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Introduction: Chemotherapy-induced cardiomyopathy (CCMP) is a well-recognized etiology of end stage heart failure in cancer survivors who received anthracycline agents during their cancer treatment. CCMP can ultimately lead to orthotopic heart transplantation (OHT). There are virtually no data on the outcomes of patients with CCMP after listing for OHT. We therefore sought to investigate the wait list outcomes in patients with CCMP and compare it to patients with idiopathic dilated cardiomyopathy (IDCM). Methods: All patients listed for heart transplantation between January 2006 and June 2014 in the UNOS database, with age at listing of ≥18 years, were queried. We compared the patient’s characteristics at baseline and the wait list outcomes between patients with CCMP and those with IDCM. Results: There were 25294 patients listed for OHT: 388 (1.53%) adults with CCMP were compared to 8553 adults with IDCM. Patients with CCMP were more likely to be female (p < 0.001), more likely to be white (p < 0.001), less likely to have diabetes (p < 0.003), less likely to have an ICD (p = 0.006) and had higher pulmonary and wedge pressures. Patients with CCMP spent a median of 85 days (range 1-2905) on the wait list. Overall, 76.4% received a heart transplant, 8.5% died while waiting, 4.1% delisted after clinical improvement not requiring transplantation, 6.3% deteriorated becoming too sick for transplantation and 14.4% are still waiting. These rates were similar between both groups. Death from cerebrovascular (p = 0.003) and hemorrhagic (p = 0.005) events were more common in patients with CCMP. In a multivariable model that includes age, gender, ethnicity, UNOS status, list year, ICD, VAD, dialysis, diabetes, ventilator, IABP, ECMO and inotropes, waitlist mortality or delisting for clinical deterioration was predicted by status 1A (HR 6.2; 95% CI 1.9-20.5, p = 0.005), status 1B (HR 3.8, 95% CI 1.3-10.5, p = 0.012) both compared with status 2, ventilator use (HR 10.0, 95% CI 2.4-42.2, p = 0.002) and female gender (HR 1.9, 95% CI 1.1-3.3, p = 0.023). Conclusion: Once listed for transplant, patients with CCMP had similar overall mortality, and access to OHT then patients with IDCM. The incidence of fatal cerebrovascular and hemorrhagic events was higher in the CCMP group.

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Sex Differences in the Management and Outcomes of Heart Failure with Preserved Ejection Fraction in Patients Presenting to the Emergency Department with Acute Heart Failure
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Background: Heart failure with preserved ejection fraction (HFrEF) represents up to 50% of the HF population and women outnumber men by a 2:1 ratio. However, there are limited data characterizing sex differences in the management and outcomes of patients with HFrEF that present to the emergency department (ED) with acute heart failure (AHF). Methods: Using the ADHERE-EM registry linked to Medicare claims data, we conducted a retrospective cohort analysis of patients presenting to the ED with AHF from January 1, 2000 to December 31, 2007. We identified patients ≥65 years old with HFrEF (EF ≥ 40%) who had a principal ED admitting diagnosis of AHF. Patients discharged without admission were excluded. We stratified patients by sex and compared baseline characteristics, ED therapies, initial index hospital length of stay, and all-cause mortality through 30 and 180 days. We used Cox proportional hazard models for mortality. Results: Of 4,161 patients with HFrEF, 2,808 (67%) were women. Women were older, more likely to have hypertension, and less likely to have diabetes or a smoking history compared with men (all p < 0.01). Women were also more likely than men to present to the ED with a systolic BP > 140 mmHg (62.5% vs. 56.3%, p = 0.0001). There were no significant sex differences in ED diuretic, vasodilator, or vasoactive medication administration or invasive procedures. Unadjusted 30-day all-cause mortality was lower in women compared to men, though there were no significant differences in 180-day all-cause mortality or hospital length of stay (Table 1). Conclusions: Women with HFrEF presenting to the ED were more likely to have elevated systolic BP, yet overall ED management strategies were similar to men. We observed early differences in unadjusted 30-day mortality by sex but no difference in long-term mortality.

Table 1. Unadjusted Outcomes for Patients with Heart Failure with Preserved Ejection Fraction

<table>
<thead>
<tr>
<th></th>
<th>Women (n=2808)</th>
<th>Men (n=1353)</th>
<th>Hazard Ratio</th>
<th>95% Confidence Interval</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-day all-cause mortality</td>
<td>181 (6.4%)</td>
<td>116 (8.6%)</td>
<td>1.34</td>
<td>1.00, 1.80</td>
<td>0.050</td>
</tr>
<tr>
<td>180-day all-cause mortality</td>
<td>666 (23.7%)</td>
<td>336 (24.8%)</td>
<td>1.14</td>
<td>0.76, 1.73</td>
<td>0.53</td>
</tr>
<tr>
<td>Median length of stay, days</td>
<td>5</td>
<td>4</td>
<td>1.07</td>
<td>0.90, 1.27</td>
<td>0.46</td>
</tr>
</tbody>
</table>

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Temporal Trends of Digoxin Use in Patients Hospitalized with Heart Failure: Analysis From the American Heart Association Get With The Guidelines - Heart Failure Registry
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Background: Digoxin is recommended (Class IIA) for heart failure (HF) with reduced ejection fraction (HFrEF), but its use, temporal trends, and clinical characteristics associated with digoxin use in current clinical practice have not been well studied. Methods: An observational analysis of 117,761 patients admitted with HFrEF from 384 hospitals participating in the Get With The Guidelines-HF quality improvement registry between January 2005 and June 2014 was conducted to assess the temporal trends, and factors associated with digoxin use. Results: Among 117,761 HFrEF patients, 19.7% received digoxin at discharge. Digoxin prescription decreased from 33.1% in 2005 to 10.7% in 2014 (Prend <0.0001). This downward trend was significant among all age groups (by median), race/ethnic groups, geographic regions, both sexes, and those with or without medical history of atrial fibrillation. Digoxin use in HFrEF was associated with atrial fibrillation (OR 2.14, 95% CI 2.02-2.28), history of implantable cardioverter-debrillator use (OR 1.39, 95% CI 1.32-1.46), COPD (OR 1.13, 95% CI 1.08-1.18), diabetes mellitus (OR 1.10, 95% CI 1.06-1.14), younger age (OR 0.96, 95% CI 0.95-0.97), lower blood pressure (OR 0.96, 95% CI 0.96-0.97), and having no history of renal insufficiency (OR 0.91, 95% CI 0.85-0.97). Use of digoxin in patients with HF with preserved ejection fraction (HFpEF) without atrial fibrillation was 9.8% in 2005, which decreased to 2.2% in 2014. Conclusion: One in five HFrEF patients received digoxin at discharge, with significant downward temporal trend in use over the study period. Use of digoxin in HFpEF patients without atrial fibrillation was very low and decreased over the study period.

Figure 1.