gemifloxacin (gem-i-floks-a-sin)

[Uses]

Classification: Anti-infection
Pharmacologic: Fluoroquinolones
Pregnancy Category: C

[Indications]
Treatment of the following bacterial respiratory infections: Acute bacterial exacerbations of chronic bronchitis. Community-acquired pneumonia.

[Action]
Inhibits bacterial DNA synthesis by inhibiting DNA gyrase enzyme. Therapeutic Effects: Death of susceptible bacteria resulting in resolution of infection.

[Spectrum]

[Pharmacokinetics]
Absorption: 71% absorbed following oral administration.
Distribution: Widely distributed, penetrates lung tissue and fluids well. Metabolism and Excretion: Minimal metabolism; 61% excreted unchanged in feces, 36% excreted unchanged in urine. Half-life: 7 hr.

[Contraindications/Precautions]
Contraindicated in: Hypersensitivity (cross-sensitivity within class may exist); History of myasthenia gravis (may worsen symptoms including muscle weakness and breathing problems); QTc interval prolongation; Uncorrected hypokalemia or hypomagnesemia; Concurrent use of Class IA antiarrhythmics (disopyramide, quinidine, procainamide) or Class III antiarrhythmics (amiodarone, sotalol) (risk of QTc interval prolongation and torsade de pointes); OB, Lactation, Pedi: Safety not established. Use Cautiously in: Known or suspected CNS disorder; Renal impairment (dose if GFR < 60 mL/min); Concurrent use of erythromycin, antipsychotics, and tricyclic antidepressants (risk of QTc interval prolongation and torsade de pointes); Concurrent use of corticosteroids (risk of tendon rupture); Kidney, heart, or lung transplant patients (risk of tendinitis/tendon rupture); Older; risk of adverse reactions.

[Adverse Reactions/Side Effects]

[Interactions]
Drug-Drug: Concurrent use of amiodarone, disopyramide, erythromycin, procainamide, dofetilide, quinidine, some antipsychotics, or oral tri cyclic antidepressants may risk of torsade de pointes in susceptible individuals (avoid concurrent use). Administration with magnesium and aluminum-containing antacids, iron salts, bismuth subsalicylate, sucralfate, didanosine (chewable/buffered tablets or pediatric powder for oral solution), zinc salts, other metals absorption. Concurrent use of corticosteroids may risk of tendon rupture. May risk of nephrotoxicity from cyclosporine. Levels are by probenecid.

[Route/Dosage]
Acute bacterial exacerbation of chronic bronchitis (ABECB)
PO (Adults): 320 mg once daily for 5 days.

Community-acquired pneumonia (CAP)
PO (Adults): 320 mg once daily for 7 days.

Renal Impairment
PO (Adults): GFR < 60 mL/min: ABECB 160 mg once daily for 5 days; CAP: 160 mg once daily for 7 days.
NURSING IMPLICATIONS

Assessment
- Assess patient for infection: local signs, appearance of wound, sputum, urine, and stool; WBC; urinalysis; frequency and urgency of urination; cloudy or foul-smelling urine; sputum; appearance of wound, urine, stools
- Obtain specimens for culture and sensitivity before initiating therapy. First dose may be given before receiving results. To prevent development of resistant bacteria, therapy should only be used to treat infections that are proven or strongly suspected to be caused by susceptible bacteria.
- Monitor patient for signs and symptoms of anaphylaxis (rash, pruritus, laryngeal edema, wheezing). Discontinue drug and notify physician or other health care professional immediately if these problems occur. Keep epinephrine, an antihistamine, and resuscitation equipment close by in case of an anaphylactic reaction. Patients at greater risk for rash are those receiving gemifloxacin for >7 days, <18 yrs of age, females, and postmenopausal females receiving hormone replacement therapy.
- 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 weeks following cessation of therapy.
- Monitor prothrombin time closely in patients receiving gemifloxacin and warfarin. Other fluoroquinolones have been reported to enhance the anticoagulant effects of warfarin.

Lab Test Considerations: May cause q1 serum AST and ALT levels.

Potential Nursing Diagnoses
Risk for infection (influence of therapy)

Implementation
- PO: May be taken with a full glass of liquid, without regard to meals. Tablet should be swallowed whole, do not crush, break, or chew. Products or foods containing calcium, magnesium, aluminum, iron, or zinc should not be ingested for 4 hr before or 2 hr after administration. Gemifloxacin should be taken at least 2 hr before or after antacid.

Patient/Family Teaching
- Instruct patient to take medication as directed and to finish drug completely, even if feeling better. Take missed doses as soon as remembered, unless almost time for next dose. If not able to take, take next dose as soon as possible. Avoid double doses or take more than 1 dose/day. Advise patient that sharing of the medication may be dangerous. Caution patients that gemifloxacin should only be used to treat bacterial infections; it is not effective against viral infections, such as the common cold.
- Encourage patient to maintain a fluid intake of at least 1500–2000 mL/day to prevent crystalluria.
- Advise patient to notify health care professional of any personal or family history of QTc prolongation or paroxysmal atrial fibrillation, or recent use or exposure to certain medications that prolong the QTc interval.
- Advise patient that antacids or medications containing calcium, magnesium, aluminum, iron, or zinc will decrease absorption and should not be taken within 4 hr before or 2 hr after gemifloxacin.
- Advise patient to use sunscreen and protective clothing to prevent photosensitivity reactions during and for 5 days after therapy. Notify health care professional if a sunburn-like reaction or skin eruption occurs.
- Advise patient to report signs of superficial or systemic infection during or after therapy. Notify health care professional of any signs of anaphylaxis or pseudomembranous colitis.
- Advise patient to notify health care professional if fever and diarrhea develop, especially if stool contains blood, pus, or mucus. Caution patient not to treat diarrhea without consulting health care professional.
- Advise patient to avoid exposure to sunlight or ultraviolet light (sunbathing, tanning booths, sunlamp). Wear sunscreen and protective clothing while on drug therapy and for 5 days after the last dose. Notify health care professional if rash occurs.
- Advise patient to notify health care professional if new or worse pain or tenderness of the joints or muscle occurs, especially on exertion. Caution patient to use sunscreen and protective clothing to prevent photosensitivity reactions. Notify health care professional if a skin rash occurs.
- Advise patient to notify health care professional if vision changes, particularly if accompanied by头痛, dizziness, or nausea. Notify health care professional if blurring or double vision occurs.
- Advise patient to notify health care professional if unusual bleeding occurs mark or coughing, or bruising or prolonged bleeding from a cut, nosebleed, or bleeding gums.
- Advise patient to notify health care professional if signs of superinfection (furry overgrowth on tongue, throat, or mouth, or vaginal itching or discharge; loose or foul-smelling stools).
- Advise patient to notify health care professional if frank blood is noted in stool.
- Advise patient to notify health care professional if signs and symptoms of peripheral neuropathy (pain, burning, tingling, numbness, weakness, other alterations in sensations of light touch, pain, temperature, position sense, and vibratory sensation). May require discontinuation of therapy; may be irreversible.
- Advise patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and consult with health care professional before taking other medications.
- Advise patient not to use alcohol during therapy.
CONTINUED

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- Instruct patient to notify health care professional immediately if rash, jaundice, signs of hypersensitivity, or tendon (shoulder, hand, Achilles, and other) pain, swelling, or inflammation occur. If tendon symptoms occur, avoid exercise and use of the affected area. Increased risk in ≥65 yrs old, kidney and lung transplant recipients, and patients taking corticosteroids concurrently. Therapy should be discontinued.

Evaluation/Desired Outcomes

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

Why was this drug prescribed for your patient?