

009

Blacks with Hypertrophic Cardiomyopathy Have Lower Quality of Life and Exercise Capacity Than Whites

Milla E. Arabadjian¹, Gary Yu¹, Allison Vorderstrasse¹, Mark Sherrid², Victoria Vaughan Dickson¹; ¹NYU Rory Meyers College of Nursing, New York, NY; ²NYU Grossman School of Medicine, New York, NY

Introduction: Hypertrophic cardiomyopathy (HCM) is the most common inherited cardiac disorder. There is a paucity of literature in blacks with HCM overall and specifically on quality of life and functional capacity. Symptom experience in this population is conceptualized as the integration of quality of life, functional capacity and NYHA class. **Objective:** This study aimed to examine differences in functional capacity, quality of life and NYHA between blacks and whites with HCM. **Methods:** The study was a secondary analysis of a dataset of consecutively enrolled patients with HCM, referred for care at a large HCM specialty center. Data analyzed included demographics, co-morbidities, Minnesota Living with Heart Failure Questionnaire (MLWHFQ) scores on quality of life (QOL), age-adjusted functional capacity measured by METs achieved on symptom limited stress echocardiography, and NYHA class. **Results:** Blacks comprised 13.1% of the total sample of 434 subjects. Women were underrepresented in both groups, 27 (47.4%) blacks, 153 (40.6%) whites. Blacks were younger, 54.6 (13.4) vs 62.5 (14.8) years old, p<0.001. Both groups had similar number of co-morbidities. Blacks had higher levels of Class II obesity (BMI 35-39.9); there were no differences in prevalence in HTN or other co-morbid conditions. NYHA class was similar between groups, though blacks were less likely to be asymptomatic (NYHA class I). Blacks had higher mean MLWHFQ scores, 31.2 (27.2) vs 23.9 (22.1), p=0.04 reflecting poorer QOL than whites. Blacks were also more likely to have a functional capacity objectively measured as METs that was “below average for age” than whites, 25 (64.1%) vs 115 (47.7%), p=0.029. None of the blacks (0%) in this cohort had an “excellent for age” functional capacity compared to 19 (7.9%) of whites p= 0.035. **Conclusions:** Despite similar NYHA class, co-morbidities and significantly younger age, blacks with HCM had poorer QOL and worse objectively measured functional capacity than whites with HCM. These findings suggest that the symptom experience may differ between blacks and whites with HCM. Research with sample sizes including more blacks with HCM and more precise measurement of symptoms is needed to generalize these results and examine potential contributing factors.

010

Reducing Heart Failure Readmissions Through a Shared Medical Appointment

Lisa Filyo, Kimberly Hansen, Emiliya Khazan, Laurie Wolf, Mark Milunski, Stephanie Ingram; VA, Orlando, FL

Introduction: In March 2018, the Orlando Veterans Affairs Healthcare System (OVAHCS) heart failure (HF) readmission rate was 30.4%, notably higher than the national rate of 17.3%. The HF Team manages NYHA III and IV patients (1,000 of 3,500 at OVAHCS) and was unable to see patients within 14 days of hospital discharge. Many patients were being discharged with a limited supply (7 days) of newly adjusted medications resulting in an inadequate supply to last until the patient’s post-discharge follow-up appointment. **Goals:** Improve clinic access and develop a multi-disciplinary treatment approach by providing focused education, linking high risk patients with beneficial resources, reducing patients lost to follow-up, ensuring timely medical support to improve HF self-management and reducing admissions. **Methods:** The HF Program implemented the use of a Shared Medical Appointment (SMA) to target these high-risk patients, focusing on non-adherent, frequently admitted or those at risk for future admissions. The SMA was offered every 2 weeks allowing patients to be seen within 14 days of discharge. The SMA included comprehensive care that targeted education, behavioral change, and medical intervention (e.g., exam, medication changes, refills). Consults to supportive services (e.g., clinical pharmacist, clinical psychologist, dietician, telehealth, educational classes) were offered. The SMA visit also aligned with Cardiology Clinic IV diuresis appointment slots in effort to avoid preventable admissions. **Results:** From August 2018 to April 2019, all patients targeted for the SMA were offered an appointment within 14 days of discharge. Only 8% of those seen in SMA were readmitted compared to 28% of those seen in a traditional HF team follow-up appointment. Through the SMA, an average of 2.5 consults per Veteran were placed to facilitate improved HF management. Additionally, 97% of patients required medication alterations to avoid re-hospitalization, 50% required equipment to self-monitor symptoms, 78% were referred to a Cardiology PharmD for medication optimization, 41% engaged in treatment with a clinical health psychologist to focus on health behavior, and 36% joined HF Education Classes for additional learning opportunities beyond SMA. **Conclusions:** Participating in the HF SMA greatly reduced the likelihood of being re-admitted within 31 days when compared to traditional Cardiology HF visits. The group setting and brief exam aspect of the SMA improves efficiency by providing care to more Veterans at once than would be possible if done individually. Patients seen through the SMA were able to be seen within 14 days of hospital discharge. Including more providers and offering SMAs more frequently may help reduce re-admission rates to a greater number of patients.

011

Our Experience with Using WatchPat® (Itamar Medical, Ltd.), Home Sleep Testing (HST) for the Diagnosis of Sleep Apnea in Advanced Heart Failure Patients

Sandra A. Carey¹, Aasim Afzal¹, Aayla Jamil¹, Whitney Whiteley¹, David Ostransky²; ¹Baylor Scott and White HCS, Dallas, TX; ²North Texas Lung and Sleep Clinic, Southlake, TX

Introduction: Sleep apnea is widely reported as an independent predictor for the development of heart failure (HF), with a 2.6-fold increase in incidence after adjusting for age, sex, body mass index (BMI) and smoking. The accepted gold standard for sleep apnea diagnosis is polysomnography (PSG); however, access to PSG is limited and more so in the COVID-19 pandemic crisis. WatchPAT Home Sleep Testing (WPHST) has been validated to accurately detect both obstructive (OSA) as well as central sleep apnea (CSA) in the general population. However, to date no studies have reported its use in the advanced HF population. **Methods:** This was a single center, retrospective, observational analysis, beginning December of 2019-April 2020. All subjects that screened positive on the STOP-BANG sleep apnea questionnaire and assigned the HST were analyzed. **Results:** 62 subjects (HF, LVAD, Orthotopic Heart Transplant [OHT]) were assigned HST. 93% (n=58) completed testing. 77% (n=79) of patients with LVAD had testing that was deemed inconclusive, thus patients with LVAD were censored from our analysis. Of the 44 patients that tested positive for at least mild OSA, 32% (n=14) of the patients were post OHT. Over 45% of both OHT and HF patients tested, were documented to have severe sleep apnea (See table¹). **Discussion:** WatchPat[®] is the only HST that reports calculations of total sleep time. It appears to be a viable option for advanced HF and OHT patients with limited access to in-lab PSG. However, WPHST was unable to provide conclusive data for LVAD patients, hypothesized due to lack of native pulsatility. Strikingly, severe sleep apnea was documented in >45% of all patients, and no significant differences when comparing OHT patients to the advanced heart failure population. Continued research and emphasis on testing and treatment of HF patients being considered for advanced therapies is warranted, especially with the current proclivity towards minimum contact post Covid19.

Table 1. Comparison of Sleep Characteristics between Heart Failure and Transplant Patients

	Total (N=44)	HF (N=30)	OHT (N=14)	P value
Apnea Hypopnea Index (API) per hour	32.32 (4.6, 79.1)	32.7 (4.6, 72)	31.48 (6.2, 79.1)	0.8703
Cheyne-stokes respiration for central sleep apnea (%CSR)	10.92 (0, 85.4)	13.38 (0, 85.4)	5.62 (0, 32.9)	0.1291
Number of sleep arousal periods	13.1 (3, 33)	14.03 (3, 33)	11.07 (6, 19)	0.1202
Total Sleep Hours-Mean (min, max)	6.59 (3.05, 10.51)	6.54 (3.05, 10.51)	6.69 (4.8, 10.13)	0.7953
Rapid Eye Movement (%REM)-Mean (min, max)	19.44 (5.5, 40.8)	18.38 (5.5, 35.5)	21.70 (10, 40.8)	0.1992
Gender				
Female	13 (29.55%)	10 (22.73%)	3 (6.82%)	0.4984
Male	31 (70.45%)	20 (45.45%)	11 (25%)	
OSA severity				
Mild	12 (27.27%)	8 (18.18%)	4 (9.09%)	0.9174
Moderate	12 (27.27%)	9 (20.45%)	3 (6.82%)	
Severe	20 (45.45%)	13 (29.55%)	7 (15.91%)	

012

Renal Negative Pressure Treatment as a Novel Therapy for Cardio-Renal Syndrome

Christopher Maulion, Jennifer Asher, Joshua Moskow, Juan Ivey-Miranda, James Fleming, Olyvia Gleason, Grace Meegan, Veena Rao, Jeffrey Testani; Yale School of Medicine, New Haven, CT

Introduction: Decongestion is the primary therapeutic objective in most acute decompensated heart failure (ADHF) hospitalizations. However, congestion itself commonly represents a barrier to successful diuresis. Renal congestion results in increased renal tubular pressures, reducing glomerular filtration and urine output. This is further aggravated by loop diuretics, which also increase tubular pressures. Because each nephron is a fluid filled column, renal negative pressure treatment (rNPT) applied to the urinary collecting system should reduce tubular pressure, potentially improving kidney function and diuresis. **Hypothesis:** rNPT will improve diuresis, natriuresis, and renal function in a congestion predominate heart failure (CHF) model. **Methods:** Ten ~80 kg pigs underwent thoracotomy with implantation of a pericardial, Swan Ganz, & bilateral ureteral JuxtaFlow[®] catheters. High dose furosemide (400mg bolus, then 80mg/hr) was administered since HF clinical use of rNPT will be in conjunction with loop diuretics. Each animal served as its own control with randomization of L vs. R kidney to -30 mmHg rNPT or no rNPT. HF was induced via cardiac tamponade (~200 ml of pericardial 6% hydroxyethyl starch) and IV normal saline. Pericardial pressure was maintained at 20-22.5 mmHg. **Results:** Prior to HF induction, rNPT increased urine output (UOP) & creatinine clearance (CrCl) compared to the control kidney during furosemide diuresis (p lt 0.001 for all, Figure). HF induction achieved the target hemodynamic profile with stable cardiac output & elevated filling pressures (Figure). UOP, sodium excretion, and CrCl decreased during HF (p lt 0.001 for all, Figure), but were higher consistently in rNPT kidney vs. control (p lt 0.05 for all, Figure). UOP (p=0.38) was the same in rNPT during HF as control prior to HF (Figure). **Conclusions:** rNPT with the JuxtaFlow[®] system resulted in significantly increased diuresis, natriuresis, and creatinine clearance, both in the