RELIABLE EVALUATION OF DYSPNEA (RED-ROSE): A PROSPECTIVE ANCILLARY STUDY FROM THE RENAL OPTIMIZATION STRATEGIES EVALUATION IN ACUTE HEART FAILURE (ROSE-AHF) TRIAL

Background: Dyspnea relief is a regulatory benchmark in acute heart failure (AHF) and typically assessed by a dyspnea visual analog scale (DVAS). We hypothesized that a provocative dyspnea score (PDS) assessing dyspnea under incrementally more difficult conditions is a more sensitive metric of change (Δ) in clinical status.

Methods: AHF patients (pts) underwent DVAS and PDS at randomization (BL), 24, 48 and 72 hrs (n=194). PDS used a 5-point Likert dyspnea scale during each of four (A-D) stages (A: O2 upright, B: no O2 upright, C: no O2 supine and D: no O2 + step in place) with multiplier to yield same range as DVAS (0-100). Pts with ≤ moderate dyspnea at preceding stage were eligible for next stage. Decongestion at 72 hrs (weight Δ, cumulative urine volume and % Δ in NT-proBNP) and 60-day outcomes (death/HF rehospitalization) were assessed.

Results: Most (≥97%) eligible pts completed PDS stages A-C. Only 64% (BL) to 70% (72 hrs) of eligible pts completed stage D due to mechanical limitations or refusal. There was modest correlation between DVAS and PDS (r=0.48, P<0.001) at BL that weakened over time. PDS changed less than DVAS (Figure). Neither DVAS or PDS (any time point) nor their BL adjusted Δ’s were associated with decongestion efficacy or outcomes.

Conclusion: In AHF, use of PDS was limited by patients’ inability or reluctance to exercise. Dyspnea relief (either score) is not associated with the degree of decongestion or outcomes. Better metrics for assessing effectiveness of AHF therapy are needed.