tigecycline (tye-gi-yi-kleen)

**Classification**
Therapeutic: anti-infectives
Pharmacologic: glycylcyclines

**Pregnancy Category D**

**Indications**
Complicated skin/skin structure infections, complicated intra-abdominal infections, or community-acquired bacterial pneumonia caused by susceptible bacteria. (Should only be used when alternative treatments are not suitable; should NOT be used for diabetic foot infections).

**Action**
Inhibits bacterial protein synthesis by binding to the 30S ribosomal subunit.

**Pharmacokinetics**
Absorption: IV administration results in complete bioavailability.
Distribution: Widely distributed with good penetration into gall bladder, lung, and colon; crosses the placenta.
Metabolism and Excretion: Minimal metabolism; primary route of elimination is biliary/fecal excretion of unchanged drug and metabolites (59%), 33% renal (22% unchanged).

**Half-life:** 27.1 hr (after 1 dose); 42.4 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>
</tr>
</tbody>
</table>

**Contraindications/Precautions**
Contraindicated in: Hypersensitivity; Diabetic foot infections; Hospital-acquired or ventilator-associated pneumonia; **Pedi:** Children.

**Use Cautiously in:** Complicated intra-abdominal infections due to perforation; Severe hepatic impairment (maintenance dose recommended); Geri: May be more sensitive to adverse effects; **OB, Lactation:** Use in pregnancy only when potential maternal benefit outweighs fetal risk; use cautiously during lactation.

**Adverse Reactions/Side Effects**
CNS: somnolence.
Derm: STEVENS-JOHNSON SYNDROME.
GI: PANCREATITIS, PSEUDOMEMBRANOUS COLITIS, nausea, vomiting, altered taste, anorexia, dry mouth, hepatic toxicity, jaundice.
GU: q serum creatinine.
Endo: hyperglycemia, hypoglycemia.
F and E: hypocalcemia, hyponatremia.
Resp: pneumonia.
Local: injection site reactions.
Misc: DEATH, allergic reactions.

**Interactions**
Drug-Drug: May increase the effectiveness of hormonal contraceptives. Effects on warfarin are unknown (monitoring recommended).

**Route/Dosage**
**IV (Adults ≥18 yr):**
- 100 mg initially, then 50 mg every 12 hr for 5–14 days (skin/skin structure infections and intra-abdominal infections) or 7–14 days (pneumonia).

**Hepatic Impairment**
- **IV (Adults ≥18 yr):** Child-Pugh C—100 mg initially, then 25 mg every 12 hr.

**NURSING IMPLICATIONS**
**Assessment:**
- Monitor for infection (tachycardia, tachypnea, temperature, and stool). 
- W/O at beginning of and throughout therapy.
- Obtain repeat cultures/cultures and sensitivity before initiating therapy. 1st dose may be given before receiving results.

**NURSE-PI**
- **Concomitant drug:** None known.
- **Genetic Implication:** CAPI TALS indicate if life-threatening, underline indicate most frequent. Strikethrough indicates discontinued.

**Dosage Forms**
- Tablet: 100 mg, 200 mg

**Discontinued**
**Intermittent Infusion:**

- **May** cause yellow-brown discoloration and softening of teeth and bones if administered periodically.
- **May** cause hyperglycemia, hypokalemia, hypoproteinemia, hypocalcemia, hypomagnesemia, and hypophosphatemia.
- **Lab Test Considerations:**
  - Assess for rash periodically during therapy. May cause Stevens-Johnson syndrome.
  - Assess patient for signs of pancreatitis (nausea, vomiting, abdominal pain, increased serum lipase or amylase) periodically during therapy.
  - May require discontinuation of therapy.
- **Implementation Risk for infection (Indications)**
- **Potential Nursing Diagnoses**
  - May cause hyperglycemia, hypokalemia, hypoproteinemia, hypocalcemia, hypomagnesemia, and hypophosphatemia.
- **Y-Site Compatibility:**
  - Ammonium, calcium, magnesium, alkaline phosphatase, amylase, bilirubin, AST, and ALT.
- **Y-Site Incompatibility:**
  - Acetaminophen, meperidine, metoclopramide, methadone, morphine, hydromorphone, fentanyl, epinephrine, and eptifibatide.
- **Diluent:**
  - D5W, LR, or 0.9% NaCl. Reconstituted solution should be yellow to orange in color. Do not administer solutions that are discolored or contain particulate matter.
- **Dilution:**
  - Reconstitute each vial with 5.3 mL of 0.9% NaCl or D5W to achieve a concentration of 10 mg/mL.
- **Rate:**
  - Infuse over 30–60 min. Flush line before and after infusion with 0.9% NaCl or D5W.
- **Final concentration of infusion should be 1 mg/mL.**
- **Note:** flush over 30–45 min. Black box before and after infusion with 0.9% NaCl or D5W.

**Patient/Family Teaching**

- Advise patient to finish course of therapy should be completed, even if feeling better. Skipping doses or not completing full course of therapy may result in decreased effectiveness and increased risk of bacterial resistance.
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- 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). Skin rash, pruritus, and urticaria should also be reported.
- Advise female patient to use a nonhormonal method of contraception while taking tigecycline and until next menstrual period.

Evaluation/Desired Outcomes
- Resolution of signs and symptoms of infection.

Why was this drug prescribed for your patient?