Assessing the Management of Urinary Tract Infections at a Large, Urban Teaching Hospital

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BACKGROUND

Urinary tract infections (UTIs) are among the most prevalent of infectious diseases. Economic impact associated with the management of UTIs is projected to exceed 1 billion dollars. UTIs account for approximately 100,000 hospitalizations per year.

METHODS

Study design:
- First phase (August – October 2013): retrospective chart review for all patients with a urinary tract infection (UTI) present at the time of a urinalysis (UA)
- Intervention phase (November – December 2013): education for hospital staff to promote awareness of appropriate UTI management strategies
- Post-intervention phase (January – March 2013): concurrent chart review with real-time feedback for physicians managing UTIs

Participants:
- Inclusion criteria: 18 years or older, UA ordered from August 1, 2013 – October 31, 2013 and January 1, 2014 – March 31, 2014
- Exclusion criteria: patients in the step down or intensive care units, initial UA ordered on a weekend day, UAs ordered for evaluation of non-infectious conditions
- Sample size: 200 patients

OUTCOMES

Outcome measures:
- Primary: Percentage of UTIs managed in compliance with GHS guidelines before and after pharmacist-driven educational interventions
- Secondary: Percentage of UTIs in compliance with GHS guideline-based empiric antibiotic selection
- Percentage of UTIs in compliance with GHS guideline-based duration of therapy
- Total cost savings associated with antibiotic use

RESULTS

Empic Antibiotic Selection in Compliance with GHS Guidelines

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<td>Community acquired UTI</td>
<td>Sign/symptoms = cystitis PLUS postvoid alginan and tenderness or lower urinary tract symptoms (UTI) isolation culture</td>
<td>Co-trimoxazol (Ciprofloxacin OR Ceftazidime) + Vancomycin OR Ceftazidime + Vancomycin</td>
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<td>Hospital-acquired UTI</td>
<td>Sign/symptoms = cystitis PLUS catheter-associated UTI (CA-UTI) or presence of &gt;100,000 E. coli in a single catheter urine specimen</td>
<td>Ciprofloxacin 500 mg QID OR Ceftazidime 2 g q12h OR Vancomycin 1 g if there is suspicion for Enterococcus UTIs</td>
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<td>Catheter-associated UTI</td>
<td>Sign/symptoms = new onset of pyuria, urgency, frequency, or suprapubic pain with a catheter in place</td>
<td>Cefepime 2 g q12h + Vancomycin 1 g if there is suspicion for Enterococcus UTIs</td>
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