

#145 Pakinam Mekki

Advisor(s): Jason Lazar

### **Nocturia and Electrocardiographic Abnormalities Among Patients at An Inner-City Cardiology Clinic**

**Aims:** Nocturia has been increasingly recognized as a potential manifestation of cardiovascular disease. However, the relationship between nocturia and electrocardiographic (ECG) abnormalities has not been studied. This study aims to characterize the diagnostic utility of nocturia in identifying left ventricular hypertrophy (LVH), left atrial enlargement (LAE), and prolonged QTc on ECG.

**Methods:** Retrospective analysis of nocturnal voiding frequency and contemporaneous ECG data from consecutive patients evaluated at a university-based outpatient cardiology clinic. Three sets of three incremental binary multiple logistic regression models controlling for (1) age, (2) sex and race, and (3) body mass index, hypertension, diabetes mellitus, and diuretic utilization were performed to determine whether nocturia was predictive of LVH, LAE, and prolonged QTc.

**Results:** Included patients (n = 143, 77.6% nocturia) were predominantly African-American (89.5%), female (74.1%), and obese (61.5%), of whom 44.1%, 41.3%, and 27.3% had LVH, LAE, and prolonged QTc, respectively. Older age, African-American race, obesity, hypertension, diuretic use, LVH, and LAE were significantly associated with nocturia on univariate analysis. No significant differences were observed in the strength of associations between nocturia and LVH, LAE, or QTc prolongation based on age. Nocturia independently predicted LVH in Models I-III (odds ratios [ORs], 2.99-3.20; relative risks [RRs], 1.18 for all, p  $\leq$ .046) and LAE in Models I-III (ORs, 4.24-4.72; RRs, 1.21 for all, p  $\leq$ .015). No significant associations were observed between nocturia and prolonged QTc.

**Conclusions:** Nocturia may be a risk marker for underlying structural cardiac abnormalities.

Additional contributors to this project:

Thomas F. Monaghan

Lily Lee

Christina W Agudelo

Fred Gong

Christopher D George

Kyle P Michelson

Zhan D Wu

Jeffrey P Weiss

Karel Everaert

Roger R Dmochowski

Donald L Bliwise

Alan J Wein