunction, congestion and normal EF are common to both disorders.

Methods: Consecutive patients with HFpEF (n=82) and RCM (n=14 with cardiac amyloid and 23 with primary RCM) underwent invasive hemodynamic assessment at rest and during nitroprusside (NP) infusion.

Results: Patients with HFpEF had higher blood pressure, pulse pressure, stroke volume index (SVI) and cardiac index (CI) as compared with RCM (Table). Despite similar baseline central hemodynamics, patients with HFpEF displayed two-fold greater drops in pulmonary artery pressure (PAP) and in pulmonary wedge pressure (PCWP) in response to NP, with greater drop in systolic blood pressure (SBP) despite similar change in CI. A drop in PCWP of >6mmHg with NP distinguished HFpEF from RCM with area under the ROC curve of 0.74 (p<0.0001).

Conclusion: While resting hemodynamics are similar in HFpEF and RCM, elevation of cardiac filling pressures are more reversible with vasodilation in HFpEF, suggesting that RCM is characterized by more advanced, load-independent diastolic dysfunction. More advanced testing such as endomyocardial biopsy should be considered in patients with irreversible elevation in cardiac filling pressures.