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## **Abstracts From the 2009 Joint Conference-Nutrition, Physical Activity and Metabolism and 49th Cardiovascular Disease Epidemiology and Prevention**

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## Conference **Abstracts**



### **Nutrition, Physical Activity and Metabolism Conference 2009**

March 10 – 12, 2009

### **49<sup>th</sup> Cardiovascular Disease Epidemiology and Prevention Conference 2009**

March 11 – 14, 2009

**Innisbrook Resort and Golf Club  
Palm Harbor, Florida**

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**The Council on Epidemiology and Prevention and the Council on Nutrition, Physical Activity and Metabolism welcome the co-sponsorship of the following organizations:**

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American Society of Preventive Cardiology  
American Psychosomatic Society  
National Lipid Association  
The Obesity Society  
American College of Sports Medicine  
Preventive Cardiovascular Nurses Association  
American Society of Nutrition  
Society of Behavioral Medicine**

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The American Heart Association Council on Epidemiology and Prevention and Council on Nutrition, Physical Activity and Metabolism are grateful to the conference Program Committee members for their dedication and leadership in the organization and planning of the programs.

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**Gamma-Glutamyltransferase: A New Biomarker for Heart Failure Mortality?**

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**Background:** Recent studies have demonstrated an association of serum gammaglutamyltransferase (GGT) with risk factors for CVD, diabetes, incident morbidity and mortality from heart disease and stroke. There are, however, no studies that specifically investigate the role of GGT in heart failure. In this study we, first, assessed whether GGT is an independent predictor for mortality from heart failure in 184,773 healthy participants (mean age 42 years) of the Vorarlberg Health Monitoring & Promotion Program (VHM&PP) followed for up to 20 years (1985–2005). Second, we analyzed whether GGT predicts total mortality in a consecutive series of 1,033 patients (mean age 60 years) of the heart failure program at the Innsbruck Medical University followed for up to 7 years (2000–2007).

**Methods:** There were 602 fatal events from heart failure in the VHM&PP cohort. Among the patient cohort, 302 individuals died or underwent heart transplantation. For both cohorts, sex-stratified Cox proportional-hazards models were performed to calculate adjusted hazard ratios (HR) and 95% confidence intervals per quintiles of GGT.

**Results:** Prevalence of elevated GGT in heart failure patients was 42.9% (95%CI 39.4–46.5%) for males (GGT<sub>65</sub> U/l) and 50.2% (43.9–56.5%) for females (GGT<sub>38</sub> U/l). The age-matched prevalence in the VHM&PP was significantly ( $P_{0.001}$ ) lower with corresponding rates of 18.6 (18.0–19.1%) for males and 19.2% (18.7–19.7%) for females. In patients, GGT was significantly associated with NYHA class, LV-ejection fraction and NT-proBNP. Adjusting for these factors and for age, body-mass-index and ischemic etiology, the HR for total mortality including heart transplantation was 1.8 (1.3–2.7), comparing GGT quintile 5 versus quintile 1. In VHM&PP, HR for mortality of heart failure was 1.7 (1.2–2.4), adjusting for age, body-mass-index, systolic blood pressure, cholesterol, triglycerides, glucose, smoking and working status.

**Conclusions:** These results provide clear evidence of a strong role of serum GGT as a predictive and prognostic factor in heart failure. GGT levels are elevated in heart failure and positively associated with the severity of the syndrome. Thus, GGT may emerge as a biomarker useful for risk stratification across the clinical spectrum.