ARIC MANUSCRIPT PROPOSAL FORM

Manuscript #308

1. Title:
Distribution of White Matter Lesions, Cerebral Atrophy, and Their Association with Cardio- and Cerebral Vascular Diseases Risk Factors - The ARIC.

2. Writing Group (Agency):
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4. Timeline:

Submit Proposal to Publications Committee	4/20/95
Complete analysis	7/20/95
Submit first draft to Publications Committee	11/20/95
Submit to Journal	1/20/96

5. Rationale:
Cerebral White Matter Lesions (WML) are hyperintensity areas seen with some frequency on MRI scans of the brain. Their clinical significance remains unclear. In general, they are believed to be the consequence of hypoperfusion and / or ischemia of the brain. Most published studies on WML are clinically based, and only one population based study has been published thus far, although based on only 100 individuals selected from a population based survey of an all white Netherlands population. Some of these published studies reported that WML are associated with aging, risk factors of stroke, clinical stroke, atherosclerosis and other established risk factors of CHD. WML have been found to be associated with cognitive function impairment. None of these findings can be regarded as conclusive. The distribution of WML in the general population, the patterns by age, ethnicity, gender and socioeconomic status have not been well studied in middle-aged adults, nor have data available regarding the association of WML and CVD risk factors. Therefore, we propose this analysis to investigate these research questions using the MRI data collected in ARIC visit 3 examination.

6. Main Study Questions:
(1) What is the distribution of WML and cerebral atrophy in the general population aged 50-71 years? (2) Are there patterns of distribution of the WML and cerebral atrophy by age, ethnicity, gender, and socioeconomic status? (3) Are established CVD risk factors associated with WML and cerebral atrophy?

7. Data (variables, source, inclusion/exclusion):
The following variables are needed for this analysis: MRI data, age at visit 3, race, gender, field center, race, education levels, prevalent hypertension, CHD, diabetes, stroke/TIA status, medication such as anti-hypertensive medication, smoking status, total cholesterol and its fractions.