A Prospective Observational Cohort Study of Sleep in People with Acute Congestive Heart Failure in Mozambique

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BACKGROUND

- Mozambique is an Sub – Saharan African country where the main causes of heart failure remains predominantly nonischemic, with hypertension, rheumatic heart disease and the endemic cardiomyopathies, occuring in a very young population.
- There has been a lack of data regarding sleep disordered breathing in Africa. Investigators in our group observed sleep disorder breathing events in the cardiology ward.
- The cardiologists created a registry of SDB in acute decompensated heart failure patients in Maputo Central Hospital, in Maputo, Mozambique.

SPECIFIC AIMS

We sought to determine the prevalence of sleep apnea in this quite different population and acess changes in SDB over the time following medical therapy.

METHODS

The study was conducted from September, 2014 to April, 2017.

At baseline consented patients provided:
1. Demograpic Information
2. Blood samples
3. Sleep Questionaires
4. Echochardiogram
5. Sleep test using a Type III device (ApneaLink Plus, Resmed) within the first 48 hours of admission.

At six month follow-up visit, subjects provided:
1. Blood samples
2. Sleep Questionaires
3. Echochardiogram
4. Sleep test using a Type III device (ApneaLink Plus, Resmed)

The sleep test records were analysed by the team of sleep Laboratory of UCSD by a blinded RPSGT using a modified Chicago Criteria (3% desaturation without an arousal).

RESULTS

- A total of 209 patients have been enrolled, of which 118 have completed the 6 month follow-up visit.
- Of the 118, a total of 22 subjects (11%) had died by 6 month follow up.
- Thus, a total of 96 patients were included for analysis. Baseline characteristics of the group are shown below:

Demographics n=209.

Age (years)	42 ± 16
Gender	72M (62%)
BMI (kg/m^2)	23.6 ± 7
HIV Positive	22%
Heart Failure Etiology	
Dilated CMP	48
Hypertensive CMP	15
Peripatum CMP	21
Rheumatic	32
Other	72

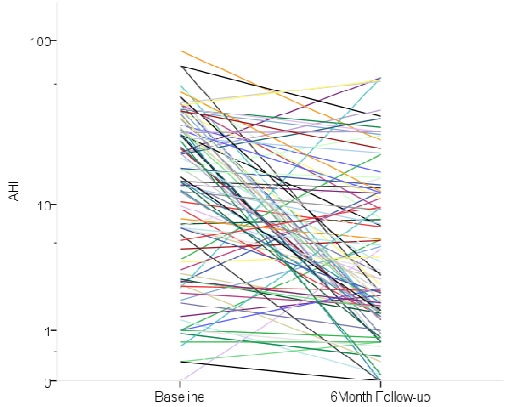
Sleep and Echocardiogram n=96.

	Baseline	Follow up	P value
AHI (events/hr)	19.1	9.6	*
CAI (events/rhr)	8.1	3.16	*
ODI (events/hr)	14.56	6.92	NS
Nadir saturation	81.97	86.82	NS
Left Ventricular Ejection Fraction	30.84	36.98	*
Left Atrial Size (mm)	49.85	47.26	*
Right Ventricular Systolic Pressure	53.96	26.69	NS

* Means significant

RESULTS

Apnea Hypopnea Index at baseline and 6 month follow-up.



- Apnea Hypopnea Index significantly decreased from baseline visit to 6 month follow-up.

DISCUSSION

- Sleep apnea (both central and obstructive) is highly prevalent in acutely decompensated congestive heart failure in Maputo, Mozambique, largely due Cheyne-Stokes respiration.
- In contrast to what is seen in north America, Cheyne – stokes was commonly see in this population including young people and women.
- Amongst survivors, many subjects had improvement in sleep disordered breathing overtime using standard medical treatment for heart failure.
- Given the high death rate the role of PAP therapy should be investigated in this population.

DISCLOSURES

• Funding provided by Resmed Foundation