

Nocturia is Associated with Higher Inter-Arm Blood Pressure Differences

Purpose: Hypertension and blood pressure (BP) elevation are associated with the presence and frequency of nocturia. Multiple studies have shown significant inter-arm BP differences (IABPD) in variable patient populations. Large IABPD are associated with various cardiovascular risk factors, atherosclerosis, and higher cardiovascular event rates and may also cause misclassification of BP status. Despite the importance of recognizing IABPD, the relation between nocturia and IABPD values has not been studied. The objective of this study was to compare the relations between nocturia obtained by nocturnal only voiding diaries and IABP values.

Methods: Patients ≥ 18 years were recruited in the cardiology/medicine clinics at University Hospital of Brooklyn. Demographic data were collected and BPs (systolic/diastolic) were measured from each arm using an automated BP cuff. Patients completed a nocturnal voiding diary and were divided by status of nocturia, defined as ≥ 2 nocturnal voids.

Results: 74 patients (median age 64, IQR 57-74 years; 44% male and 56% female) followed up with a completed bladder diary. 23% of subjects had systolic IABPD ≥ 20 mm Hg and/or diastolic IABPD ≥ 10 mm Hg and 45% had nocturia. On univariate analyses, there were no significant differences in age, body mass index and mean arterial BP of the right arm in patients with and without nocturia. On multivariate analysis, age ($p=0.045$) and significant IABPD ($p=.03$) were independently associated with nocturia while mean BP was not.

Conclusions: The presence of nocturia was associated with older age and significant IABPD. These findings provide further evidence as to the significance of IABPD and underscores the BP-nocturia association. Further study is merited to elucidate mechanism(s) underlying this association.