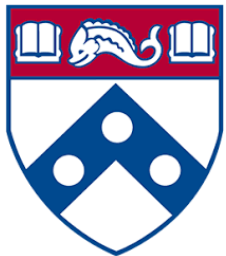


Sex Differences in Left Ventricular Assist Device-related Emergency Department Encounters in the United States

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Existing data demonstrate sex differences in characteristics and outcomes of patients with LVADs

- When compared with men, women with left ventricular assist devices (LVADs) exhibit different comorbidities, rates of adverse events, and mortality.
- There are limited data regarding sex differences in LVAD-related patient encounters in the emergency department (ED).
- *We hypothesized that comorbidity burden and clinical outcomes of LVAD patients who visit the ED vary by sex.*

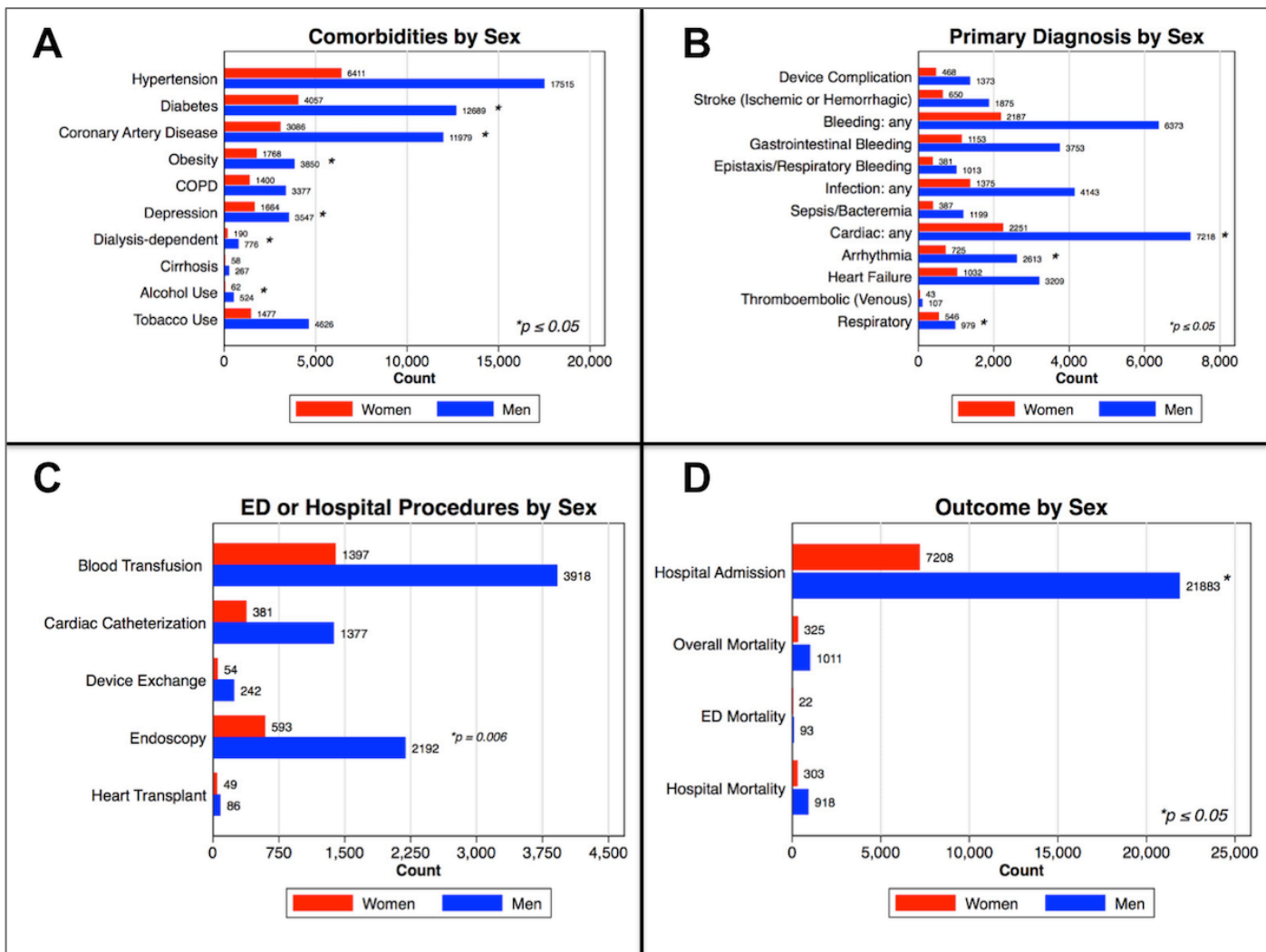
Methods

- We performed a retrospective analysis of 44,042 LVAD-related ED encounters from the 2010-2017 Nationwide Emergency Department Sample.
- International Classification of Diseases (ICD)-9/10 codes were used to identify patients with LVADs and their associated primary and comorbidity diagnoses.
- Demographics, clinical characteristics, and outcomes were compared via Chi-square testing.

Results

- Women comprised 26% (n=11654) of LVAD-related ED visits.
- Compared to men, women were
 - younger (58.1 years vs. 61.5; $p<0.01$),
 - less likely to have coronary artery disease (26.5% vs. 37.0%; $p<0.01$) and diabetes (34.8% vs. 39.2%; $p<0.01$), and
 - more likely to be obese (15.2% vs. 11.9%; $p<0.01$) and have depression (14.3% vs. 11.0%, $p<0.01$).
- Women presented less often with arrhythmia (6.2% vs. 8.1%; $p=0.01$) but experienced similar rates of device complication, stroke, bleeding, and infection (p for all >0.05).
- Women underwent endoscopy less frequently than men (5.1% vs. 6.8%, $p<0.01$), but there were no differences in device exchange and heart transplantation (p for both >0.05).
- Despite being less likely than men to be admitted to the hospital (61.6% vs. 67.6%, $p<0.01$), women experienced similar overall mortality (2.8% vs. 3.1%, $p=0.4$).

Comorbidities (A), Primary Diagnosis (B), Emergency Department or Hospital Procedures Performed (C), Outcomes (D) of LVAD-related ED Encounters by Sex



Conclusions

- Compared to men, the comorbidity profiles and clinical outcomes of women with LVADs who seek ED evaluation significantly differ.
- Future analyses will further explore the disparity in hospital admission by sex despite similar mortality rates.
- Understanding these sex differences among VAD patients is a critical step in the effort to improve long-term outcomes.