

Comparison of oral cephalexin versus oral levofloxacin for treatment of uncomplicated *Enterobacteriales* bacteremia

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Background

- Patients who present with bloodstream infections (BSI) are often initiated on intravenous (IV) antibiotics. However extended courses of IV therapy are associated with line-related complications, secondary infections, and prolonged hospitalization.
- Recent studies suggest the use of oral antibiotics as step-down therapy is appropriate for patients with uncomplicated *Enterobacteriales* bacteremia. However there is still debate on the most appropriate class of drugs to use (fluoroquinolones vs beta-lactams).
- Patients at Kaweah Delta Health Care District (KDHCD) most frequently receive levofloxacin or cephalexin as step-down therapy for *Enterobacteriales* BSI. It is important to understand the clinical efficacy of oral step-down therapy in order to optimize patient care.

Methods

- Retrospective chart review was conducted for adult patients admitted to KDHCD with a positive blood culture for aerobic gram-negative bacillus, received ≤ 5 days of IV antibiotics, and received either oral cephalexin or levofloxacin as definitive treatment.
- The primary outcome was a composite of all-cause mortality or readmission due to recurrent bacteremia within 60 days from the collection of index cultures.

Patients who received **oral levofloxacin or cephalexin** as step-down therapy for **gram-negative bacteremia** did not have a significant difference in **mortality or recurrent bacteremia**.



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Results

- A total of 82 patients were included, 46 received cephalexin and 36 received levofloxacin.
- Urinary tract was the most common source of bacteremia and *Escherichia coli* was the most frequent pathogen.
- Composite primary outcome occurred in 2 patients (4.3%) in the cephalexin group (1 each of mortality and readmission) and 0 patients in the levofloxacin group ($p = 0.50$).

Discussion

- The results of this study suggest that treating patients who have uncomplicated *Enterobacteriales* bacteremia with cephalexin results in similar outcomes when compared to oral levofloxacin.
- These findings may be most applicable to patients with *E. coli* bacteremia stemming from a urinary source.
- Total antibiotic duration was approximately 2 weeks in each group despite evidence supporting shorter durations and may have impacted outcomes.

Limitations

- Retrospective study, short evaluation period
- Small sample size, single-center
- Adverse patient outcomes rely on patient returning to same healthcare system

Future Directions

- Larger studies are need to confirm efficacy and safety as well as optimal dosing of oral cephalexin step-down therapy.

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