1. Title:
HDL subclasses: LpA-I with and without A-II: Case-Control Analysis of Atherosclerosis & Established Risk Factors

2. Writing Group:
(lead) M. Radosovljevic         S. Brown         W. Patsch         K. Dunn
         Field Center
         E. Davis (Coordinating Center Contact)

3. Timeline:
Ongoing determination and analysis of the amounts and proportions of Lpa-I/LpA-II particles in HDL\textsubscript{2} and HDL\textsubscript{3} on all case-control pairs.

4. Rationale:
Human HDL are traditionally divided into two major subclasses, HDL\textsubscript{2} and HDL\textsubscript{3}. These particles are heterogenous with respect to physical and chemical properties, and have been further fractionated into HDL particles containing apoA-I without apoA-II (LpA-I) and HDL containing apoA-I and apoA-II (LpA-I/LpA-II), the two major apoproteins. The well established male-female difference in plasma levels of HDL\textsubscript{2} was shown to result from increased concentrations of LPA-I in HDL\textsubscript{2} in females. Clinical relevance has also been suggested as LpA-I levels were found to be lower in patients with angiographically-verified coronary heart disease than in controls. In a well-defined case-control population, such as the ARIC Study, the correlation of amounts and proportions of LpA-I and LpA-I/LpA-II particles can be examined to the degree of atherosclerosis and other established risk factors.

5. Main Hypothesis/Issues to be Addressed:
1.) LpA-I levels will be higher in females than in males.
2.) LpA-I levels will be lower in B-mode ultrasound-derived cases than in matched controls.
3.) Covariants, such as age, sex, medications, and race, will be examined by multivariate analysis to determine the effect and significance of these variables.

6. Data Requirements:
Data analysis will be performed by Dr. K. Dunn at Baylor College of Medicine, Department of Medicine. LpA-I and LpA-I/LpA-II data will be collected. Dependent variables: lipoproteins, apolipoproteins, hemostatic factors, medical history, body mass index, antihypercholesterolemic medication, diabetes, blood pressure, smoking status, alcohol consumption, physical activity, gender, race, age, field center. Independent variables: average and maximum far wall thickness at the common and internal carotid artery and its bifurcation.

Keywords: Gender, case-control, LpA-I, LpA-II