Prevalence, Presentation, and Outcome of Heart Failure with Preserved Ejection Fraction among Patients Presenting with Undifferentiated Dyspnoea to the Emergency Room: A 10-year Analysis from a Tertiary Centre

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Abstract

Introduction: We assessed the local prevalence, characteristics and 10-year outcomes in a heart failure (HF) cohort from the emergency room (ER). Materials and Methods: Patients presenting with acute dyspnoea to ER were prospectively enrolled from December 2003 to December 2004. HF was diagnosed by physicians’ adjudication based on clinical assessment and echocardiogram within 12 hours, blinded to N-terminal-pro brain natriuretic peptide (NT-proBNP) results. They were stratified into heart failure with preserved (HFPEF) and reduced ejection fraction (HFREF) by left ventricular ejection fraction (LVEF). Results: At different cutoffs of LVEF of ≥50%, ≥45%, ≥40%, and >50% plus excluding LVEF 40% to 50%, HFPEF prevalence ranged from 38% to 51%. Using LVEF ≥50% as the final cutoff point, at baseline, HFPEF (n = 35), compared to HFREF (n = 55), had lower admission NT-proBNP (1502 vs 5953 pg/mL, P <0.001), heart rate (86 ± 22 vs 98 ± 22 bpm, P = 0.014), and diastolic blood pressure (DBP) (75 ± 14 vs 84 ± 20 mmHg, P = 0.024). On echocardiogram, compared to HFREF, HFPEF had more LV concentric remodelling (20% vs 2%, P = 0.003), less eccentric hypertrophy (11% vs 53%, P <0.001) and less mitral regurgitation from functional mitral regurgitation (60% vs 95%, P = 0.027). At 10 years, compared to HFREF, HFPEF had similar primary endpoints of a composite of cardiovascular death, non-fatal myocardial infarction, non-fatal stroke, and rehospitalisation for congestive heart failure (CHF) (HR 0.886; 95% CI, 0.561 to 1.399; P = 0.605), all-cause mortality (HR 0.663; 95% CI, 0.400 to 1.100; P = 0.112), but lower cardiovascular mortality (HR 0.307; 95% CI, 0.111 to 0.850; P = 0.023). Conclusion: In the long term, HFPEF had higher non-cardiovascular mortality, but lower cardiovascular mortality compared to HFREF.

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