Ceftibuten

Antibiotic Class:
Third-Generation Cephalosporin

Antimicrobial Spectrum:
Staphylococcus aureus (methicillin susceptible), Coagulase negative Staphylococci, *Streptococcus pneumoniae* (penicillin susceptible), *Streptococcus spp., Haemophilus influenzae, Moraxella catarrhalis, Neisseria meningitides, Neisseria gonorrhoeae, Enterobacteriaceae, E. coli*

Mechanism of Action:
Cephalosporins exert bactericidal activity by interfering with bacterial cell wall synthesis and inhibiting cross-linking of the peptidoglycan. The cephalosporins are also thought to play a role in the activation of bacterical cell autolysins which may contribute to bacterial cell lysis.

Pharmacodynamics:
Cephalosporins exhibit time-dependent killing (T > MIC)

Pharmacokinetics:
Dose of 400mg: Cmax: 17 mcg/L; Tmax: 2.0 hour; Half-life: 2.3 hours; Table 10

Adverse Effects:
Hypersensitivity: Maculopapular rash, Urticaria, Pruritis, Anaphylaxis/angioedema, eosinophilia
Hematologic: Hypoprothrombinemia, Neutropenia, Leukopenia, Thrombocytopenia
GI: Diarrhea, *C. difficile* disease
Renal: Interstitial nephritis
Table 14

Dosage:
PO: 400mg tablets
Powder for Suspension: 90mg/5mL, 180mg/5mL

Dosing in adults:
Tonsillitis: 400 mg PO q24h x 10 days
Otitis media: 400 mg PO q24h x 10 days
Pharyngitis: 400 mg PO q24h x 10 days
Acute exacerbation of chronic bronchitis: 400mg PO q24h x 10 days

Dosing in pediatrics:
9mg/kg/day q24h
Table 12

Disease state based dosing:
Renal failure: CrCl > 50 mL/min: Standard dosing
CrCl 30-49 mL/min: 200mg q24h OR 4.5mg/kg q24h

CrCl 5-29 mL/min: 100mg q24h OR 2.25mg/kg q24h
Hepatic failure: No dosing changes recommended at this time.

Contraindications/Warnings/Precautions:
Precautions: hypersensitivity to penicillins, history of gastrointestinal disease, particularly colitis, renal impairment

Drug Interactions:
Cimetidine: an increased risk of ceftibuten adverse effects
Famotidine: an increased risk of ceftibuten adverse effects
Live Typhoid Vaccine: decreased immunological response to the typhoid vaccine
Nizatidine: an increased risk of ceftibuten adverse effects
Ranitidine: an increased risk of ceftibuten adverse effects

Pregnancy:
Category B: No evidence of risk in humans but studies inadequate.

Monitoring Requirements:
Therapeutic: Culture and sensitivities, serum levels, signs and symptoms of infection, white blood cell count
Toxic: Urinalysis, BUN, SCr, AST and ALT, skin rash, Neutropenia and leukopenia, Prothrombin time in patients with renal or hepatic impairment or poor nutritional state, as well as patients receiving a protracted course of antimicrobial therapy, and patients previously stabilized on anticoagulant therapy.

Brand names/Manufacturer: Cedax®/Schering