ARIC MANUSCRIPT PROPOSAL FORM

Manuscript # 520S

l. Full Title: Sleep-Related Breathing Disorder and Prevalent Cardiovascular Disease
Abbreviated Title (Length 26): Sleep Apnea and CVD

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

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3. Timeline:
Start the analysis after interim closure of the data base (December, 1997).

4. Rationale:
Epidemiologic data linking sleep-related breathing disorder, measured directly by overnight polysomnography, to coronary heart disease are scarce. In 1982, an uncontrolled small study reported a high prevalence of sleep apnea among male patients with documented coronary disease.[1] To date, several case-control studies have been published.[2-5] All had a modest sample size (<200 subjects) and all but one exclusively or predominantly included male patients. All studies reported an association between sleep apnea and coronary heart disease. In one study,[2] the odds ratio of myocardial infarction was 23.3 for the upper quartile of the apnea indec (AI>5.3) versus the lower quartile (<0.4) after adjustment for body mass index, hypertension, and smoking. The odds ratio for the second quartile (AI, 0.4-1.7) and third quartile (AI, 1.8-5.3) were 1.4 and 2.2, respectively. Another study[4] reported an adjusted odds ratio of 4.1 for women with AHI values >5.

The relation of SRBD, measured by overnight sleep study, to stroke is largely unknown. Obstructive sleep apnea (defined as ARI greater than or equal to 10) was found to be highly prevalent in a small series of stroke patients,[6] and one case-control study reported an association between the apnea-hypopnea index and stroke.[7]

5. Main Hypothesis:
The prevalence odds of self-reported coronary heart disease and self-reported cardiovascular disease are positively related to the following indices: 1) apnea index; 2) hypopnea index; 3) apnea-hypopnea index; 4) arousal index.

6. Data (variables, time window, source, inclusions/exclusions):
Cross-sectional data that will be available for interim analysis.