

## ABSTRACT SECTION

- 1. The Association of Anger and Hostility With Future Coronary Heart Disease. A Meta-Analytic Review of Prospective Evidence.** *J Am Coll Cardiol*, 2009; 53:936-946.

**Objectives:** This review aimed to evaluate the association between anger and hostility and coronary heart disease (CHD) in prospective cohort studies using quantitative methods.

**Background:** The harmful effect of anger and hostility on CHD has been widely asserted, but previous reviews have been inconclusive.

**Methods:** We searched general bibliographic databases: MEDLINE, PsycINFO, Web of Science, and PubMed up to November 2008. Two reviewers independently extracted data on study characteristics, quality, and estimates of associations.

**Results:** There were 25 studies (21 articles) investigating CHD outcomes in initially healthy populations and 19 studies (18 articles) of samples with existing CHD. Anger and hostility were associated with increased CHD events in the healthy population studies (combined hazard ratio [HR]: 1.19; 95% confidence interval [CI]: 1.05 to 1.35,  $p = 0.008$ ) and with poor prognosis in the CHD population studies (HR: 1.24; 95% CI: 1.08 to 1.42,  $p = 0.002$ ). There were indications of publication bias in these reports, although the fail-safe numbers were 2,020 and 750 for healthy and disease population studies, respectively. Intriguingly, the harmful effect of anger and hostility on CHD events in the healthy populations was greater in men than women. In studies of participants

with CHD at baseline that controlled fully for basal disease status and treatment, the association of anger and hostility with poor prognosis persisted.

**Conclusions:** The current review suggests that anger and hostility are associated with CHD outcomes both in healthy and CHD populations. Besides conventional physical and pharmacological interventions, this supports the use of psychological management focusing on anger and hostility in the prevention and treatment of CHD.

- 2. Insulin Resistance Is Highly Prevalent and Is Associated With Reduced Exercise Tolerance in Nondiabetic Patients With Heart Failure.** *J Am Coll Cardiol*, 2009; 53:747-753.

**Objectives:** The purpose of this study was to establish the prevalence of insulin resistance (IR) among nondiabetic chronic heart failure (CHF) patients and to seek factors associated with IR in CHF, including the relationship of IR to functional class, exercise capacity, and disease severity in CHF.

**Background:** Several lines of evidence suggest that CHF is an IR state. The prevalence of IR in CHF and its relation to CHF have not been fully defined.

**Methods:**

Fasting insulin resistance index (FIRI) was assessed in a cohort of 129 consecutive CHF patients (mean age  $69.2 \pm 10.4$  years; 76% males; body mass index  $27.4 \pm 4.4$  kg/m<sup>2</sup>). Patients underwent cardiopulmonary exercise

testing and peripheral endothelial function testing by reactive hyperemia peripheral arterial tonometry (RH-PAT).

**Results:**

Prevalence of IR as defined by FIRI 2.7 was 61% in our cohort of CHF patients. There was a significant correlation between IR and waist circumference ( $r = 0.37$ ;  $p < 0.01$ ), serum triglycerides ( $r = 0.34$ ;  $p < 0.01$ ), high-density lipoprotein cholesterol ( $r = -0.22$ ;  $p = 0.02$ ), and serum leptin ( $r = 0.39$ ;  $p = 0.03$ ). Insulin resistance increased significantly with worsening New

York Heart Association functional class ( $p < 0.01$ ). The CHF patients with IR had a significantly lower exercise capacity and peak oxygen consumption than patients with an FIRI  $< 2.7$ . The RH-PAT ratio was significantly lower in CHF patients with IR compared with CHF patients with an FIRI  $< 2.7$  ( $1.6 \pm 0.3$  vs.  $2.0 \pm 0.5$ ;  $p < 0.05$ ).

**Conclusions:**

Insulin resistance is highly prevalent among nondiabetic CHF patients and is associated with decreased exercise capacity in patients with CHF.

