1. Title: MRI-defined cerebrovascular disease in blacks and whites: the ARIC Study


3. Timeline:

Analysis will begin with a preliminary data set including data available as of December 1, 1993 on those Forsyth and Jackson participants who have had a cerebral MRI scan performed as part of ARIC Visit 3. Data for all examinees as of 4/1/93 needed by 6/1/93. Analyses performed at the NHLBI and Coordinating Center will be completed by 8/15/93 for presentation at the 9/94 conference on Atherosclerosis Risk in Clinical stroke is more frequent in US blacks than whites. However, population-based data on the prevalence of cerebral infarction, whether clinical or subclinical, are lacking in middle-aged people. Preliminary data based on 176 participants (89 blacks, 87 whites) from the ARIC study indicate that the prevalence of MRI-defined cerebral infarcts is also larger in blacks, and that the great majority of these are subclinical. Much of this racial difference may be attributed to the higher prevalence of hypertension and diabetes mellitus in blacks. Both of these risk factors are particularly associated with microvascular disease, and would therefore be expected to contribute to a greater proportion of small-vessel (lacunar) infarcts in blacks compared with whites. Blacks may also have more subcortical white matter disease (SWMD) evident on MRI; MRI-defined SWMD in the CHS study is associated with cerebrovascular disease and hypertension, and is believed in part to reflect small-vessel disease in the absence of gross infarction.

5. Main Hypothesis:

(1) Blacks have a greater age-adjusted prevalence of cerebral infarction by MRI.
(2) Much of the racial difference in cerebral infarction prevalence is accounted for by differences in the

(3) A higher proportion of cerebral infarctions in blacks is lacunar.
(4) Blacks have more subcortical white matter disease than whites.

6. Data (variables, time frame, source, inclusions, exclusions):

MRI data, race, gender, age, field center, medications, antihypertensive use (derived variable), diuretic use (derived variable), smoking, medical history, hypertension (derived variables), diabetes and glucose intolerance (derived variables), and all available data from visits 1-3 on BP, anthropometry (including derived variables), carotid ultrasound, serum levels of glucose (fasting), total and HDL cholesterol,
triglycerides (fasting), uric acid, and potassium.