Diastolic Heart Failure Diagnosis

Most cardiology guidelines recommend a stepwise approach including:

- Presence of clinical symptoms and signs of heart failure (related to pulmonary and systemic congestion) along with risk factors for heart failure (HTN, CAD, VHD, A fib, DM, age, and BMI) and pertinent laboratory tests including BNP*
- Evidence for preserved EF
- Presence of diastolic dysfunction

* Elevated BNP support, but normal levels do not exclude a diagnosis of HFpEF.

Measures of diastolic dysfunction by echocardiogram include:

- Mitral early to late (E/A) diastolic velocity ratio
- Mitral early diastolic velocity (e')
- LV filling pressure estimated using E/e'
- LA volume index
- Peak TR velocity

Mitral E/A ratio is the starting point. Based on E/A ratio, the LA pressure can be estimated as normal, E/A ratio ≤0.8, or increased, E/A ratio ≥2, the latter indicating diastolic dysfunction.

If the E/A ratio is >0.8 and <2, three additional measurements are recommended to be determined:

- LA maximum volume index (>34 mL/m2)
- Average E/e' ratio (>14)
- Peak TR velocity (>2.8 m/s)

If at least 2 out 3 are of the above measurements are positive is consistent with diastolic dysfunction.

When inconclusive, exercise stress echocardiography could be obtained attempting to estimate mean wedge pressure, if >25 mmHg is consistent with diastolic dysfunction. If it is inconclusive, then RHC is performed. If mean wedge pressure by RHC is between 12 and 15 mmHg, IVF challenge with 500 ml crystalloids is recommended.