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Ceftaroline (sēفار-oh-leen)
Teflaro

Classification
Therapeutic: anti-infectives
Pharmacologic: cephalosporin derivatives

Pregnancy Category B

Indications
Treatment of acute bacterial skin/skin structure infections and community-acquired pneumonia.

Action
Binds to bacterial cell wall membrane, causing cell death. Therapeutic Effects: Bactericidal action against susceptible bacteria.

Spectrum:
- Treatment of skin/skin structure infections—Active against Staphylococcus aureus (including methicillin-susceptible and -resistant strains), Streptococcus pyogenes, Streptococcus agalactiae, Escherichia coli, Klebsiella pneumoniae, and Klebsiella oxytoca.
- Treatment of community-acquired pneumonia—Streptococcus pneumoniae (including pneumonia with bacteremia), Staphylococcus aureus (methicillin-susceptible strains only), Haemophilus influenzae, Klebsiella pneumoniae, Klebsiella oxytoca, and Escherichia coli.

Pharmacokinetics
Absorption: IV administration results in complete bioavailability of parent drug.
Distribution: Unknown.
Metabolism and Excretion: Ceftaroline fosamil is rapidly converted by plasma phosphatases to ceftaroline, the active metabolite; 88% excreted in urine, 6% in feces.
Half-life: 2 hr (after multiple doses)

TIME/ACTION PROFILE (blood levels)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td>rapid</td>
<td>end of infusion</td>
<td>12 hr</td>
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Contraindications/Precautions
Contraindicated in: Known serious hypersensitivity to cephalosporins.

Use Cautiously in:
- Known hypersensitivity to other beta-lactams;
- Renal impairment (dosage adjustment required for CCr < 50 mL/min);
- Geri: Dose adjustment may be necessary for age-related decrease in renal function;
- OB: Use only if potential benefit outweighs potential risks to fetus;
- Lactation: Use cautiously if breast feeding;
- Pedi: Safety and effectiveness not established.

Adverse Reactions/Side Effects

Interactions
Drug-Drug: None noted.

Route/Dosage

<table>
<thead>
<tr>
<th>IV (Adults 18 yr)</th>
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<td>Skin/skin structure infections—600 mg every 12 hr for 5–14 days; Community-acquired pneumonia—600 mg every 12 hr for 5–7 days.</td>
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Renal Impairment

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<th>IV (Adults 18 yr)</th>
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<tr>
<td>CCr 30 to 50 mL/min—400 mg every 12 hr; CCr 15 to 30 mL/min—300 mg every 12 hr; CCr 15 mL/min or less—200 mg every 12 hr.</td>
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NURSING IMPLICATIONS

Assessment
- Assess for infection (vital signs; appearance of wound, sputum, urine, and stool; WBC) at beginning of and throughout therapy.
- Before initiating therapy, obtain a history to determine previous use of and reactions to penicillins, cephalosporins or carbapenems. Persons with a negative history of sensitivity may still have an allergic response.
- Obtain specimens for culture and sensitivity before initiating therapy. First dose may be given before receiving results.
- Observe patient for signs and symptoms of anaphylaxis (rash, pruritus, laryngeal edema, wheezing). Discontinue the drug and notify health care professional immediately if these symptoms occur. Keep epinephrine, an antihistamine, and resuscitation equipment close by in the event of an anaphylactic reaction.

Nursing Considerations
- Discontinued.
Monitor bowel function. Diarrhea, abdominal cramping, fever, and bloody stools should be reported to health care professional promptly as a sign of pseudomembranous colitis. May begin up to several mo following cessation of therapy.

- **Lab Test Considerations:** May cause serum conversion from a negative to a positive direct Coombs’ test. If anemia develops during or after therapy, perform a direct Coombs’ test. If drug-induced hemolytic anemia is suspected, discontinue coadministration and provide supportive care.

**Potential Nursing Diagnoses**

Risk for infection (Indications) (Side Effects)

**Diarrhea** (Adverse Reactions)

**Implementation**

**IV Administration**

- **pH:** 4.8–6.5.
- **Intermittent Infusion:** Reconstitute with 20 mL of sterile water for injection, 0.9% NaCl, D5W, or D2W. Dilute further with 50–250 mL of same diluent unless reconstituted with Sterile Water for Injection, then use 0.9% NaCl, D5W, D2W or 0.45% NaCl, or LR. Mix gently to dissolve. Solution is clear to light or dark yellow; do not administer solutions that are discolored or contain particulate matter. Solution is stable for 6 hr at room temperature or 24 hr if refrigerated. Rate: infuse over 1 hr.
- **Y-Site Compatibility:** acetaminophen, ampicillin, amiodarone, amphotericin, aminophylline, ampicillin, azathioprine, calcium chloride, cefotaxime, ceftriaxone, cefuroxime, ciprofloxacin, cisatracurium, clindamycin, cyclophosphamide, docetaxel, doxorubicin, dexamethasone, digoxin, dopamine, doripenem, enalaprilat, esomeprazole, famotidine, fentanyl, fluconazole, furosemide, granisetron, haloperidol, heparin, hydrocortisone, hydroxyzine, insulin, insulin lispro, levofloxacin, lidocaine, lorazepam, mannitol, meperidine, methylprednisolone, metoclopramide, methotrexate, metronidazole, midazolam, milrinone, morphine, moxifloxacin, multivitamins, norepinephrine, ondansetron, pantoprazole, piperacillin, propofol, ranitidine, remifentanil, sodium bicarbonate, trimethoprim/sulfamethoxazole, vasopressin, voriconazole.
- **Y-Site Incompatibility:** amphotericin B colloidal, caspofungin, diazepam, filgrastim, labetalol, potassium phosphates, sodium phosphates.
- **Additive Incompatibility:** Do not mix with other drugs or solutions.

**Patient/Family Teaching**

- Explain the purpose of ceftaroline to patient. Emphasize the importance of completing therapy, even if feeling better.
- Instruct patient to notify health care professional if fever and diarrhea develop, especially if stool contains blood, gas, or mucus. Advise patient not to treat diarrhea without consulting health care professional.

**Evaluation/Desired Outcomes**

- Resolution of the signs and symptoms of infection. Length of time for complete resolution depends on the organism and site of infection.

Why was this drug prescribed for your patient?