Manuscript #309

1. Title: White Matter Lesions Are Associated with Cardio- and Cerebral Vascular Diseases Risk Factors: The ARIC Study

2. Writing Group:
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3. Timeline:
Submit Proposal to Publications Committee 12/20/94
Complete analysis 9/20/95
Submit first draft to Publications Committee 12/20/95
Submit to Joumal 3/20/96

4. Rationale:
Cerebral White Matter Lesions (WML) are hyperintensity areas seen with some frequency on MRI scans of the braill. 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 "established" risk factors of cardiovascular and cerebrovascular diseases. None of these results can be regarded as conclusive. The association of WML and "established" cardiovascular and cerebral diseases risk factors has not been well studied in middle-aged U.S. populations. Therefore, we propose this analysis to investigate these research questions using the MRI data collected in ARIC Visit 3 examination.

5. Main Study Questions:
(1) Are white matter lesions identified by cerebral MRI associated with "established" cardiovascular risk factors at the general population level, i.e., hypertension, smoking, total cholesterol, LDL cholesterol, HDL cholesterol, diabetes mellitus, and fibrinogen?
(2) Are these associations different by age, ethnicity, gender and socioeconomic status?

6. Data (variables, source, inclusions/exclusions):
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 status, medication such as antihypertensive medication, smoking status, total cholesterol and its fractions.