Medication use evaluation of sacubitril/valsartan at a quaternary, academic medical center

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BACKGROUND

- Sacubitril/valsartan is indicated for the reduction of the risk of cardiovascular death and hospitalization for heart failure in patients with chronic heart failure (NYHA Class II-IV) and reduced ejection fraction.
- In the PARADIGM-HF trial, sacubitril/valsartan was associated with a higher incidence of hypotension, symptomatic hypotension, elevated serum creatinine and serum potassium when compared to enalapril.
- At CHI St. Luke's Health Baylor St. Luke's Medical Center (BSLMC) patients must have a 36 hour washout period between stopping an ACE inhibitor and starting sacubitril/valsartan due to increased risk of angioedema, hyperkalemia, hypotension, and acute kidney injury.

OBJECTIVES

Assessment of sacubitril/valsartan utilization, prescribing practices and patient outcomes at Baylor St. Luke's Medical Center.

DEFINITIONS

- Hypotension: systolic blood pressure <90 mmHg or diastolic blood pressure < 60 mmHg
- Acute Kidney Injury (AKI): an increase in serum creatinine by 0.3 mg/dL or more within 48 hours or an increase in serum creatinine to 1.5 times baseline or more within the last 7 days
- Washout Period: 36-hour transition period from ACE inhibitor administration to sacubitril/valsartan administration

METHODS

Single-center retrospective chart review of adult patients admitted to BSLMC who received sacubitril/valsartan between November 1, 2018 and October 31, 2019.

RESULTS

Table 1. Baseline Characteristics (n=101)

Sex	
Male, n (%)	67 (66.3)
Female, n (%)	34 (33.7)
Age, mean ± SD	60 ± 14.9
Race, n (%)	
Caucasian	67 (66.3)
African American	34 (33.7)
Hospital Length of Stay, days, mean ± SD	10 ± 0.8
ICU, n (%)	38 (37.6)
Non-ICU, n (%)	63 (62.4)
LACE Score, mean ± SD	13 ± 0.47

RESULTS (CONTINUED)

Table 2. Comorbidities (n=101)

Hypertension, n (%)	84 (83.2)
Coronary Artery Disease, n (%)	51 (50.5)
Hyperlipidemia, n (%)	50 (49.5)
Diabetes Mellitus, Type 2, n (%)	47 (46.5)
Obesity, n (%)	34 (33.7)
Renal Dysfunction, n (%)	34 (33.7)
Atrial Fibrillation, n (%)	29 (28.7)

Figure 1. Sacubitril/Valsartan Doses Administered (n=101)

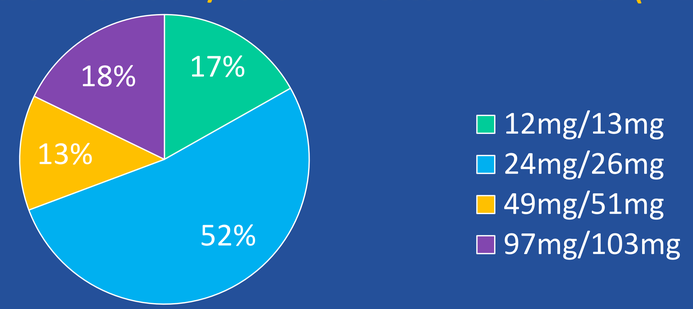
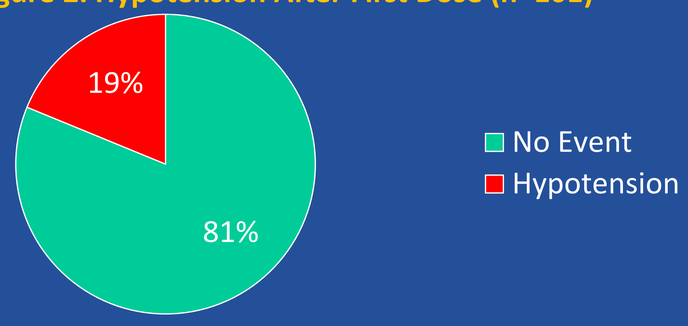
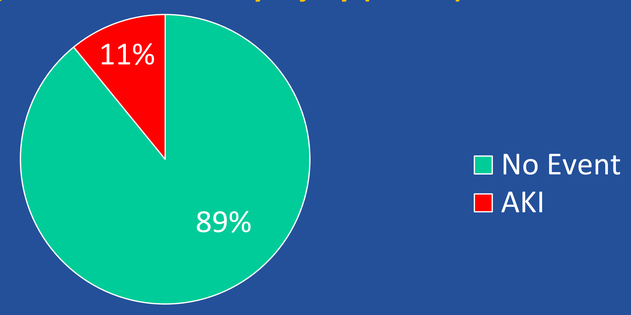


Figure 2. Hypotension After First Dose (n=101)



Prior ACEi/ARB (n=101)	Total, n (%)	24-hr post dose hypotension, n (%)
Yes	71 (70.3)	12 (16.9)
No	30 (30.7)	7 (22.6)

Figure 3. Acute Kidney Injury (n=101)



Prior ACEi/ARB (n=101)	Total, n (%)	AKI, n (%)
Yes	71 (70.3)	11 (15.5)
No	30 (30.7)	0 (0)

Figure 4. 36-Hour Washout Period in Naïve Patients (n=101)

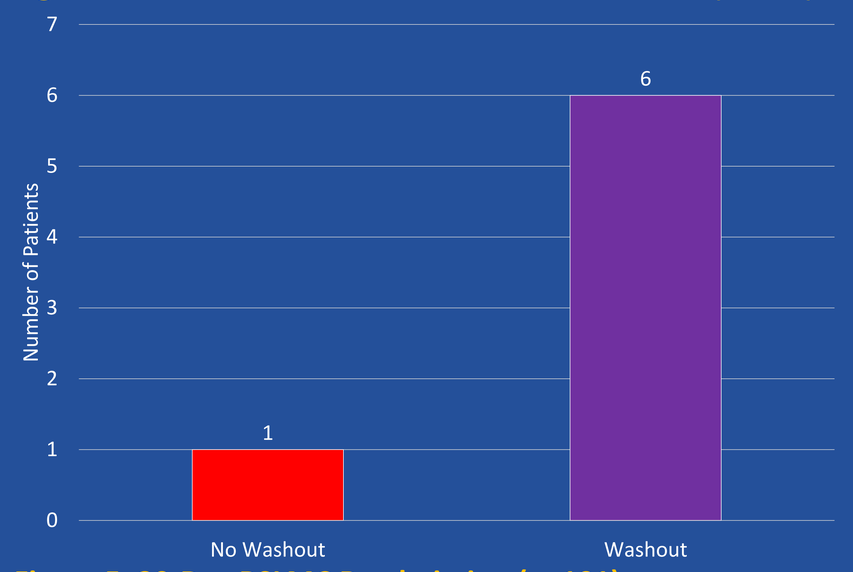
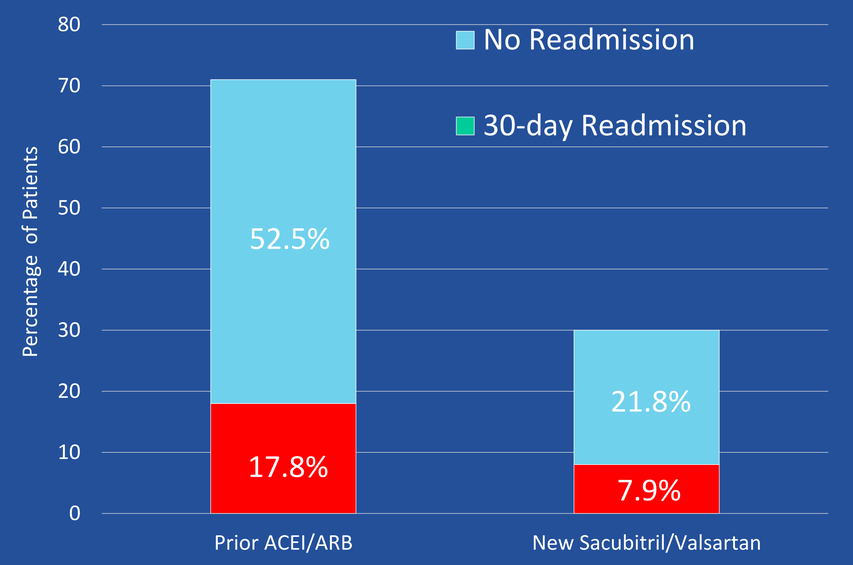


Figure 5. 30-Day BSLMC Readmission (n=101)



CONCLUSIONS

- Sacubitril/valsartan was associated with a 19% incidence of hypotension following administration of the first dose.
- Sacubitril/valsartan was associated with an 11% incidence of AKI.
- Of the 11% of patients who experienced an AKI, all had previously received an ACEI or ARB.
- Of the seven sacubitril/valsartan naïve patients, one patient did not have the appropriate washout period.

FINANCIAL DISCLOSURES

- The authors of this presentation have no disclosures concerning possible financial or personal relationships with commercial entities that may have direct or indirect interest in the subject matter of this presentation.
- References available upon request.