

Demographic and clinical information including presence of comorbidities, source of infection, number of repeat blood cultures collected, repeat blood culture positivity, planned duration of antibiotic therapy and recurrent bacteremia with the same organism within 30 days of discharge were collected by manual chart review.

Results. Fifty-three bacteremic UTIs were included during the study period. Ninety-four percent of patients were male with a median age of 77. Repeat blood cultures were drawn in 77% (41/53) of cases; however, only 7% (3/41) of repeats were positive, all with *Enterococcus faecalis*. Median duration of therapy was 14 days (IQR 14, 15), with a longer mean duration in patients with repeat blood cultures as compared with not (15 vs. 12 days, $P = 0.03$). Two patients had recurrent bacteremia with the same organism within 30 days; both with negative repeat blood cultures at the time of initial bacteremia and undetected metastatic complications.

Conclusion. Patients with bacteremic UTIs are at low risk of persistent bacteremia. Repeat blood cultures are of low utility, specifically with Gram-negative organisms, and may lead to prolonged durations of therapy. The impact of reducing repeat blood culture collection on outcomes, length of stay, and antibiotic durations warrants further evaluation.

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1128. Urinary Tract Infections After Combat-related Genitourinary Trauma

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Background. Genitourinary (GU) trauma accounted for 5% of combat-related injuries sustained by U.S. military personnel during Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF). Incidence and risk factors for long-term infectious complications, including urinary tract infections (UTI), have not been described in this unique population.

Methods. Demographics, injury patterns, initial and long-term medical care, urologic complications, and infectious complications involving the urinary tract for enrollees within the Trauma Infectious Disease Outcomes Study (TIDOS) were collected from Department of Defense (DOD) and Department of Veterans Affairs (VA) data sources. Statistical analyses were conducted to identify candidate predictors for UTIs after GU trauma.

Results. Among the 530 TIDOS enrollees who entered VA care, 90 (17%) sustained GU trauma. Blast injury (93.3%), injury during dismounted operations (56.7%), and lower extremity amputation (56.7%) were common characteristics among those with GU trauma. Higher median injury severity scores (ISS) were associated with GU trauma vs. non-GU trauma [33 (IQR: 21–38) vs. 17 (IQR: 9–26), $P < 0.001$]. Of those with GU trauma, 21 (23.3%) had ≥ 1 UTI (range 1–9) during DOD-VA care. A total of 42 unique UTI episodes were identified, with 11 (26.2%) occurring during initial DOD care, 19 (45.2%) during subsequent DOD care after initial hospital discharge, and 12 (28.6%) during VA care. The median time to first UTI episode was 49 days (IQR: 40.5–171.8). Having an UTI was associated with bladder ($P = 0.002$) and posterior urethral injury ($P = 0.002$), pelvic fracture ($P < 0.001$), urinary catheterization ($P = 0.001$), and urologic complications, including urinary retention or incontinence ($P = 0.001$) and stricture ($P = 0.007$). *Pseudomonas aeruginosa* (61.5%) was commonly isolated in urine cultures obtained within 6 months of the initial injury.

Conclusion. UTIs are a common infectious complication after combat genitourinary trauma, particularly in the setting of severe injury and urologic sequelae. Episodes of UTIs typically occur early on after the initial injury while in DOD care; however, recurrent infections may continue well into long-term VA care.

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1129. Case-control Study Evaluating Risk Factors and Treatment Outcomes for Community-Acquired Urinary Tract Infections (UTI) Caused by Extended-Spectrum B-Lactamase (ESBL)-Producing Pathogens

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Background. Community-acquired (CA) infections caused by ESBL-producing pathogens are becoming more common. Risk factors (RFs) for CA ESBLs have not been as extensively studied and remain relatively undefined. Recognition of patient-specific

RFs for CA ESBL infections such as UTI can potentially improve patient outcomes through selection of more appropriate initial drug therapy. The objectives of this study were to identify RFs and associated treatment outcomes for CA UTI involving ESBLs.

Methods. Adult patients with CA ESBL UTI (cystitis) seen in the Emergency Department (ED) from 2009 through 2013 were retrospectively matched 1:1 with a control group of non-ESBL CA UTI based on age within 5 years, gender, and organism. The primary outcome was identification of RFs predictive of CA ESBL UTI. Secondary outcomes included comparison of ESBLs and controls in risk of inappropriate initial antibiotic therapy and need for additional follow-up to healthcare facilities (clinics, ED) within 14 days of initial treatment.

Results. Eighty-five patients were matched into each group. Compared with controls, CA ESBL UTI was associated with nursing home stay ($P = 0.04$), congestive heart failure (CHF, $P = 0.04$), hospitalization within the previous year ($P = 0.04$), and receipt of either any antibiotics or specifically, fluoroquinolones within the previous 3 months ($P < 0.01$ for both) by univariate analysis. Multivariate logistic regression identified hospitalization within 1 year (OR 3.8, 95% CI 1.7–8.7; $P < 0.001$), antibiotics within 3 months (OR 3.5, 95% CI 1.7–7.6; $P < 0.001$), and CHF (OR 4.9, 95% CI 1.3–24.7; $P = 0.02$) as significant RFs for ESBL CA UTI. Patients with CA ESBL infections were more likely to receive inappropriate initial antibiotics (OR 8.9, 95% CI 4.2–18.6; $P < 0.0001$) and, if treated inappropriately, to require repeat visits to healthcare facilities within 14 days (OR 11.4, 95% CI 2.6–50.8).

Conclusion. Previous hospitalization, previous antibiotics, and CHF were RFs associated with CA ESBL UTI. These patients were significantly more likely to be treated inappropriately and to require additional healthcare follow-up. Recognition of RFs for CA ESBL UTI may facilitate appropriate ED-based management and avoid additional resource utilization.

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1130. Risk Factors for Community Acquired Extended-Spectrum B-lactamase (ESBL) Producing Enterobacteriaceae Urinary Tract Infections (UTIs)

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Background. Community-acquired extended-spectrum β -lactamase (ESBL) producing *Enterobacteriaceae* infections pose unique treatment challenges. Identifying risk factors associated with ESBL *Enterobacteriaceae* infections outside of prior colonization is important for empiric management in an era of antimicrobial stewardship.

Methods. We randomly selected 251 adult inpatients admitted to an Intermountain healthcare facility in Utah with an ESBL *Enterobacteriaceae* urinary tract infection (UTI) between January 1, 2001 and January 1, 2016. 1:1 matched controls had UTI at admission with *Enterobacteriaceae* but did not produce ESBL. UTI at admission was defined as urine culture positive for $> 100,000$ colony forming units per milliliter (cfu/mL) of *Enterobacteriaceae* and positive symptoms within 7 days prior or 2 days after admission. Repeated UTI was defined as more than 3 episodes of UTI within 12 months preceding index hospitalization. Cases with prior history of ESBL *Enterobacteriaceae* UTIs or another hospitalization three months preceding the index admission were excluded. Univariate and multiple logistic regression techniques were used to identify the risk factors associated with first episode of ESBL *Enterobacteriaceae* UTI at the time of hospitalization.

Results. In univariate analysis, history of repeated UTIs, neurogenic bladder, presence of a urinary catheter at time of admission, and prior exposure to outpatient antibiotics within past one month were found to be significantly associated with ESBL *Enterobacteriaceae* UTIs. When controlling for age differences, severity of illness and co-morbid conditions, history of repeated UTIs (adjusted odds ratio (AOR) 6.76, 95% confidence interval (CI) 3.60–13.41), presence of a urinary catheter at admission (AOR 2.75, 95% CI 1.25 – 6.24) and prior antibiotic exposure (AOR: 8.50, 95% CI: 3.09 – 30.13) remained significantly associated with development of new ESBL *Enterobacteriaceae* UTIs.

Conclusion. Patients in the community with urinary catheters, history of recurrent UTIs, or recent antimicrobial use can develop de novo ESBL *Enterobacteriaceae* UTIs.

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1131. Why and Where We Choose to Treat Children with Intravenous Antibiotic for Febrile Urinary Tract Infection/Pyeloephritis

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