1. Title: Silent Cerebral Infarction and Cognitive Functioning: The ARIC Study

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4. Timeline:

   Submit Proposal to Publication Committee: ASAP
   Complete Analysis: 6/20/96
   Submit to Steering Committee: 11/20/96
   Submit to Journal: 2/20/97

5. Rationale:

   The widespread use of sensitive neuroimaging techniques has revealed a number of individuals with evidence of prior cerebral infarction but with no apparent history or residual symptoms of infarction. The incidence of these clinically silent lesions has been associated with age and other standard risk factors for symptomatic stroke (e.g., hypertension, atrial fibrillation, and smoking). Unlike symptomatic stroke, however, the neuropsychological deficits associated with these lesions have not been well characterized in the literature to date. The ARIC study will be the first population-based study of older middle aged adults to examine the neuropsychological correlates of silent infarction.

6. Main Hypotheses/Questions:

   In a descriptive paper, the study will quantify the effects on cognitive functioning of silent cerebral infarction by anatomic location and severity (i.e., size and number of lesions) while controlling for potentially important confounding variables (e.g., age, education, blood pressure, prevalent clinical disease, medications). Whether the observed associations vary by age, ethnicity, or gender will also be examined.

7. Data (variables, source, inclusions/exclusions):

   MRI data regarding: lesion size and anatomic location; cognitive functioning data collected at visit 3, and field center. Demographic data will include age, race, gender, and education level. Medical status data will include blood pressure variables, self-reported stroke/TIA history, validated hospitalized stroke (if available), prevalent clinical disease, carotid wall thickness variables, and medication such as antihypertensives.