



Heart Failure

MORBIDITY AND MORTALITY IN DIABETICS WITH HEART FAILURE AND A PRESERVED EJECTION FRACTION: RESULTS FROM THE I-PRESERVE TRIAL

Poster Contributions

Poster Sessions, Expo North

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Background: Approximately 50% of patients with heart failure (HF) have a preserved ejection fraction (HFpEF). Diabetes mellitus (DM) is common in HFpEF and its presence may be associated with worse outcomes.

Methods and Results: The I-Preserve (Irbesartan in Heart Failure with Preserved Ejection Fraction) trial randomized 4128 patients with HFpEF to placebo or irbesartan (60% female, mean age 71.6 +/- 6.9 years). There were 1134 patients (27.5%) with DM by baseline history, of which 314 (27.7%) died, and 722 (63.7%) had at least one hospitalization of any type. Of the 2994 (72.5%) without DM, 567 (18.9%) died and 1556 (52.0%) had at least one hospitalization of any type. In multivariable adjusted Cox proportional hazards models, patients with DM had a 50-100% higher risk of the primary outcome (all-cause mortality or hospitalization for cardiovascular (CV) cause), HF composite (HF death or HF hospitalization), and major types of death versus those without DM (Table). The risk of hospitalization for non-CV and some CV causes (HF, MI and unstable angina) was between 35-75% higher in diabetics. There was no difference in the rate of hospitalization for stroke or arrhythmias. Irbesartan had no significant effect on death or hospitalization among DM or non-DM patients.

Conclusions: DM was common in the I-PRESERVE cohort of patients with HFpEF and was associated with significantly higher rates of death and hospitalization, but no difference in the rate of hospitalization for stroke, atrial or ventricular arrhythmias.

	No DM (n=2994, 72.5%)		DM (n=1134, 27.5%)		DM vs Non-DM*	
	Patients with Event (%)	Rate/100PY	Patients with Event (%)	Rate/100PY	HR (95% CI)	P
Main trial outcomes						
Primary composite outcome	985 (32.9)	8.98	520 (45.9)	14.19	1.52 (1.35-1.71)	< 0.001
All-cause mortality	567 (18.9)	4.56	314 (27.7)	7.18	1.61 (1.38-1.88)	< 0.001
Heart failure composite	440 (14.7)	3.81	276 (24.3)	7.21	1.77 (1.49-2.09)	< 0.001
Cause specific mortality						
Heart failure death	72 (2.4)	0.58	53 (4.7)	1.21	2.02 (1.36-2.99)	0.001
Sudden death	144 (4.8)	1.16	87 (7.7)	1.99	1.74 (1.30-2.33)	< 0.001
Any CV death	344 (11.5)	2.77	188 (16.6)	4.30	1.55 (1.28-1.89)	< 0.001
Non CV death	174 (5.8)	1.40	94 (8.3)	2.15	1.65 (1.25-2.19)	< 0.001
Cause specific hospitalization						
Non-Cardiovascular	938 (31.3)	9.05	454 (40.0)	13.5	1.42 (1.25-1.61)	< 0.001
Any-Cardiovascular	1103 (36.8)	11.2	529 (46.7)	16.6	1.34 (1.19-1.51)	< 0.001
Heart failure	423 (14.1)	3.66	262 (23.1)	6.84	1.75 (1.47-2.08)	< 0.001
Myocardial infarction	99 (3.3)	0.81	55 (4.9)	1.28	1.57 (1.09-2.27)	0.016
Unstable angina	106 (3.5)	0.87	58 (5.1)	1.37	1.43 (1.00-2.06)	0.052
Stroke	141 (4.7)	1.15	59 (5.2)	1.37	1.06 (0.75-1.49)	0.738
Atrial arrhythmia	127 (4.2)	1.05	48 (4.2)	1.13	1.03 (0.70-1.52)	0.880
Ventricular arrhythmia	10 (0.3)	0.08	3 (0.3)	0.07	0.51 (0.11-2.37)	0.390

*Adjusted for baseline NT-pro-BNP, Age, LVEF, HR, Neutrophils, HF hosp within 6mo, COPD/asthma, GFR, Ischemic etiology, h/o of MI.