telithromycin (te-lith-roh-my-e-sin)

**Classification**
Therapeutic: anti-infective
Pharmacologic: ketolides

**Pregnancy Category C**

**Indications**
Community-acquired pneumonia.

**Action**
Blocks bacterial protein synthesis at the level of the 50S ribosomal subunit.

**Therapeutic Effects:**
Resolution of infection.

**Spectrum:**
Active against the following organisms:
- Staphylococcus aureus (methicillin and erythromycin susceptible strains only),
- Streptococcus pneumoniae (including multidrug-resistant strains),
- Haemophilus influenzae,
- Moraxella catarrhalis,
- Chlamydophila pneumoniae, and
- Mycoplasma pneumoniae.

**Pharmacokinetics**

**Absorption:**
57% absorbed following oral administration; unaffected by food.

**Distribution:**
Concentrates in bronchial mucosa, epithelial lining fluid and alveolar macrophages.

**Metabolism and Excretion:**
70% metabolized by the liver (50% by CYP3A4), 13% excreted unchanged in urine, 7% excreted unchanged via biliary/intestinal elimination.

**Half-life:**
10 hr.

**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>PO</td>
<td>rapid</td>
<td>1 hr</td>
<td>24 hr</td>
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</table>

**Contraindications/Precautions**

**Contraindicated in:**
- Hypersensitivity to macrolides (erythromycin, azithromycin, clarithromycin), concurrent use of phenytoin, ergot alkaloids, sumatriptan, levonorgestrel, or rifampin; Congenital QTc prolongation, uncorrected hypokalemia or hypomagnesemia; CYP3A4 inhibitors, cyclosporine, and hyperproteinnemia; breastfeeding; concurrent use of Class IA (quinidine, procainamide) or Class III antiarrhythmics (dofetilide); Concurrent use of colchicine in patients with renal or hepatic impairment; Myasthenia gravis; Lactation: Excreted in breast milk; consider alternative to breast feeding.

**Use Cautiously in:**
- CCr 30 mL/min (dosage not established); Concurrent use of midazolam and other benzodiazepines; OB: Use only if benefits outweigh risks to fetus; Pedi: Safety not established.

**Adverse Reactions/Side Effects**

**CNS:**
- confusion, hallucinations, loss of consciousness.

**EENT:**
- visual disturbances.

**CV:**
- arrhythmias, QTc interval prolongation.

**GI:**
- PSEUDOMEMBRANOUS COLITIS, diarrhea, hepatitis, HEPATOXICITY, nausea.

**Neuro:**
- exacerbation of myasthenia gravis.

**Interactions**

**Drug-Drug:**
- Blood levels are increased by ketoconazole and itraconazole; levels and risk of toxicity from simvastatin, lovastatin, and atorvastatin; avoid concurrent use.
- Levels and risk of toxicity with simvastatin, lovastatin, and atorvastatin; avoid concurrent use in patients with renal or hepatic impairment; dose of colchicine if patients have normal renal and hepatic function.
- Levels and risk of excessive sedation with midazolam; careful titration is required. Similar effects may occur with triazolam.
- Levels and risk of toxicity with colchicine; avoid concurrent use.
- Levels and risk of toxicity from ergot derivatives (ergonovine, dihydroergonovine); concurrent use not recommended; similar effects may occur with carbamazepine, cytochrome P450 inhibitors, trimethadione, ticlopidine, bicalutamide, or phenytoin. Bilirubin levels and effects and risk of toxicity from ergot derivatives; concurrent use not recommended; similar effects may occur with phenytoin, carbamazepine, or phenobarbital.

**Route/Dosage**

**PO (Adults):**
Community-acquired pneumonia—800 mg once daily for 7–10 days.

**NURSING IMPLICATIONS**

- Assess for infection (vital signs; sputum, WBC) at beginning of and during therapy.
- Obtain oxygen saturation for culture and sensitivity before initiating therapy. First dose may be given before receiving results.

- Monitor patients for rash and other cutaneous reactions, including Stevens-Johnson syndrome, erythema multiforme, and drug reaction with eosinophilia and systemic symptoms (DRESS).

**Pharmacological Effects**

- Anti-infective
- Therapeutic: anti-infectives
- Pharmacologic: ketolides

**Selected Uses**

- Community-acquired pneumonia.

**Dosing**

- PO: 800 mg once daily for 7–10 days.

**Half-life:**
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Determine any family history of QTc prolongation or proarrythmic conditions (hypokalemia, bradycardia).

Monitor for signs or symptoms of hepatitis (fatigue, malaise, anorexia, nausea, jaundice, bilirubinemia, acholic stools, liver tenderness or hepatomegaly). If these occur, discontinue telithromycin immediately and monitor liver function; do not re-administer telithromycin.

Lab Test Considerations: May cause 7-platelet count.

Monitor liver function periodically during therapy and if signs of hepatitis occur.

Potential Nursing Diagnoses
Risk for infection (Indications)
Noncompliance (Patient/Family Teaching)

Implementation
PO: Administer with or without food. Swallow tablets whole; do not crush, break, or chew.

Patient/Family Teaching
● Instruct patient to take medication as directed and to finish medication completely, even if feeling better. Take missed doses as soon as remembered, but do not take more than one dose in a 24-hr period. Advise patient to read Patient Information Sheet prior to starting therapy.

● May cause visual disturbances (blurred vision, difficulty focusing, diplopia). Caution patient to avoid driving or other activities requiring visual acuity until response to medication is known. Advise patient to notify health care professional of visual disturbances interfering with daily activities.

● Instruct patient to notify health care professional if fainting occurs.

● Instruct patient to notify health care professional if fever and diarrhea develop, especially if stool contains blood, pus, or mucus. Advise patient not to treat diarrhea without consulting health care professional.

● Advise patient to report the signs of superinfection (black, furry overgrowth on the tongue; vaginal itching or discharge; loose or foul-smelling stools).

● Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and consult health care professional before taking any new medications.

● Instruct patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.

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?