**Sex Differences in Admission Rates, Use of Anticoagulation and Outcomes for Emergency Department Presentations of Atrial Fibrillation**

P. Daniele1, DC. Dover2, S. Islam2, N. Hawkins1, P. Kaul2, 3 RK. Sandhu2,3 - (1) BC Centre for Improved Cardiovascular Health, Vancouver, Canada (2) Canadian Vigour Center, University of Alberta, Edmonton, Canada, (3) Department of Medicine, University of Alberta, Edmonton, Canada

**Background:** Studies in non-Emergency Department (ED) settings have shown women with non-valvular atrial fibrillation (NVAF) differ in presentation, treatment, and outcomes compared to men. Despite AF being a common reason for ED visit, little is known regarding sex differences in patients presenting to ED.  
  
**Purpose:** We sought to determine whether sex differences exist in rates of admission among NVAF patients presenting to the ED and if oral anticoagulant (OAC) use and outcomes differ by ED discharge status.  
  
**Methods:** Patients ≥18 years old, presenting to the ED with incident NVAF in two western Canadian provinces (Alberta and British Columbia) from April 2012 to March 2015 were included. ED records were linked to hospital records to identify patients admitted to hospital versus discharged from the ED. Outcomes of interest were 30-day mortality and 1-year stroke, heart failure (HF) and mortality. Pharmaceutical claims were queried for OAC use within 90 days following NVAF ED event.  
  
**Results:** Of 16,991 ED NVAF patients, 7,770 (46%) were women and 9,221 (54%) were men (p<0.001). Compared to men, women were older (73.9 vs 65.6 years, p<0.001) and presented with higher CHA2DS2-VASc scores (4.0 vs 2.0, p<0.001). Overall, 41% of women and 37% of men were admitted to hospital (p<0.001). OAC rate was 50% among admitted and 37% among discharged (p<0.001). OAC rates were 53% in women and 48% in men among admitted (p<0.001), and 39% in women and 35% in men among discharged (p<0.001). OAC rates were higher in patients with CHA2DS2-VASc ≥1 who were admitted (53% in women (n=2,781) and 52% in men (n=2,683), p=0.63) than in those who were discharged (39% in women (n=4,435) and 45% in men (n=3,866), p<0.01). Women had higher rates of mortality at 30-days and 1-year, and stroke at 1-year compared to men, irrespective of ED discharge status (all p<0.02). Women admitted had higher HF rates at 1-year compared to men (p=0.002). (Table)  
  
**Conclusions:** In this population-based study of patients presenting to ED with NVAF, we found women were more likely to be admitted to hospital than men. Women had a worse prognosis than men, irrespective of ED discharge status. Use of OAC was suboptimal, regardless of patient sex.

**Outcomes by Sex and ED Discharge Status**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Outcome** | **Discharged** | | | **Admitted** | | |
| **Female** (N=4,560) | **Male** (N=5,780) | **p-value** | **Female** (N=3,210) | **Male** (N=3,441) | **p-value** |
| 30 Day Mortality, n (%) | 63 (1.4) | 50 (0.9) | .012 | 261 (8.1) | 228 (6.6) | .019 |
| 1 Year Mortality, n (%) | 270 (5.9) | 248 (4.3) | <.001 | 717 (22.3) | 604 (17.6) | <.001 |
| Stroke\*, rate (SE) | 1.7 (0.19) | 0.9 (0.13) | <.001 | 4.0 (0.37) | 2.6 (0.28) | .001 |
| Heart Failure\*, rate (SE) | 3.6 (0.28) | 3.1 (0.23) | .16 | 12.9 (0.62) | 10.4 (0.54) | .002 |

\*Censored on death