ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #539A

l. Full Title: Markers of inflammation or increased viscosity as predictors of incident diabetes mellitus.
Abbreviated Title (length 26): Inflammation -- Diabetes

2. Writing Group (list individual with lead responsibility first):
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3. Timeline:
11/97 - 5/98

4. Rationale:
Diabetes mellitus is being increasingly recognized as stemming from many of the same pathophysiologic processes as atherosclerotic cardiovascular disease (CVD), in large part due to a poorly understood overlap of risk factors for each condition in what is called the multiple metabolic syndrome. Inflammation and increased viscosity have been noted as risk factors for CVD. Acute infection worsens diabetic control, and insulin resistance has been suggested to be at least in part a manifestation of endothelial dysfunction. Thus, it is plausible to propose that markers of inflammation, endothelial dysfunction and increased blood viscosity are associated with insulin/insulin resistance and are predictive of diabetes.

The objective of this proposal is to describe the cross-sectional association of these markers at baseline with insulin measures of insulin resistance, and their prospective association with the development of diabetes mellitus.

5. Main Hypothesis:

1. Markers of inflammation and increased viscosity are associated with fasting insulin and the HOMA measures at baseline.
2. Markers of inflammation and increase viscosity are independent prospective predictors of incident diabetes mellitus.

6. Data (variables, time window, source, inclusions/exclusions):
All ARIC subjects, Visit 1 baseline data and incident diabetes data.

Baseline data: To define diabetes (fast0802, medicaiton use, physcian history, glucos01); fasting insulin
Incident diabetes: V3 (and possibly V4) dat to define incident diabetes.
Exposure variables: Smoking, HCT, WBC, platelet count, fibrinogen, Factors VII and VIII, von Willebrand factor, ATIII, Protein C, APTT, albumin,
aspirin/non steroidal anti-inflammatory drug use
Covariates: Gender, age, ethnicity, BMI, WHR, physical activity, blood pressure, lipids, alcohol.

Please note:
If these analyses demonstrate convincing associations, the working group would be interested in investigating, in the case-control mode, the association of
more direct markers of infection/inflammation and/or endothelial dysfunction already assayed for case-control studies of atherosclerosis and its sequelae,
for cases of incident diabetes.