

BACKGROUND

- Asymptomatic bacteriuria (ASB) is defined by bacteria in the urine in the absence of signs or symptoms attributable to urinary tract infection (UTI)
- IDSA guidelines recommend treating ASB only in pregnancy and patients who will undergo endoscopic urologic procedures associated with mucosal trauma
- ASB treatment leads to inappropriate use of antimicrobial agents and is a target for antimicrobial stewardship interventions
- Retrospective cohort studies have found incidences of ASB treatment ranging from 58.8% to 75.5%
- Educational interventions and changes in culture result can have a major impact on rates of ASB treatment
- The purpose of this study is to characterize the rate of unnecessary treatment of ASB at SSM Health St. Mary's Hospital and identify specific patient risk factors that are more likely to result in unnecessary treatment of ASB.

METHODS

- Single-center, retrospective chart review between January and June 2019

Inclusion Criteria

- Adult patients
- Positive urine culture

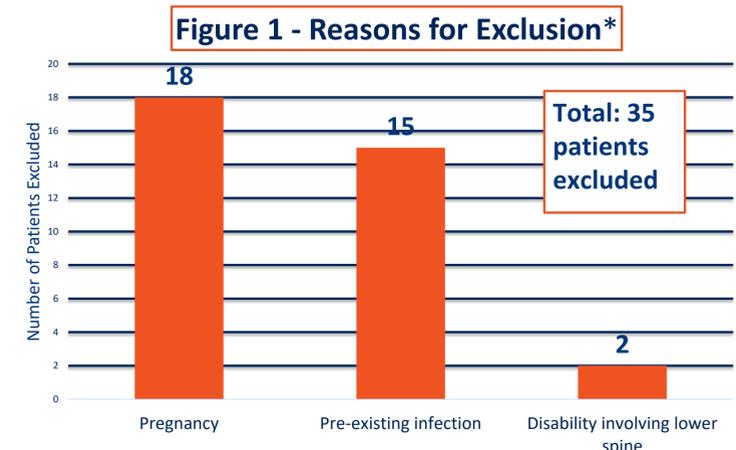
Exclusion Criteria

- Pregnancy
- Pre-existing infection at time of positive urine culture
- Disability involving lower spine
- Incarcerated patients
- Planned genitourinary surgery with high risk of bleeding

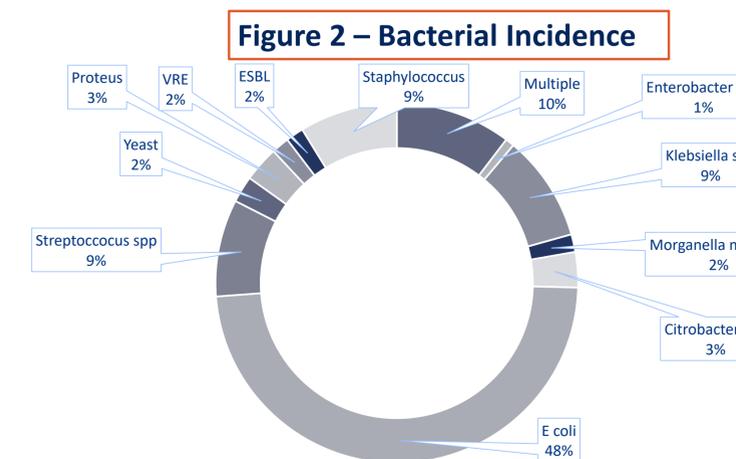
- Sample size:** 128
- Primary outcome:** proportion of patients with positive urine cultures who presented as asymptomatic bacteriuria
 - Hypothesis:** rate of treatment = 50%
- Secondary outcomes:** identification of infectious agent, length of hospital stay, bug-drug mismatch rate, results of urinalysis, length of antibiotics

RESULTS

163 patients screened → 35 excluded → 128 patients analyzed



*No incarcerated patients or patients undergoing planned genitourinary surgery with high risk of bleeding were identified



198 total days of unnecessary antibiotics over 6 month period among 128 patients

Table 1 - Outcomes

Outcome	%	P-value
Proportion of patients treated inappropriately for ASB	36% (37/128)	---
No documented justification for initiating antimicrobial therapy	32.8% (42/128)	---
Pharmacist recommendation	0.78% (1/128)	---
Rate of bug-drug mismatch	5.47% (7/128)	---
Average length of stay (days)	4.22 (ASB) / 4.15 (non-ASB)	0.47
Average length of antibiotics (days)	5.35 (ASB) / 4.15 (non-ASB)	0.04

Table 2 - Significant Urinalysis Results*

Category	% Treated	P-value
WBCs	0-5	3.45
	6-10	2.76
	11-20	2.76
	21-50	6.90
	51-100	4.83
	>100	4.83
Bacteria	3+	6.21
	2+	2.76
	1+	4.83
	Trace	8.28
	None	3.45
		0.14
		0.472
		0.332
		0.115
		0.041
		0.487

*All other components of the UA were not statistically significant and therefore are not reported here

LIMITATIONS

- Retrospective nature limits conclusions able to be drawn
- Data collection limited to EHR
- Single-center limits generalizability
- Determination of ASB was largely reliant on a single researcher's evaluation of the patient through EHR documentation
- Few contributing factors identified for higher risk of ASB treatment
- Not adequately powered to identify differences between UA results and how they apply to rates of treatment

CONCLUSIONS

- Rates of ASB treatment at SSM Health St Mary's are lower than expected compared to rates obtained from literature
- Very few providers identified or documented a clinical justification for starting antimicrobial therapy
- Future study analyzing and correlating specific components of urinalysis to rate of ASB treatment may be useful, especially to investigate factors of WBC presence and absence of bacteria
- Further education aimed towards providers to reduce treatment of ASB would be warranted

REFERENCES

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DISCLOSURES

Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.