DAPTOmycin (dap-to-my-cin)

Classification
Therapeutic: anti-infectives
Pharmacologic: cyclic lipopeptide antibacterial agents

Pregnancy Category B

Indications
Complicated skin and skin structure infections caused by aerobic Gram-positive bacteria.

Action
Causes rapid depolarization of membrane potential following binding to bacterial membrane; this results in inhibition of protein, DNA, and RNA synthesis. Therapeutic Effects: Death of bacteria with resolution of infection.

Spectrum:
Active against Staphylococcus aureus (including methicillin-resistant strains), Streptococcus pyogenes, S. pyogenes agalactiae, some S. dysgalactiae, and Enterococcus faecalis (vancomycin-susceptible strains).

Pharmacokinetics
Absorption: IV administration results in complete bioavailability.
Distribution: Unknown.
Protein Binding: 92%.
Metabolism and Excretion: Metabolism not known; mostly excreted by kidneys.
Half-life: 8.1 hr.

TIME/ACTION PROFILE
ROUTE ONSET PEAK DURATION
IV rapid end of infusion 24 hr

Contraindications/Precautions
Contraindicated in: Hypersensitivity.

Use Cautiously in: CCr < 30 mL/min (dose required); Moderate-to-severe renal impairment (may have decreased clinical response); Geri: May have decreased clinical response with

○ Consider drug name. □ Genetic Implication. OPTISO indicates risk of adverse reactions. GIR: Use only if clearly needed. Limitations: Limitation; Profit: Safety not established.

Adverse Reactions/Side Effects
CNS: dizziness.
Resp: EOSINOPHILIC PNEUMONIA, dyspnea.
CV: hypertension, hypotension.
GI: pseudomembranous colitis, constipation, diarrhea, nausea, vomiting.
GU: renal failure.
Derm: pruritus, rash.
Hemat: anemia.
Local: injection site reactions.
Misc: fever.

Interactions
Drug-Drug: Tobramycin ↑ blood levels. Concurrent HMG-CoA reductase inhibitors may ↑ the risk of myopathy.

Route/Dosage
IV (Adults): 4 mg/kg every 24 hr.
Renal Impairment
IV (Adults): CCr < 30 mL/min—4 mg/kg every 48 hr.

NURSING IMPLICATIONS
Assessment
- Monitor for infection (vital signs; appearance of wound, sputum, urine, and stool; WBC) at beginning of and throughout 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 for signs and symptoms of eosinophilic pneumonia (new onset or worsening fever, dyspnea, difficulty breathing, new infiltrates on chest imaging studies). Discontinue daptomycin if symptoms occur.
- Monitor for development of muscle pain or weakness, particularly of distal extremities. Discontinue daptomycin in patients with unexplained signs and symptoms of myopathy or in conjunction with CPK elevation >1000 U/L, or in patients without reported symptoms who have marked elevations in CPK >3000 U/L. Consider temporarily suspending agents associated with rhabdomyolysis, (HMG-CoA reductase inhibitors) in patients receiving daptomycin.
- Lab Test Considerations: Monitor CPK weekly, more frequently in patients with unexplained symptoms. Discontinue daptomycin if CPK >1000 units/L and signs and symptoms of myopathy occur. Daptomycin is associated with an increased risk of serious liver reactions. Cautiously use in patients with liver disease.

Lactation: Lactation.

Pedi: Safety not established.

Other

Nursing Considerations
- Lab Test Considerations: Monitor CPK weekly, more frequently in patients with unexplained symptoms. Discontinue daptomycin if CPK >1000 units/L and signs and symptoms of myopathy occur.
- Daptomycin is associated with an increased risk of serious liver reactions. Cautiously use in patients with liver disease.
- Marked elevations in CPK >3000 U/L. Consider temporarily suspending agents associated with rhabdomyolysis, (HMG-CoA reductase inhibitors) in patients receiving daptomycin.
- Lab Test Considerations: Monitor CPK weekly, more frequently in patients with unexplained symptoms. Discontinue daptomycin if CPK >1000 units/L and signs and symptoms of myopathy occur.
symptoms of myopathy occur. In patients with renal insufficiency, monitor both renal function and CPK more frequently.

- May cause false prolongation of PT and INR.

Potential Nursing Diagnoses
Risk for infection (Indications) (Side Effects)
Implementation
- Do not confuse daptomycin with dactinomycin.

IV Administration
- pH: 5-7.
- Direct IV:
- Concentration: 50 mg/mL.
- Rate: Administer over 2 min.
- Intermittent Infusion:
- Diluent:
- Solution is stable for 12 hr at room temperature or 48 hr if refrigerated.
- Rate: Infuse over 30 min.
- Y-Site Compatibility:

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?