

Background

A 67-year-old male with NYHA Class II/III heart failure (HF) with preserved ejection fraction (70-75%), a history of hypertension, coronary artery disease, and chronic obstructive pulmonary disease was discharged from an HF-related hospital stay. The patient was taught to take SOZO measurements at home, and data were collected on SOZO for 47-days. The patient and investigators were blinded to the data during the observation period.

Observations

- 1 HF-Dex 45.6% after hospital discharge
- 2 Bronchitis diagnosed and treated with amoxicillin
- 3 HF-Dex and ECF increase as antibiotic switched to Levofloxacin and corticosteroid (prednisone) started

Conclusions

SOZO offers an objective measure of fluid in HF patients that is not visible with weight alone. This case shows the value of using SOZO to differentiate between fluid in the extracellular and intracellular spaces. During the observation period, the patient's HF medications and symptoms remained stable. The patient's ECF also remained stable until the initiation of medication to treat bronchitis. Weight decreased during the observation period, and SOZO shows that ICF also decreased. ICF is known to be associated with tissue mass. The increase in HF-Dex shows that ECF is increasing relative to ICF, and HF-Dex exceeds 50% once ECF is higher than ICF.

SOZO differentiates between fluid and tissue-related weight changes.

SOZO Objective Fluid Volume Outputs

Total body water (TBW)	Extracellular fluid (ECF)
Intracellular fluid (ICF)	ECF%TBW (HF-Dex)
HF-Dex Reference Ranges	
51% HF-dex	Elevated Fluid Volumes
Intermediate Fluid Volumes	Normal Fluid Volumes

Changes in HF-Dex, ECF, and weight during observation period

	HF-Dex (%)	ECF (L)	Weight (kg)
Study initiation 23-Jan-2019	45.6	20.6	99.0
Study exit 11-Mar-2019	51.6	22.7	95.0
Change	+6.0	+2.1	-4.0
% Change	+13.2%	+10.2%	-4.0%

Baseline HF meds: furosemide 40 mg po qd, metoprolol 12.5 mg po qd, valsartan 160 mg po qd

