EFFECTIVENESS OF AGGRESSIVE HEART FAILURE MANAGEMENT DESPITE CARDIORENAL SYNDROME IN THE OUTPATIENT SETTING: SYMPTOM IMPROVEMENT AND PREVENTION OF READMISSION

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Background: The combination of acute heart failure (HF) and renal dysfunction, Cardiorenal Syndrome (CRS), is a clinical challenge associated with poor prognosis and frequent hospitalizations. Even though diuretics remain the guideline recommended therapy for acute HF exacerbation, their use in the management of CRS is highly controversial.

Methods: The purpose of this prospectively designed pilot study is to elucidate the effect of aggressive outpatient diuretic therapy for the management of acute HF exacerbation and renal failure, defined as serum creatinine (SCr) ≥ 1.5 mg/dl. Between 10/2008 and 6/2009, 23 of 46 patients (pts) referred to our Outpatient HF Infusion Center met inclusion criteria. Pts on renal dialysis and/or inotropic support were excluded. Aggressive diuresis tailored to achieve euvoolemia was offered by intravenous furosemide administration: 80 mg bolus followed by continuous infusion (40-80 mg/hour) for a mean of 2.3 hrs per session. Therapy was repeated daily as needed to achieve euvoolemia. Clinical assessment, hemodynamics, electrolytes, SCr, BNP were monitored prior to each encounter.

Results: 83% pts (n=19) with mean age of 71 ± 12 yrs, 61% (n=14) males, had a history of hypertension and/or diabetes. 22% (n=5) had systolic dysfunction (LVEF ≤ 40%). All pts were severely hypervolemic at the initiation of treatment. Therapy was well tolerated without complications. All pts showed significant weight loss (mean 9.8 ± 11.7 lbs) associated with improved symptoms. NYHA functional class improved in 49% pts (n=11) at least by 1 class. Mean BNP decreased from 1008 to 648 pg/ml (p <0.05). Renal function remained stable in 52% pts (n=12), while 22% (n=5) showed improvement (decrease in SCr ≥ 0.3 mg/dl) and 26% (n=6) had increased SCr by ≥ 0.3 mg/dl but < 0.5 mg/dl. Hyponatremia was evident in 17% pts (n=4) of whom 75% (n=3) normalized with therapy. 30-day readmission decreased by 86%, from 30% prior to outpatient infusion therapy to 4.3% after infusion therapy (p <0.05).

Conclusions: Outpatient infusion therapy was safe and effective in majority of CRS patients despite co-morbid conditions. Quality of life and functional status improved with significant decrease in hospital readmission.