Clinical outcomes treating gram-negative bacteremia with oral beta-lactams vs. TMP-SMX or fluoroquinolone step-down therapy

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INTRODUCTION

Recently, one of the most heavily-debated topics in infectious diseases has revolved around the treatment of gram-negative bacteremia. Several studies have shown that shorter courses of therapy (7-10 days) and early step-down therapy with oral agents have equivalent outcomes compared to longer courses with intravenous therapy. The question remains, however, as to which oral agents may be most appropriate for early oral conversion therapy. Based on local susceptibility patterns and safety concerns with fluoroquinolones, it has been common practice at Cone Health to de-escalate patients to oral beta-lactams despite the paucity of data.

This study retrospectively evaluated the 30-day clinical outcomes of patients treated with oral beta-lactams as step-down therapy vs. fluoroquinolones and trimethoprim-sulfamethoxazole (TMP-SMX).

OBJECTIVES

Primary outcomes:

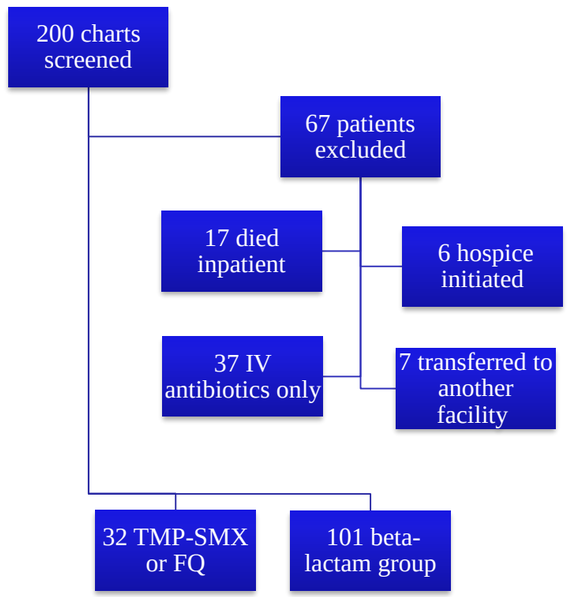
- 30-day readmission
- 30-day mortality

Secondary outcomes:

- Total length of antibiotic therapy
- Length of IV therapy

METHODS

IRB approved retrospective review conducted in a 5 hospital health system in North Carolina from March 1, 2019- September 30, 2019



DISCLOSURES: Authors of this presentation have nothing to disclose.

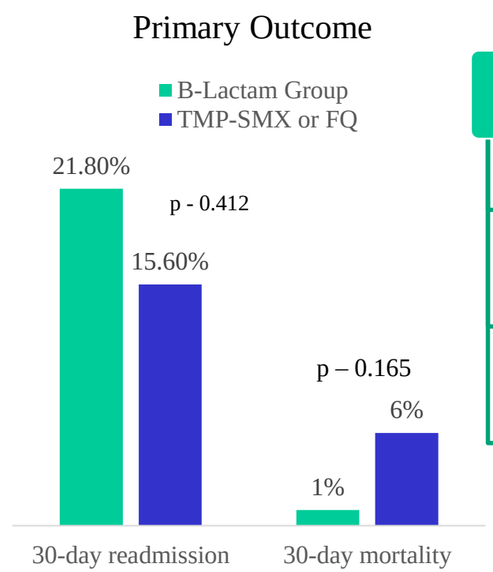
RESULTS

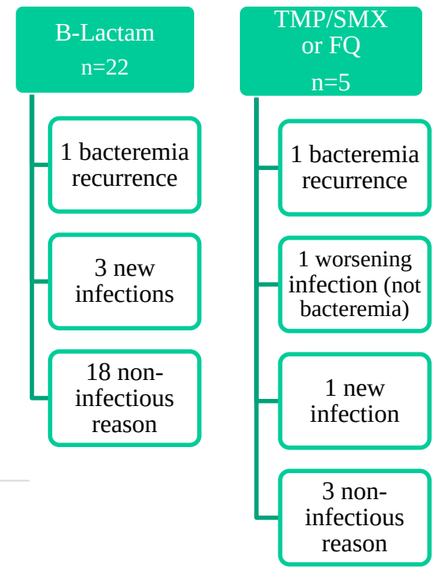
Baseline Characteristics

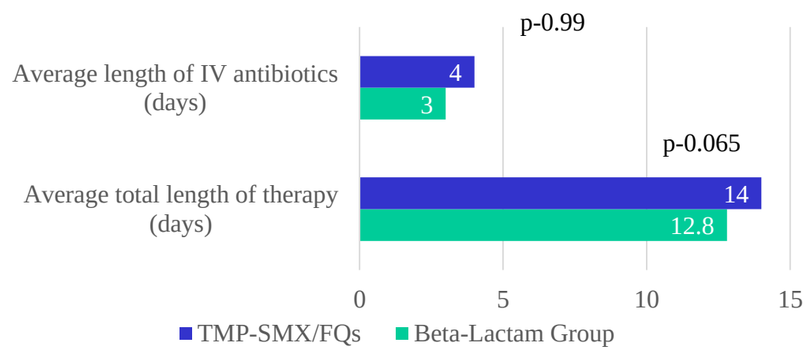
Characteristic	B-Lactams (n=101)	TMP/SMX or FQ (n=32)
Mean Age	72	66
Male	46 (45%)	17 (53 %)
Diabetes	27 (26.7%)	14 (43.7%)
Active Cancer Treatment	3 (2.9%)	4 (12.5%)
Immunosuppressive Therapy	4 (3.9%)	1 (3%)
H/O C. diff	3 (2.9%)	0
Cardiac Devices	6 (5.9%)	1 (3%)
Other Hardware	7 (6.9%)	1 (3%)
Surgery within 30 days	3 (2.9%)	1 (3%)
Organism		
E. Coli	70 (69.3%)	15 (46.8%)
Klebsiella pneumoniae	18 (17.8%)	7 (21.9%)
Proteus species	9 (8.9%)	0
Enterobacteriaceae species	9 (8.9%)	1 (3.1%)
Serratia marcescens	2 (1.9%)	0
Citrobacter species	2 (1.9%)	0
Enterobacter species	0	2 (6.3%)
Salmonella species	0	3 (9.4%)
Pseudomonas aeruginosa	0	5 (15.6%)

Source of bacteremia	B-Lactam (n=101)	TMP/SMX or FQ (n=32)
Genitourinary	78 (77.2%)	17 (53.12%)
Gastrointestinal	10 (9.9%)	5 (15.7%)
Skin/wound	1 (0.9%)	1 (3.1 %)
Line associated	0	2 (6.3%)
Unknown	11 (10.9%)	5 (15.6%)
Other	1 (0.9%)	2 (6.3%)

Outcomes







CONCLUSION

At our institution, a vast majority of patients receive oral beta-lactams as step-down therapy for gram-negative bacteremia. We have not noticed any significant differences in 30-day bacteremia recurrence or mortality between those who receive oral beta-lactams or fluoroquinolone/trimethoprim-sulfamethoxazole. There were no notable differences in total length of therapy or length of IV therapy.