POSTER ABSTRACTS

138. Do Criteria-Based Urine Cultures Contribute to Unnecessary Antibiotic Use at a Community Teaching Hospital?

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Background. Asymptomatic (Asx) bacteriuria is commonly treated with antibiotics despite evidence demonstrating no benefit. Reliance on urinalysis (UA) or urine culture (UCx) without consideration of patient (pt) symptoms may contribute to overtreatment. A criteria-based urine culture (CB-UC) process relies on UA triggers to determine need for UCx. The purpose of this study was to assess the impact of CB-UC on inpatient antibiotic prescribing and development of antimicrobial resistance at a community teaching hospital.

Methods. A retrospective cohort study was conducted of adults admitted between January 1 and September 30, 2013 who had a UA performed meeting criteria for UCx. Pts were excluded if discharged before results of UCx were available, neutropenic, or history of renal transplant within a year. UCx was prompted by ≥ 1+ bacteria, yeast, ≥ 3 white blood cells (WBC) per high power field (hpf) for men or ≥ 10 WBC/hpf for women. Data collected included pt characteristics, UA and microbiologic data, antibiotic regimens, and clinical outcomes. Pts were compared based on presence of urinary tract infection (UTI) symptoms and further stratified based on receipt of UTI treatment (tx).

Results. 300 pts were included, 241 in the Asx group and 59 in the symptomatic group. Demographics were similar between groups. Approximately 58% of UCx were negative. *E.coli*was the most frequently isolated organism (43%). The most common empiric treatments were fluoroquinolones (48%) and cephalosporins (44%). In the symptomatic group 80% of pts received tx, while 20% of Asx pts received tx. No statistical difference in new antimicrobial resistance at 6 months was found between groups. A subgroup analysis of Asx pts found that those who received tx had more new antimicrobial resistance (11.3% vs 4.4% p = 0.044). Risk factors associated with tx in Asx pts included UA with bacteria present (OR 9.6, 5.0 – 143), ≥10 WBC (OR 2.5, 2.0 – 3.4), or a positive UCx (OR 2.6, 2.0 – 3.5).

Conclusion. Over half of CB-UCs were negative and approximately 20% of Asx pts received UTI tx; this was significantly associated with development of antimicrobial resistance. These results support the need for revision of the CB-UC process and antimicrobial stewardship interventions to reduce tx of Asx bacteriuria.

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