Heart Failure with Preserved Ejection Fraction

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Heart failure with preserved ejection fraction (HFPEF) accounts for heart failure in approximately half of the patients diagnosed with heart failure and steadily increasing and its prognosis is poor. LV diastolic dysfunction, either alone or in combination with other factors like as extracardiac abnormalities and other cardiac causes, is the major underlying mechanism of HFPEF. The diagnosis of PEFF requires fulfillment of three criteria according to the 2016 ESC heart failure guideline; (i) signs or symptoms of heart failure, (ii) presence of an approximately normal left ventricular ejection fraction (LVEF≥50%), and (iii) evidence of elevated levels of natriuretic peptides and additional criteria of diastolic dysfunction or relevant structural heart disease(LVH and/or LAE). In this setting, the assessment of LV diastolic dysfunction and filling pressures is key diagnostic issue and can be assessed non-invasively using Doppler echocardiography. Echocardiography has a pivotal role in the diagnostic process of HFpEF and is generally considered one of the most useful tests in this setting. The key measurement in assessing diastolic dysfunction is E/e'. E/e' over 15 is sufficient to detect elevated LV pressure but inconclusive E/e (8-15) is difficult to issuing LV filling pressure. So there are needed further investigational parameters like ① average E/e' >14 ② septal e' velocity < 7 cm/sec (or lateral e' velocity < 10 cm/sec) ③ TR velocity > 2.8 m/s ④ LA volume index >34ml/m^2. IF there are less than 50% positivity of 4 parameters, the diastolic function is thought as normal. Next is grading of diastolic dysfunction by figure 1.

Conclusion: Echocardiography is pivotal role in diagnosis of HFPEF. Combined with clinical symptom/sign, and biomarkers, Echocardiographic evaluation of diastolic function is crucial diagnostic value for HFPEF with mimicking other dyspnea.

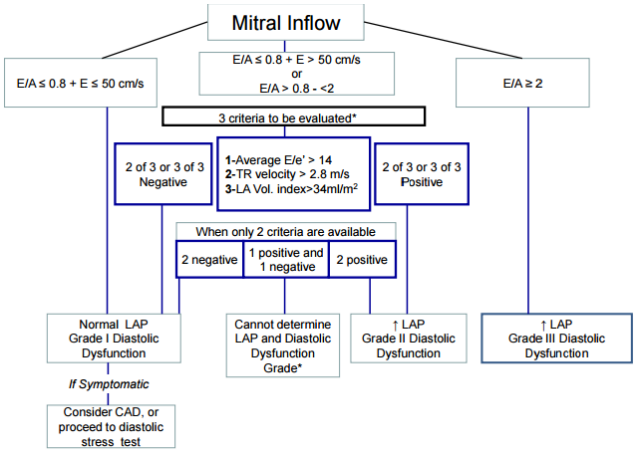

Figure 1 Algorithm for estimation of LV filling pressures and grading LV diastolic function.