Manuscript #503

1.a. Full Title: Descriptive Epidemiology of Periodontitis in ARIC

b. Abbreviated Title (Length 26): Perio in ARIC

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

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3. Timeline:

Quality control analyses of the dental examination data have been conducted periodically and the Visit 4 examination data (through December 31, 1996) have been used to set up derived variables for Visit 4 and shell tables. Consequently, the analyses listed below can begin as soon as the approval and data distribution are complete. A first draft of the introduction and results section of the manuscript is expected by February, 1998.

4. Background and Rationale:

Infection has been recognized as a risk factor for atherogenesis and thromboembolic events. Periodontitis is an inflammatory reaction to gram-negative, anaerobic bacterial infections of the tissues surrounding the tooth. A systemic challenge by gram-negative bacteria, and/or the associated lipopolysaccharide (LPS, endotoxin), can induce inflammatory cell infiltration into major blood vessels, vascular smooth muscle proliferation, vascular fatty degeneration and intravascular coagulation in animal models. A series of published reports -- most of them case-control studies as well as two prospective cohort studies -- provide support for hypotheses that link infections to atherogenesis and thromboembolic events, and their known risk factors.
The purpose of these analyses is to address the descriptive epidemiology of periodontal disease in the ARIC study population, and to replicate in this population the various associations between periodontal disease and cardiovascular disease reported in the literature.

5. Main Hypothesis:

1. **Ethnicity-specific analyses, adjusted for age and technician.**
   Periodontitis, measured by history and the indexes obtained during the dental examination, is more prevalent in individuals who are older, male, of lower educational status, who smoke, are hypertensive, and are socially isolated.

2. **Analyses adjusted for technician and a set of outcome-specific covariates.**
   Periodontitis is directly associated with plasma levels of LDL cholesterol and triglycerides.
   Periodontitis is more common in individuals with prevalent coronary heart disease manifestations, and in individuals who exhibit symptoms and signs of TIA/stroke.
   Periodontitis is directly associated with Factor VIII, Factor VII, and with WBC and fibrinogen among never-smokers.
   Periodontitis is directly associated with the presence of atherosclerotic lesions.

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

   A replicate of the Visit 4 data distributed previously by the Coordinating Center, updated to include the latest retrieval, is needed. Dental examination data corresponding to the period included in the retrieval by the Coordinating Center.