

## CASE HISTORY

We present the case of a 59y.o. male with an extensive cardiac history including myocardial infarction s/p three vessel CAB, CHrEF s/p ICD placement, recently diagnosed atrial fibrillation s/p cardioversion, ischemic cardiomyopathy, hypertension, and stage IV chronic kidney disease, who presented with anasarca and was admitted for intravenous diuresis.

## PHYSICAL EXAM

**Gen:** Anasarca, NAD

**CVS:** RRR, I/IV systolic murmur. No JVD

**Lungs:** diminished at bilateral bases

**Abd:** Distended, tense, pitting edema

**GU:** Scrotal edema

**Ext:** Bilateral 2+ pitting edema extending to upper thighs

## TESTS/RESULTS

### Initial Labs:

Brain Natriuretic Peptide 647pg/mL (H)

Creatinine: 2.6mg/dL (baseline)

Troponin: 0.03ng/mL

**Testicular Doppler US:** marked subcutaneous scrotal wall edema, preserved blood flow.

**Echocardiogram:** LVEF30-35%, mod-severe tricuspid regurgitation, dilation of IVC.

### Repeat Admission labs:

Creatinine 4.7mg/dL (H)

BUN: 172mg/dL

## DIFFERENTIALS

- 1: Decompensated Heart Failure
2. Cardiac Cirrhosis
3. Nephrotic Syndrome

## MANAGEMENT & OUTCOME

- **IV Bumetanide** was given, but patient was refractory to diuresis
- **Milrinone** given to assist with cardiac output, & gradually his volume status improved
- Discharged with outpatient cardiology follow up
- Several weeks later, re-admitted with significant uremia, renal dysfunction, and dramatic ascites
- **Paracentesis:** 8L fluid removed, SAAG 1.4
- **Hemodialysis** required for volume overload
- CT abdomen findings and SAAG consistent with cirrhosis, likely cardiac etiology due to severe TR
- Transferred to tertiary care center for **Tricuspid Valve replacement**, subsequently having significant improvement in his overall cardiac & volume status

## DISCUSSION

- TR is common, but usually mild; severe dysfunction is a marker of advanced cardiac disease & positively correlates with mortality
- Usually due to functional causes and cardiac remodeling in setting of left side valvular disease or pulmonary hypertension; non-functional causes include damage from infective endocarditis, rheumatic fever, trauma, or iatrogenic
- Medical management consists of symptomatic treatment with diuresis and fluid restriction
- Severe disease may become diuretic resistant, leading to chronic volume overload and potential complications such as cardiac cirrhosis or cardiorenal syndrome, at which point surgical repair may be indicated