ARIC Manuscript Proposal # 846

PC Reviewed: 11/29/01	**Status: __A__**	**Priority: __2__**
SC Reviewed: 12/03/01	**Status: __A__**	**Priority: __2__**

1.a. Full Title: Mitral Annular Calcification and Its Association to Carotid Atherosclerosis in African Americans

b. Abbreviated Title (Length 26 characters): MAC and Carotid disease

2. Writing Group (list individual with lead responsibility first):

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3. Timeline:

Submit to the Publication Committee 11/26/2001
Analysis Completed 12/10/2001
Draft manuscript 01/10/2002
Final manuscript 03/10/2002
NHLBI and ARIC Committee clearance 04/10/2002
Submission for publication 4/15/2002

4. Rationale: Mitral annular calcification (MAC) represents an echocardiographic and radiologic finding which, although recognized for many year now, has perplexed clinicians as to its clinical significance. Data from the past twenty years have shown a correlation between MAC and advanced age, female gender, left atrial enlargement, atrial fibrillation, conduction abnormalities, hypertension, renal dysfunction, and thromboembolic strokes, two recent studies have shown a correlation between MAC and carotid atherosclerosis which have led authors to the conclusion that MAC probably represents a systemic manifestation of the atherosclerotic process which occurs in the aorta and carotid arteries. This carotid atherosclerosis is the probable reason for higher stroke rates in patients with MAC. To date, no study has looked at the correlation between MAC and carotid atherosclerosis in an African American population.

5. Main Hypothesis/Study Questions: Is there a correlation between MAC and carotid atherosclerosis in the Jackson Cohort of the ARIC study?

6. Data (variables, time window, source, inclusions/exclusions):Echocardiographic measurements of MAC severity will be used to assess the association of the exposure MAC and the outcome carotid artery disease. Mitral annular calcification measurements were obtained by echocardiogram during the 3rd cycle of the ARIC study. Carotid disease will be determined by the degree of vessel stenosis as measured by carotid ultrasound. Correlations with intimal-media thickness and carotid distensibility will also be made. Confounders for this study will include age, gender, hypertension, diabetes, smoking, cholesterol, LV size, LA size and body mass index. Information regarding whether patients were in atrial fibrillation, have normal renal function or have a history of stroke will be evaluated.

The sample population will consist of some 1730 participants with a mean age of 52 years. Approximately 35% are men and 65% are women. Continuous dependent variables will be carotid stenosis, intimal-media thickness and carotid artery distensibility. Discrete independent variables will be hypertension (yes/no), smoking history (yes/no), diabetes status (yes/no). Continuous independent data include LA size, LV size and BMI. Mitral annular calcification will be used as ordinal data. Categories include those with severe MAC (>5mm), those with mild-moderate MAC (5-3mm) and those with less than mild to no MAC.

Descriptive data will be reviewed for each of the variables collected including the mean, median, maximum, minimum, range, skewness and kurtosis. Univariate analysis will be performed using simple linear regression for continuous data comparing exposure and confounders with the outcome. For discrete data we will use both t-test and Chi-square test. Multiple linear regression will be used for adjustment to assess the correlation between exposure/confounder with the outcome variable.

7.a. Will the data be used for non-CVD analysis in this manuscript? ____ Yes __x__ No

b. If Yes, is the author aware that the file ICTDER02 must be used to exclude persons with a value RES_OTH = "CVD Research" for non-DNA analysis, and for DNA analysis RES_DNA = "CVD Research" would be used? ____ Yes ____ No
(This file ICTDER02 has been distributed to ARIC PIs, and contains the responses to consent updates related to stored sample use for research.)

8.a. Will the DNA data be used in this manuscript? ____ Yes ___x_ No

8.b. If yes, is the author aware that either DNA data distributed by the Coordinating Center must be used, or the file ICTDER02 must be used to exclude those with value RES_DNA = "No use/storage DNA"? ____ Yes ____ No

9. The lead author of this manuscript proposal has reviewed the list of existing ARIC Study manuscript proposals and has found no overlap between this proposal and previously approved manuscript proposals either published or still in active status.
ARIC Investigators have access to the publications lists under the Study Members Area of the web site at: http://bios.unc.edu/units/cscc/ARIC/stdy/studymem.html

____x__ Yes _____ No