

# Citation: Atherosclerosis Supplements 2009, Vol. 10, Issue 2

## The prevalence of elevated levels of inflammatory biomarkers LP-PLA2 AND HS-CRP among apparently healthy young adults

K Reddy<sup>1</sup>, M Singh<sup>1</sup>, R Batsell<sup>2</sup>, J Bangit<sup>1</sup>, M Zaheer<sup>1</sup>, M Wegner<sup>3</sup>

<sup>1</sup>*Reddy Cardiac Wellness, Sugar Land, TX;*

<sup>2</sup>*Rice University, Houston, TX;*

<sup>3</sup>*DiaDexus, Inc, South San Francisco, CA*

**Introduction:** Current literature suggests that risk factor assessments such as Framingham risk scoring and coronary artery calcium measures often underestimate coronary heart disease (CHD) risk in young asymptomatic individuals. Epidemiological studies have shown that two inflammatory biomarkers lipoprotein-associated phospholipase A2 (Lp-PLA2) mass and high sensitivity C-reactive protein (hs-CRP) independently predict cardiovascular risk and events.

**Objectives:** This study examined the prevalence of elevated levels of Lp-PLA2 and hs-CRP among apparently healthy young adults at low to moderate CHD risk as defined by a Framingham 10-year risk of CHD < 10% and a coronary artery calcium score of zero.

**Methods:** As part of a cardiovascular wellness evaluation, two hundred and twenty-three apparently healthy young adults (mean age = 41+ 6 yrs.) completed coronary artery calcium measurements utilizing 64 slice CT scanning. Health history, smoking status and use of anti-hypertensive medication were reported through the use of a health risk appraisal questionnaire administered during the initial evaluation. Framingham risk determinations were performed using previously published risk factor calculations. Lp-PLA2 was determined by an ELISA assay (PLACTM test, diaDexus, Inc.) whereas hs-CRP was quantified using an immunoturbidimetric assay.

**Results:** Thirty-six percent of the study group was found to have elevated Lp-PLA2 levels (> 200 ng/mL) while 27% had elevated levels of hs-CRP (> 2.0 mg/L). Twelve percent of the study group had both inflammatory biomarkers elevated.

**Conclusions:** Elevated levels of both Lp-PLA2 and hs-CRP were prevalent in this study group of young adults.