

Acute Decompensated Heart Failure with Preserved Ejection Fraction: Do the Asian Phenotypes Fit?

Supplementary Material

Supplementary Table 1: Comparison of Baseline Characteristics Between HFpEF Registries and Studies.

	IJN-ADHF (2022)	ASIAN-HF (2013)	ASIAN-HF (Southeast Asia – 2019)	Yap et al (2015)	PARAGON-HF (Asia Pacific – 2021)
Total HFpEF Patients	632	1204	409	751	762
Type of Study	Registry	Registry	Registry	Registry	RCT
Recruitment	ADHF	In/outpatient	In/outpatient	ADHF	In/outpatient
Age (years); M (SD)	67.6 (14.1)	68.4 (12.3)	67.4 (11.6)	73.1 (10.6)	72.0 (9.0)
Female; N (%)	330 (52.2)	597 (49.6)	204 (49.9)	486 (64.7)	379 (50)
Malay; N (%)	332 (52.5)	138 (11.5)	N/A	91 (12.1)	N/A
Indian; N (%)	143 (22.6)	306 (25.4)	N/A	90 (12.0)	N/A
Chinese; N (%)	122 (19.3)	588 (48.8)	N/A	557 (74.2)	N/A
Others; N (%)	35 (5.5)	172 (14.3)	N/A	13 (1.7)	N/A
Body Mass Index (kg/m²); M (SD)	28.6 (6.8)	27.1 (6.0)	28.2 (6.2)	N/A	28.0 (5.0)
Coronary Artery Disease; N (%)	366 (57.9)	347 (29.3)	149 (36.7)	308 (41.0)	317 (42.0)
Previous PCI; N (%)	134 (36.6)	N/A	N/A	N/A	164 (22.0)
Previous CABG; N (%)	141 (38.5)	N/A	N/A	N/A	84 (11.0)
Previous MI; N (%)	80 (21.9)	N/A	N/A	122 (16.2)	172 (23.0)
Chronic Kidney Disease; N (%)	184 (29.1)	481 (50.4)	229 (60.4)	N/A	N/A
Atrial Fibrillation; N (%)	219 (34.7)	338 (28.5)	128 (31.3)	255 (34.0)	258 (34.0)
Diabetes Mellitus; N (%)	367 (58.1)	536 (45.1)	254 (62.1)	354 (47.1)	336 (44.0)
Hypertension; N (%)	464 (73.4)	843 (71.0)	339 (82.9)	603 (80.3)	697 (92.0)
Dyslipidaemia; N (%)	259 (41.0)	N/A	N/A	435 (57.9)	N/A
Stroke / TIA; N (%)	27 (4.3)	96 (8.1)	46 (11.2)	138 (18.4)	95 (13.0)
COPD / Asthma; N (%)	70 (11.1)	108 (9.1)	43 (10.5)	107 (14.2)	N/A
Current / Former Smokers; N (%)	135 (21.4)	275 (23.2)	131 (32.1)	199 (26.5)	N/A
History of Hospitalization for Heart Failure; N (%)	332 (52.5)	N/A	N/A	N/A	413 (54.0)
SBP (mmHg); M (SD)	139.0 (26.8)	132.3 (22.4)	134.6 (23.5)	143 (30)	128 (16.0)
HR (bpm); M (SD)	80.3 (19.1)	76.4 (15.5)	74.5 (14.4)	84 (24)	73 (13.0)
Dyspnoea; N (%)	607 (96.0)	858 (71.4)	327 (79.9)	N/A	656 (87.0)

Peripheral Oedema; N (%)	464 (73.4)	386 (32.2)	183 (45.0)	N/A	224 (29.0)
Lung Crepitation; N (%)	501 (79.3)	183 (15.3)	109 (26.7)	N/A	38 (5.0)
Elevated JVP; N (%)	265 (41.9)	123 (10.3)	75 (18.4)	N/A	89 (12.0)
Hepatomegaly; N (%)	35 (5.5)	30 (2.5)	7 (1.7)	N/A	N/A
Haemoglobin (g/dL); M (SD)	12.1 (2.1)	12 (2.0)	12 (10 – 13)	11.7 (2.0)	N/A
NT Pro-BNP (pg/mL); M (SD)	5341.6 (7615.7)	N/A	N/A	5814 (10147)	N/A
NT Pro-BNP (pg/mL); median (Q1, Q3)	2534.0 (1081.0, 6020.5)	1448 (528, 3290)	1257 (456, 2601)	N/A	915.5 (485.0, 1719.0)
eGFR (mL/min/1.73m²); M (SD)	59.1 (45.0)	60 (21.0)	52 (36 – 74)	N/A	64.0 (20.0)
All-cause mortality and HF rehospitalization at 1 year; N (%)	225 (37.9)	135 (12.1)	90 (23.6)	N/A	N/A

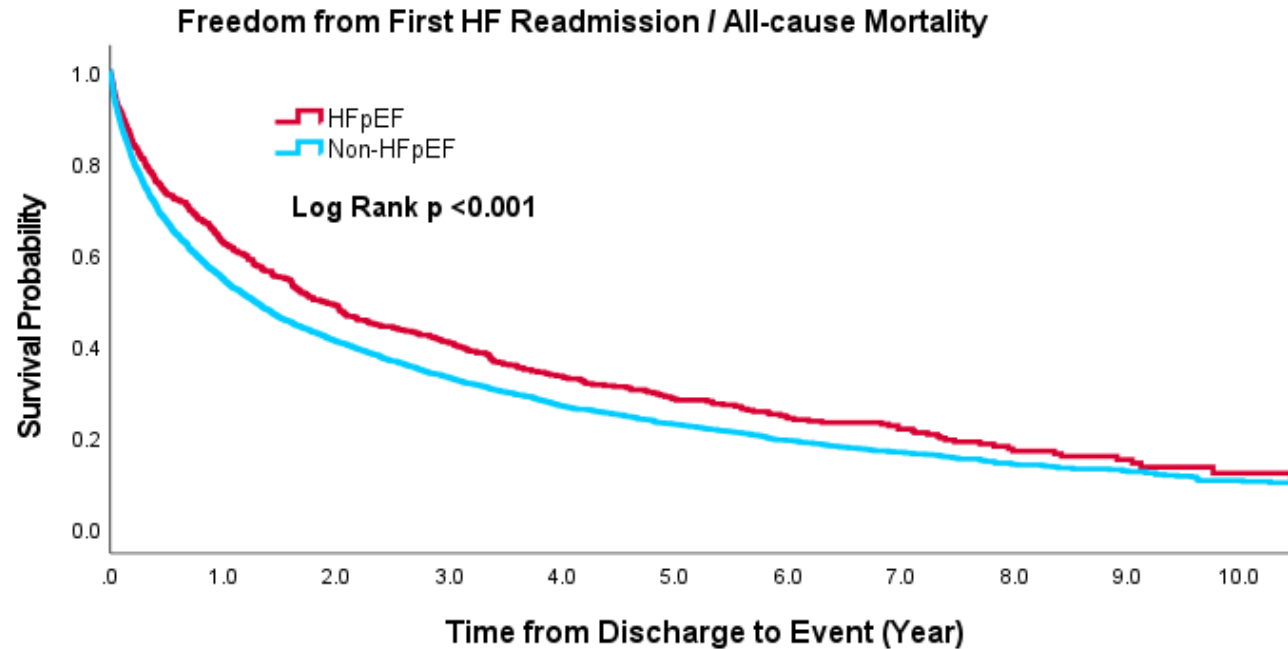
CABG = coronary artery bypass grafting; COPD = chronic obstructive pulmonary disease; eGFR = estimated glomerular filtration rate; HR = heart rate; JVP = jugular venous pressure; MI = myocardial infarction; NT Pro-BNP = N-Terminal Pro-brain natriuretic peptide PCI = percutaneous coronary intervention; SBP = systolic blood pressure; TIA = transient ischaemic attack

Supplementary Table 2: Comparison of Baseline Characteristics Between HFpEF Patients in Our IJN-ADHF study and the Cohorts Based on Suggested Phenotypes of Asian Heart Failure by Tromp et al.

	IJN-ADHF	Elderly / AF	Metabolic	Lean Diabetic
Total Patients	632	1048	1129	1283
Types of Heart Failure	HFpEF	HFrEF/HFpEF	HFrEF/HFpEF	HFrEF/HFpEF
Age (years); M (SD)	67.6 (14.1)	68.2 (12.4)	59.1 (12.5)	66.1 (10.8)
Female; N (%)	330 (52.2)	321 (30.6)	302 (26.7)	383 (29.9)
Malay; N (%)	332 (52.5)	128 (12.2)	200 (17.7)	287 (22.4)
Indian; N (%)	143 (22.6)	87 (8.3)	317 (28.1)	325 (25.3)
Chinese; N (%)	122 (19.3)	437 (41.7)	423 (37.5)	475 (37.0)
Body Mass Index (kg/m²); M (SD)	28.6 (6.8)	23.4 (3.7)	29.0 (6.6)	26.2 (5.3)
Ejection Fraction; median (Q1,Q3)	56.0 (52.1, 61.0)	31 (23, 39)	29 (23, 36)	32 (25, 39)
Coronary Artery Disease; N (%)	366 (57.9)	306 (29.2)	405 (36.0)	969 (75.9)
Chronic Kidney Disease; N (%)	184 (29.1)	585 (63.6)	137 (14.7)	948 (89.1)
Atrial Fibrillation; N (%)	219 (34.7)	708 (67.6)	124 (11.0)	247 (19.3)
Diabetes Mellitus; N (%)	367 (58.1)	164 (15.6)	716 (63.5)	1,235 (96.7)
Hypertension; N (%)	464 (73.4)	683 (65.2)	990 (87.8)	1,210 (94.8)
Stroke / TIA; N (%)	27 (4.3)	207 (19.8)	59 (5.2)	166 (13.0)
COPD / Asthma; N (%)	70 (11.1)	145 (13.8)	105 (9.3)	114 (8.9)
Current / Former Smokers; N (%)	135 (21.4)	464 (44.3)	488 (43.3)	535 (41.9)
SBP (mmHg); M (SD)	139.0 (26.8)	119.7 (21.2)	126.7 (21.1)	126.9 (21.7)
HR (bpm); M (SD)	80.3 (19.1)	78.3 (17.0)	80.8 (16.7)	78.9 (15.6)
Dyspnoea; N (%)	607 (96.0)	911 (86.9)	973 (86.3)	1166 (91.2)
Peripheral Oedema; N (%)	464 (73.4)	287 (27.4)	330 (29.3)	446 (35.0)
Lung Crepitation; N (%)	501 (79.3)	168 (16.0)	180 (16.0)	285 (22.3)
Elevated JVP; N (%)	265 (41.9)	166 (15.8)	152 (13.5)	264 (20.7)
eGFR (mL/min/1.73m²); M (SD)	59.1 (45.0)	57.1 (22.8)	77.7 (22.8)	43.1 (20.4)

COPD = chronic obstructive pulmonary disease; eGFR = estimated glomerular filtration rate; HR = heart rate; JVP = jugular venous pressure; SBP = systolic blood pressure; TIA = transient ischaemic attack

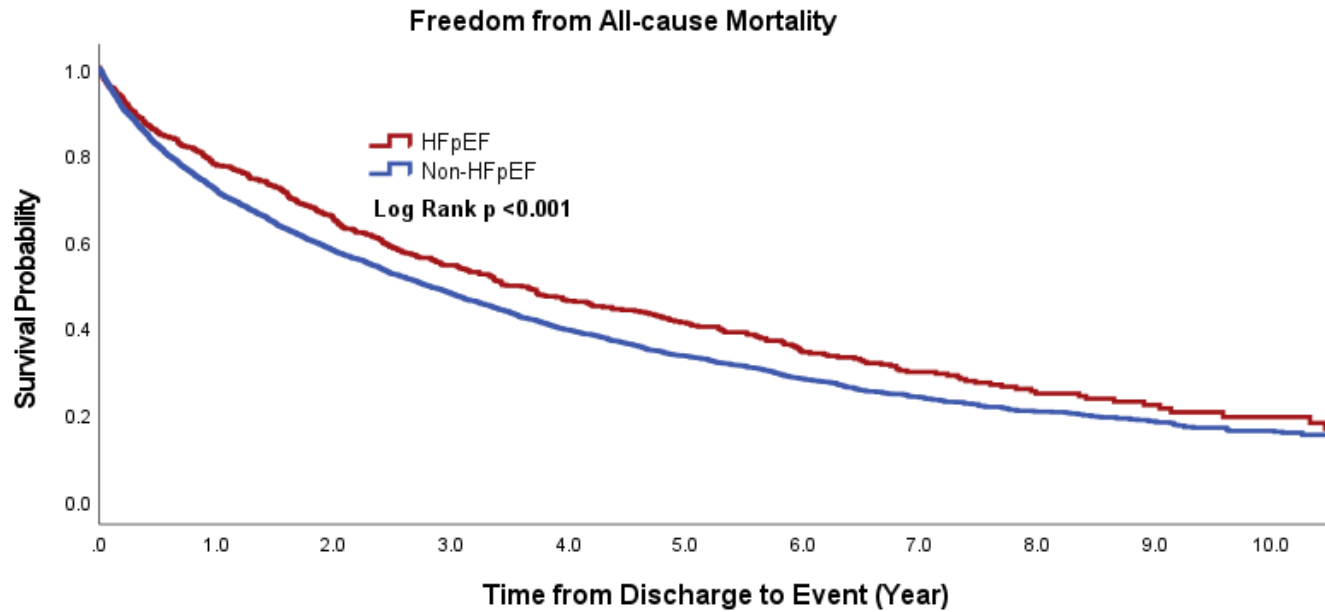
Supplementary Figure 1: Kaplan-Meier Curve Illustrating the Survival Probability for Freedom from First HF Readmission or All-cause Mortality at Follow-up in the HFpEF and non-HFpEF Cohorts Respectively.



	0	1	2	3	4	5	6	7	8	9	10
HFpEF											
Survival Probability (%)	100.0%	62.4%	48.5%	40.4%	33.0%	28.0%	24.0%	21.6%	16.8%	14.2%	12.0%
No at Risk (N)	(608)	(368)	(284)	(230)	(159)	(110)	(79)	(58)	(31)	(19)	(7)
Non-HFpEF											
Survival Probability (%)	100.0%	54.5%	40.8%	32.9%	26.7%	22.6%	19.1%	16.5%	13.9%	12.3%	10.4%
No at Risk (N)	(3366)	(1779)	(1301)	(1022)	(743)	(525)	(352)	(242)	(138)	(83)	(46)

HF = heart failure; HfpEF = heart failure with preserved ejection fraction; non-HFpEF = non-heart failure with preserved ejection fraction

Supplementary Figure 2: Kaplan-Meier curve illustrating the survival probability for freedom from all-cause mortality at follow-up in the HFpEF and non-HFpEF cohorts respectively.



HFpEF

Survival Probability (%)	100.0%	77.6%	64.9%	54.4%	46.1%	40.9%	34.3%	29.7%	24.7%	21.3%	19.2%
No at Risk (N)	(608)	(458)	(380)	(311)	(225)	(165)	(114)	(79)	(45)	(27)	(14)

Non-HFpEF

Survival Probability (%)	100.0%	71.7%	57.8%	47.9%	39.4%	33.4%	28.1%	23.8%	20.5%	18.1%	16.0%
No at Risk (N)	(3366)	(2345)	(1854)	(1499)	(1109)	(773)	(523)	(347)	(211)	(130)	(75)

HF = heart failure; HFpEF = heart failure with preserved ejection fraction; non-HFpEF = non-heart failure with preserved ejection fraction