

Session/Poster#

Presenter

A09

Samuel Yim

College of Medicine Student

Advisor(s): Dr. Jason Lazar, Medicine and Cardiovascular Medicine

The Prevalence and Frequency of Nocturia Along the Heart Failure Continuum

Introduction: Although widely referenced as a symptom of heart failure (HF), nocturia has been poorly characterized across the HF stages.

Purpose: To determine nocturia parameters across the 4 HF stages.

Methods: Patients at Brooklyn VA Medical Center completed nocturnal voiding diaries and were retrospectively staged by 2 cardiologists (blinded) according to cardiology guidelines based on risk factors, clinical presentation, and available cardiac studies (EKG, echocardiogram, etc.). Stage 0 was determined as a lack of risk factors. Stage A required ≥ 1 HF risk factor without structural heart disease. Stage B required any risk factor and ≥ 1 cardiac structural/functional abnormality (chamber hypertrophy/dilation, etc.) without HF symptoms. Stages C and D were combined and included ≥ 1 cardiac structural/functional abnormality with HF symptoms. Nocturia parameters included nocturia frequency (Nf), nocturia index (Ni) defined as nocturnal urine volume (NUV)/maximum voided volume, and nocturnal polyuria index (NPi) defined as NUV/24-hour urine volume. On logistic regression, odds ratios (OR) were analyzed for HF stages and clinically significant nocturia (≥ 2 nightly voids) adjusting for age, prostate/bladder disease, CKD, sleep apnea, edema, and diuretic use.

Results: 85 patients were staged (0 n=9, A n=42, B n=27, C/D n=7). There were differences in age, BMI, HTN, and CAD but not in race, DM, or diuretic use among stages. Ni differed ($p=.02$) with stage B having the highest Ni (2.8). Nf was highest in stages B and C/D (3 voids/night) and NPi was highest in Stage B (0.47) (trend, $p=.12$). Stage B was associated with clinically significant nocturia (OR 5.25, 95% CI 1.02-26.98), even more so when adjusting for age, prostate/bladder disease, and sleep apnea (OR 7.19, 95% CI 1.08-48.02).

Conclusions: Ni differed among HF stages. Stage B had the highest Ni and was predictive of clinically significant nocturia. Nocturia may be a harbinger of future congestive cardiac disease.