



Heart Failure

INCIDENCE AND PREDICTORS OF SUDDEN CARDIAC DEATH IN COMMUNITY-BASED HEART FAILURE PATIENTS WITH PRESERVED EJECTION FRACTION: THE MINNESOTA HEART SURVEY

ACC Moderated Poster Contributions
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Background: Whereas sudden cardiac death (SCD) is a well-studied mode of death in patients (pts) with heart failure (HF) and reduced ejection fraction (HFrEF), little is known about the risk of SCD in pts with HF and preserved EF (HFpEF). The objective of this study was to compare the incidence and predictors of SCD in HFrEF and HFpEF in a population sample.

Methods: Medical records of pts discharged with a primary diagnosis of HF from hospitals in Minneapolis-St. Paul in 1995 and 2000 were abstracted. HFpEF was defined as EF >45%. Mortality was ascertained from death certificates. SCD was defined as cardiac arrest or out-of-hospital death due to coronary heart disease(CHD) (ICD-9 codes 425.5, 410-414 or 429.2). Predictors of SCD were assessed using Cox proportional hazards regression analysis.

Results: A total of 2203 pts (age 70±11 years, 53% male) with EF data were discharged alive after a HF hospitalization. Of these, 787 (36%) had HFpEF. They were more likely to be older, female and have hypertension than pts with HFrEF. All-cause mortality and SCD rates were lower in pts with HFpEF vs. HFrEF at 1 and 5 years after discharge (Table). Age (HR 2.5; p<0.0001), male sex (HR 2.3; p=0.006) and length of hospitalization (HR 1.6; p=0.001) were the only independent predictors of SCD in HFpEF compared to age, sex, race, CHD, myocardial infarction and creatinine in patients with HFrEF.

Conclusions: Patients with HFpEF have a lower incidence of SCD than pts with HFrEF. Present markers of SCD in HFpEF are non-specific and insufficient.

Variable	All Patients (n = 2203)	Preserved (EF ≥ 45) (n = 787)	Reduced (EF < 45) (n = 1416)	p-value
Death at One Year				
All-cause mortality	502 (22.8)	156 (19.8)	346 (24.4)	0.01
Sudden cardiac death	107 (4.9)	17 (2.2)	90 (6.4)	<0.0001
Heart failure death	31 (1.4)	13 (1.7)	18 (1.3)	0.47
Non-sudden cardiovascular death	156 (7.1)	40 (5.1)	116 (8.2)	0.006
Non cardiovascular death	208 (9.4)	86 (10.9)	122 (8.6)	0.08
Death at Five Years				
All-cause mortality	1228 (55.7)	411 (52.2)	817 (57.7)	0.01
Sudden cardiac death	237 (10.8)	44 (5.6)	193 (13.6)	<0.0001
Heart failure death	80 (3.6)	27 (3.4)	53 (3.7)	0.71
Non-sudden cardiovascular death	334 (15.2)	88 (11.2)	246 (17.4)	0.0001
Non cardiovascular death	577 (26.2)	252 (32.0)	325 (23.8)	<0.0001