Moderated Poster Session III

Monday, 16 June 2008, 10:00–11:00

Location: Agora – Moderated Poster Area

433

Regression analysis of mortality data from the EPHESUS trial reveals significantly higher risk of death for patients with non-ST segment elevation myocardial infarction

F. Zannad[1], B. Pitt[2], G. Filippatos[3], S. Sutradhar[4], J. Vincent[4], J. Bauersachs[5]

[1]Inserm, Centre d Investigations Cliniques CI, Nancy, France; [2]University of Michigan Medical Center, Ann Arbor, Michigan, United States of America; [3]Evangelismos Hospital, Athens, Greece; [4]Pfizer Inc, New York, United States of America; [5]University Hospital Wuerzburg, Wuerzburg, Germany

Purpose: The EPHESUS trial demonstrated that aldosterone blockade with eplerenone significantly decreased risk of all-cause mortality and cardiovascular (CV) death in post-acute MI patients with heart failure (HF) by 15% (P = 0.008) and 17% (P = 0.005), respectively. This post hoc analysis of the EPHESUS trial explored trends in mortality data by baseline ST segment elevation status (STEMI vs. NSTEMI).

Methods: 6632 patients with signs and symptoms of CHF post AMI with LVSD (EF < 40%) were randomized to receive either eplerenone or placebo in addition to standard therapy. In this subanalysis, subjects were stratified based on STEMI status at baseline. Statistical analyses were performed using Cox regression with treatment and STEMI status as variables.

Results: 74% and 71% of patients in the eplerenone and placebo groups, respectively, were identified as having STEMI at baseline (Table). Mean age at baseline was 63±11.1 y for subjects with STEMI and 67±11.5 y for subjects with NSTEMI. All cause mortality was significantly higher in patients with NSTEMI (19.8%) than in those with STEMI (13.5%). A similar trend was observed for other endpoints such as CV deaths/hospitalizations. Results of the full Cox model, with baseline characteristics as covariates, indicated that higher risk of deaths in NSTEMI patients may be due to imbalanced baseline age, time-to-AMI randomization, diagnosis of diabetes, and reperfusion status. Additionally, the benefit of eplerenone over placebo was similar among patients with either STEMI or NSTEMI.

Conclusion: In the EPHESUS trial the risk of death was significantly higher for patients with NSTEMI. However, the benefit of eplerenone was independent of STEMI status

Table 1. Summary of cause of death and analyses

Status		N	All-cause deaths, n (%)	CV deaths/hospitalization, n (%)	CV deaths, n (%)
NSTEMI	Placebo	946	199 (21.0)	333 (35.2)	168 (17.8)
	Eplerenone	861	158 (18.4)	274 (31.8)	137 (15.9)
STEMI	Placebo	2304	342 (14.8)	631 (27.4)	303 (13.2)
	Eplerenone	2399	295 (12.3)	580 (24.2)	250 (10.4)

Cox Proportional Hazards Model (all-cause death)

Covariate	Hazard Ratio	95% CI	P-value
Treatment (Eplerenone: Placebo)	0.826	(0.729, 0.936)	0.003
Q-Wave (Yes: No)	0.672	(0.590, 0.765)	<0.001

434

Intra-thoracic impedance fluid index alerts are associated with increased risk for heart failure hospitalization

F. Oliva[1], G.B. Perego[2], M. Landolina[3], G. Lonardi[4], M. Maines[5], G. Zanotto[6], M. Santini[7], A. Denaro[8]

[1]Niguarda, Milan, Italy; [2]Auxologico S. Luca, Milan, Italy; [3]S. Matteo, Pavia, Italy; [4]Legnago (Vr), Italy; [5]S. Maria del Carmine, Rovereto, Italy; [6]Borgo Trento, Verona, Italy; [7]S. Filippo Neri, Rome, Italy; [8]Medtronic Italia, Rome, Italy

Introduction: Modern implantable defibrillators allow the long-term monitoring of several diagnostic indices, including intrathoracic impedance. We determined the association between these indices and heart failure (HF) hospitalization.

Methods: Both clinical and device diagnostic data, including intrathoracic impedance, were collected from 558 HF patients indicated for CRT-D from 34 centers encompassing 326±216 days of follow-up. Device-recorded thoracic impedance fluid index, mean activity counts, night heart rate (NHR) and heart rate variability (HRV) were studied.

Results: Patients hospitalized for HF (n=39) had significantly higher rate of impedance index threshold crossing events (TCE) and higher percentage of days with the impedance index above the programmed threshold. Patient groups with low activity, low HRV or high NHR, were all significantly more likely to be hospitalized for HF (Table 1).

Multivariate analysis showed that each TCE resulted in a 36% increased

Table 1

	Hospitalized Patients Median (25-75%)	Patients not Hospitalized Median (25-75%)	p*
TCE (yr^{-1})	2.99 (1.41, 3.82)	1.41 (0.51, 2.55)	<0.001
TCE Burden ($day \cdot yr^{-1}$)	61.93 (24.43, 94.45)	18.88 (1.65, 43.68)	<0.001
Low Acitivity Days (yr^{-1})	20.56 (6.40, 59.91)	3.74 (1.41, 17.69)	<0.001
Low HRV days (yr^{-1})	77.52 (6.71, 130.13)	12.06 (0.65, 88.99)	0.016
High NHR Days (yr^{-1})	19.06 (1.59, 66.82)	1.86 (0.00, 22.28)	0.003