HEART FAILURE IN CHRONIC KIDNEY DISEASE

Dr. Andrew House
Professor of Medicine
Chief of Nephrology
Western University and
London Health Sciences Centre
London, Ontario, Canada
Disclosure of Interests

Baxter – honoraria and consulting fees re: Prismaflex / CRRT

(e.g. employment, consultancy, honoraria, stock ownership, sponsored education, research grant, educational grant, expert witness, other relevant funding, etc ...)

KDIGO Controversies Conference on Heart Failure in CKD
May 25-28, 2017 | Athens, Greece
Why are we here? Global Problem

Chronic Kidney Disease

Heart Failure

500 million

40 million

KDIGO
Arterial underfilling

- Decreased cardiac output
- Decreased effective circulating volume
- Decreased RBF, RPF
- Activation of RAAS, SNS
- Inflammatory pathways

Heart

- Decreased GFR
- Na and H₂O retention
- Increased edema, preload
- Increased afterload

Kidney

- Venous congestion and venous hypertension, raised IAP
- Decreased AV perfusion gradient
- Kidney interstitial edema
- Activation of RAAS, SNS
- Inflammatory pathways

Venous congestion
Why are we here?

- Despite millions of people in the intersection between advancing CKD and CHF, limited high quality data
- It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so – Mark Twain
- The only true wisdom is in knowing you know nothing - Socrates
Our Journey

• Friday morning
  – CRS & relationship to heart failure
    • Peter McCullough
  – Epidemiological Insights
    • Colin Baigent
  – Lessons Learned from Nephrology Trials with respect to Heart Failure and vice versa
    • Chris Chan, Javed Butler
The Journey Continues

- Friday afternoon
  - Five breakout groups

<table>
<thead>
<tr>
<th></th>
<th>HFrEF</th>
<th>HFrEF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advancing (NDD) CKD</td>
<td>Grp 1</td>
<td></td>
</tr>
<tr>
<td>DD-CKD</td>
<td></td>
<td>Grp 4</td>
</tr>
</tbody>
</table>

- Group 5 specific to Renal Transplant
The Task

• Each group has reviewed SOW and had opportunities to modify key questions

• Epidemiology, pathophysiology, prognosis, diagnosis

• Treatment
  – Quality of evidence
  – Populations, outcomes
Specific Considerations

- Role of pharmacologic treatment or prevention of heart failure in CKD
  - ACEi / ARB (alone or combination)
  - MRA (spironolactone, eplerenone, finerenone)
  - Beta blockers
  - Nitrates/vasodilators
  - ARNI (valsartan/sacubitril)
Other considerations

• Consider role of therapies not of heart failure itself
  – Hyperkalemia
  – Anemia and parenteral iron
  – CKD-MBD

• What is the role for volume management
  – Diuretics, ultrafiltration

• Dialysis modalities
  – quotidian, peritoneal
Other questions

• When should RAAS blockade be held?
• What role do devices play in management of heart failure in CKD?
  – CRT, VAD, etc.
Transplant Specific Questions

• “Natural” history of HF following renal transplant
• Are there transplant / graft specific interventions that have effects on HF?
  – Rejection, proteinuria, mTORi
• What does the presence of an unused AVF mean for the heart?
• Role of combined heart-kidney transplant
Day 2 and 3

- Saturday morning
  - HF in Renal Transplant Recipients
    - Greg Knoll
  - Future Diagnostic & Therapeutic Targets in CRS
    - Edgar Lerma

- Preliminary Reports & Discussion
- Breakout Groups reconvene and refine
- Sunday morning “final” reports