

ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #194

1. Title (length 26):

Plasma Antioxidants - Athero

2. Writing Group (list individual with lead responsibility first):

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3. Timeline:

Analysis to begin late winter, 1993. Draft expected by summer.

4. Rationale:

Modified LDL is considered atherogenic; antioxidants prevent oxidative modification. In Visit 1 case-control participants we have measured carotenoids, tocopherol, and plasma resistance to oxidation. In addition, antibodies to oxidized LDL are being measured. Only a few epidemiologic studies exist to show an association between these factors and cardiovascular disease or atherosclerosis.

5. Main Hypothesis:

Antioxidant levels and LDL resistance to oxidation will be lower and the slope of LDL oxidation will be higher in ARIC ultrasound cases than controls, independent of other risk factors including LDL cholesterol level. We hypothesize *a priori* interactions between high LDL (and high Lp[a]) and low antioxidant intake and LDL resistance. We likewise hypothesize an interaction between smoking and low antioxidant level and LDL resistance.

6. Data (variables, time window, source, inclusions/exclusions):

Subjects: baseline ultrasound case-control pairs without missing data

Possible exclusions (or stratifying variables): beta blocker use, vitamin use, lipid lowering medications, and Probucol use.

Independent variables: antioxidant levels, including several derived summary variables.

Covariates: Smoking status and amount, blood pressure (hypertension), LDL cholesterol (Lp[a]), HDL cholesterol (and/or triglycerides), matching variables.