

Jay D Geoghagan, MD, FACC







CRS - Definition

- AHA Scientific Statement on CRS

 Circulation. 2019;139:e840–e878.
- Cardiorenal syndrome encompasses a spectrum of disorders involving both the heart and kidneys in which acute or chronic dysfunction in one organ may induce acute or chronic dysfunction in the other organ.







Cardiorenal Syndrome (CRS)

- Significant overlap in the diseases.
- The prevalence of moderate to severe reductions in GFR (less than 60 mL/min per 1.73 m²) in patients with HF has ranged from 30 to 60 percent in large clinical studies.

Common Clinic or Urgent Care Scenario

- Chronic HF with mild exacerbation
 - Noncompliance with meds or diet, NSAIDS, steroids, stimulants, acute illness, Recent IV contrast, RAAS blockers
 - Relief of congestion is paramount
 - Diuretic prescribed or increased
 - May result in concomitant increase in Scr

Common ED Scenario

- Acute or Chronic HF with moderate to severe exacerbation
 - Noncompliance with meds or diet, NSAIDS, acute illness, severe medical emergency
 - Because of volume overload status, Scr may actually be better than baseline
 - Relief of congestion is paramount
 - Frequently results in concomitant increase in Scr







Crucial Outpatient Contributions

- Monitor labs as needed. Keep other providers informed.
- Don't overreact to changes in Scr.
 - Increasing diuretic and then increasing water/fluid intake.
 - Many changes in Scr will stabilize or return to baseline over several weeks.
 - ...up to a 30% increase in creatinine that stabilizes within 2 months was associated with long-term nephroprotection in a systematic review of 12 randomized controlled studies...
- If patient is clinically improving, then continue therapy and recheck lab work again



Cardiorenal Syndrome (CRS)

- A highly prevalent overlap of heart and kidney disease that leads to significant morbidity and mortality and presents to the generalist and specialist alike on a daily basis.
- Because of these factors, our therapies and interventions may work at cross purposes within individual practices or between PCP and specialist.



- Existing risk factors can be managed
- New biomarkers of kidney injury (beyond the Scr) are being evaluated.
- Existing cardiac biomarkers are readily available and new ones are under investigation.
- Better communication between providers can prevent "spinning/reinventing our wheels."
- Greater vigilance and understanding of CRS should result in better outcomes.

Conclusions

- Significant overlap in risk factors for both heart disease and renal disease.
 - HTN, Diabetes, Obesity, etc
- Therapy aimed at the disease or the symptoms will likely induce measurable changes.
- Be vigilant but not overly reactionary.















