

**HEMOGLOBIN LEVELS AND CORONARY ARTERY DISEASE**

*Chonchol M, Nielson C.*

**Background:** Anemia is a risk factor for adverse cardiovascular disease outcomes. However, there is limited information concerning the association of hemoglobin concentration and new onset of clinically recognized coronary artery disease (CAD). **Methods:** An historical cohort study was conducted with patients from Veterans Affairs medical centers. Baseline hemoglobin determinations were evaluated with respect to CAD using data from records of 25,622 subjects with no known heart disease. Coronary artery disease was identified from a new diagnosis based on the International Classification of Diseases, Ninth Edition, coding or a new prescription for nitroglycerin. Models were adjusted for age, sex, body mass index, smoking, systolic blood pressure, diastolic blood pressure, fasting glucose, low-density lipoprotein cholesterol, high-density lipoprotein cholesterol, trig-

lycerides, creatinine clearance, and use of statin or beta-blocker. **RESULTS:** Among the cohort, 5297 (20.7%) subjects developed CAD over 73,895 person-years of follow-up. Compared with control hemoglobin levels of 15.0 to 17.0 g/dL, the multivariable-adjusted risk of CAD increased with lower hemoglobin levels: an adjusted hazard ratio (HR) of 1.47 and 95% confidence interval (CI) of 1.18 to 1.84 for hemoglobin levels of 9.0 to 11.0 g/dL; an HR of 1.34 and 95% CI of 1.20 to 1.49 for 11.0 to 13.0 g/dL; and an HR of 1.07 and 95% CI of 1.01 to 1.13 for 13.0 to 15.0 g/dL. Hemoglobin levels  $\geq$  17.0 g/dL were also associated with increased risk for CAD (adjusted HR 1.22, 95% CI 1.08-1.37). **CONCLUSIONS:** Hemoglobin levels  $\geq$  17 or  $<$  15 g/dL are independently associated with increase risk for new cardiac events. (**Am Heart J. 2008; 155 (3):494-8 PMID: 18294483.**)