Ann Pharmacother. 2011 Sep;45(9):1094-102. Epub 2011 Aug 23.

Single-agent, broad-spectrum fluoroquinolones for the outpatient treatment of low-risk febrile neutropenia.

Cooper MR, Durand CR, Beaulac MT, Steinberg M.

Source

Massachusetts College of Pharmacy and Health Sciences, Worcester/Manchester, MA.

Abstract

OBJECTIVE:

To evaluate the use of oral, single-agent, broad-spectrum fluoroquinolones in the treatment of low-risk febrile neutropenia (FN).

DATA SOURCES:

MEDLINE via Ovid (1948 to May, week 3, 2011) and EMBASE (1980 to 2011, week 21) were searched using the terms febrile neutropenia, fluoroquinolone, quinolone derivative, levofloxacin, moxifloxacin, and neoplasm. References of selected articles, review articles, and treatment guidelines were reviewed.

STUDY SELECTION AND DATA EXTRACTION:

Trials evaluating the efficacy of oral, single-agent, broad-spectrum fluoroquinolones in the treatment of chemotherapy-induced FN were included if the majority of patients in the study had low-risk FN. Trials involving pediatric patients, non-Food and Drug Administration-approved fluoroquinolones, or monotherapy with ciprofloxacin or ofloxacin were excluded. Data extracted included study design, patient demographics, antiinfective regimens, and treatment outcomes.

DATA SYNTHESIS:

Four clinical trials were included. One trial compared levofloxacin with piperacillin/tazobactam with a success rate (afebrile at 72 hours) of 76.5% in the levofloxacin group compared with 88.3% in the piperacillin/tazobactam group. This trial was not limited to low-risk patients. The remaining 3 trials investigated moxifloxacin monotherapy in low-risk patients. Two of these were noncontrolled trials with success rates (afebrile at 5 days) of 91% and 95%. The final trial randomized patients to moxifloxacin or ceftriaxone and had success rates (hospital discharge at 48 hours) of 79.2% and 73.9%, respectively. In all 4 trials, treatment of FN with levofloxacin or moxifloxacin was deemed to be safe and effective. Although all studies had positive results, they were limited by small sample sizes and the absence of universal use of control comparisons.

CONCLUSIONS:

Use of oral, single-agent, broad-spectrum fluoroquinolones for outpatient treatment of FN in low-risk patients has shown promising results. At this time, this type of therapy should be limited to low-risk patients. Future clinical trials should include larger sample sizes and a comparison with existing first-line oral therapy-oral ciprofloxacin plus amoxicillin/clavulanate.

PMID:
21862714
[PubMed - in process]