ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #091

1. Title (length 26):
Lp[a] & Stroke/TIA
Full title: Lp[a] as an Independent Risk Factor for Stroke and TIA

2. Writing Group:
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3. Timeline:
Ongoing analyses (1 year) as part of a doctoral dissertation research project, under the direction of Gerardo Heiss.

4. Rationale:
Traditional cardiovascular risk factors have proven insufficient to explain the differential distribution patterns of stroke and transient ischemic attacks between race groups and between genders. A risk factor that may offer a partial explanation for the epidemiology of cerebrovascular disease is the lipoprotein Lp[a], which is found in concentrations two times higher in blacks than in whites. Lp[a] has been associated with premature incidence of myocardial infarction, vein graft restenosis, coronary artery disease, and cerebrovascular disease. Elevated levels of Lp[a] in asymptomatic individuals are also associated with a family history of MI, and Lp[a] has been isolated from existing plaque deposits. Studies correlating Lp[a] with cerebrovascular disease have focused on white and Oriental populations, with no indication of gender effect due to small sample sizes—TIA has not been investigated. The association of Lp[a] with thrombotic events is particularly intriguing given the homology between plasminogen and apo[a] (the antigenic determinant of Lp[a]) and their competition in the clot dissolution phenomenon.

The ARIC Study provides a unique opportunity to observe the race and gender effects of Lp[a] on both stroke and TIA. In conjunction with these analyses, the lead author is also participating in the validation work currently in progress for the stroke/TIA instrument.

5. Main Hypothesis:
1) Lipoprotein Lp[a] is a risk factor for stroke and for transient ischemic attacks.
2) Lp[a] is associated with the differential distribution of stroke and TIA between blacks and whites, and between males and females.

6. Data:
Visit 1 (extant) data set. Data analysis is to be performed by the lead author. Independent variables: lipoproteins and apolipoproteins, home interview data, hemostatic factors, medical history, antihypercholesterolemic medication, diabetes, waist-to-hip ratio, blood pressure, smoking status, alcohol consumption, physical activity, gender, race, and center. Dependent variables: Stroke/TIA questionnaire

variables. For validation of the stroke/TIA instrument, variables from the home interview will be used as well as select sampling of stroke/TIA worksheets to corroborate positive events. Intra- and interobserver variability will be examined.