Cefamandole

Antibiotic Class:
Second-Generation Cephalosporin (true 2nd 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, 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 1g: Cmax: 139 mcg/L; Protein binding: 70%; Half-life: 0.8 hours; Table 10

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

Dosage:
IV/IM: Powder for reconstitution: 1g, 2g, 10g

Dosing in adults:
Bone/joint infection: 500mg-1g IV/IM q4-8h
Skin and/or subcutaneous tissue infection: 500mg IV/IM q6h
Peritonitis: 500mg-1g IV/IM q4-8h
Uncomplicated UTI: 500mg IV/IM q8h

Dosing in pediatrics:
50-150mg/kg/day IV q4-8h
Table 12

Disease state based dosing:
Renal failure: CrCl > 80mL/min Standard dose
CrCl 50-80mL/min 1.5g q4h OR 2g q6h
CrCl 25-50mL/min 1.5g q6h OR 2g q8h

CrCl 10-25mL/min 1g q6h OR 1.25g q8h
CrCl 2-10mL/min 1g q12h
Table 13

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:
Heparin - increased risk of bleeding
Live Typhoid Vaccine - decreased immunological response to the typhoid vaccine
Warfarin – increased risk of bleeding

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: Mandol®/Eli Lilly