Determination of Secondary Encounter Rates for Urinary Tract Infections in Patients Treated with Cephalexin

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**STUDY DESIGN**

The evidence gathered from this study aims to provide insight into the use of narrow-spectrum cephalexin for treatment of urinary tract infections. First-generation cephalosporins have become popular agents for treatment of urinary tract infections due to their narrow antimicrobial spectrum, limited adverse effect profile, and retained susceptibility.

However, documented increase in resistance rates, paired with a high propensity for adverse effects has led to preferential use of alternative agents.3,4

Fluoroquinolones have been the dominant agents for treatment of urinary tract infections.2,3

**BACKGROUND**

Urinary tract infections such as cystitis and pyelonephritis are among the most commonly encountered infections in both community and hospital settings.1

Antibiotic prescription with secondary encounter

Discharged with prescription for cephalexin

ICD-10 code (N39.0, N11.1) for urinary tract infection

Patient with primary care physician that resides within LVHN

Patients older than 18 years of age admitted to adult unit within Lehigh Valley Health Network (LVHN)

Patients with genitourinary abnormalities Defined as tumor of the urinary tract, ureteric stent, urolithiasis, renal cysts, neurogenic bladder, or a nephrostomy tube.6

**PURPOSE**

The purpose of this retrospective chart review is to evaluate the rate of return for patients who were admitted for a urinary tract infection and utilized a prescription for cephalexin upon discharge.

**STUDY DESIGN**

• Retrospective chart review
  • Inclusion Criteria
    • Patients older than 18 years of age admitted to adult unit within Lehigh Valley Health Network (LVHN)
    • Patient with primary care physician that resides within LVHN
    • ICD-10 code (N39.0, N11.1) for urinary tract infection
    • Discharged with prescription for cephalexin
    • Antibiotic prescription with secondary encounter
  • Exclusion Criteria
    • Patients with genitourinary abnormalities
      • Defined as tumor of the urinary tract, ureteric stent, urolithiasis, renal cysts, neurogenic bladder, or a nephrostomy tube.6
    • Urinary tract infection within previous 30-days of admission

**METHODS**

• December 1, 2015–June 30, 2016
  • Enrollment ending on May 30, 2016

• Data to be collected includes:
  • Demographics: Age, gender, pregnancy status, history of diabetes, bacterization status at time of discharge, pregnancy status upon admission
  • Clinical: Hospital length of stay, intensive care unit admission, intensive care unit length of stay, uropathogens identified from urine culture, susceptibility of uropathogens (levofloxacin/ciprofloxacin, cefazolin, trimethoprim/sulfamethoxazole), white blood cell count on admission, temperature on admission
  • Cephalexin regimen: dose, frequency and duration
  • Rate of return to a doctor’s office, urgent care center, LVHN emergency department, or LVHN hospital within 30 days will be calculated by dividing the total number of secondary encounters in the sample by the total sample size.
  • To identify independent predictors for a second encounter a logistic regression model will be utilized.

**REFERENCES:**


**DEFINITIONS:** Secondary encounters = presentation to urgent care, emergency room, hospital, or physician practice with an ICD-10 code for urinary tract infection and received a prescription for antibiotics (fluoroquinolone, cephalosporin or Bactrim) within 30 days of discharge. Additional encounters beyond the secondary encounter will not be counted.

**DISCLOSURE:**

- Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial/industries that may pose a direct or indirect conflict of interest:
  - Aubrey Goertel – Nothing to disclose
  - Jarrod W. Kile – Nothing to disclose