basiliximab (ba-sil-ix-i-mab)

Classification
Therapeutic: immunosuppressants
Pharmacologic: monoclonal antibodies

Pregnancy Category B

Indications
Prevention of acute organ rejection in patients undergoing renal transplantation; used with corticosteroids and cyclosporine.

Action
Binds to and blocks specific interleukin-2 (IL-2) receptor sites on activated T lymphocytes.

Therapeutic Effects:
Prevention of acute organ rejection following renal transplantation.

Pharmacokinetics
Absorption: IV administration results in complete bioavailability.
Distribution: Unknown.
Metabolism and Excretion: Unknown.
Half-life: 7.2 days.
TIME/ACTION PROFILE (effect on immune function)
ROUTE ONSET PEAK DURATION
IV 2 hr unknown 36 days

Contraindications/Precautions
Contraindicated in:
Hypersensitivity;
OB: May affect fetal developing immune system;
Lactation: May enter breast milk.

Use Cautiously in:
Women with childbearing potential;
Geri: Due to greater incidence of infection.

Adverse Reactions/Side Effects
CNS:
dizziness, headache, insomnia, weakness.
EENT:
abnormal vision, conjunctivitis.
Resp:
coughing.
CV:
heart failure, edema, hypertension, angina, arrhythmias, tachycardia, bradycardia, tachycardia, atrial fibrillation, hypotension, angina, arrhythmias, tachycardia, bradycardia, tachycardia.
Gastrointestinal:
nausea, vomiting, GI bleeding, gingival hyperplasia, stomatitis.
Derm:
acne, wound complications, hypertrichosis, pruritus.
Endo:
hyperglycemia, hypoglycemia.
F and E:
acidosis, hypercholesterolemia, hyperkalemia, hyperuricemia, hypocalcemia, hypokalemia, hypophosphatemia.
Hemat:
bleeding, coagulation abnormalities.
MS:
back pain, leg pain.
Neuro:
tremor, neuropathy, paresthesia.
Misc:
hypersensitivity reactions including anaphylaxis, infection, weight gain, chills.

Interactions
Drug-Drug: Immunosuppression may be increased with other immunosuppressants.
Drug-Natural Products: Concurrent use with echinacea and melatonin may interfere with immunosuppression.

Route/Dosage
IV (Adults and Children ≥55 kg): 20 mg given 2 hr before transplantation; repeated 4 days after transplantation. Second dose should be withheld if complications or graft loss occurs.
IV (Children <35 kg): 10 mg given 2 hr before transplantation; repeated 4 days after transplantation. Second dose should be withheld if complication or graft loss occurs.

NURSING IMPLICATIONS
Assessment
● Monitor for signs of anaphylactic or hypersensitivity reactions (hypotension, tachycardia, cardiac failure, dyspnea, wheezing, bronchospasm, pulmonary edema, respiratory failure, arthritis, rash, pruritus, sneezing) at each dose. Onset of symptoms is usually within 24 hr. Rehydration equipment and medications for treatment of severe hypersensitivity should be readily available. If a severe hypersensitivity reaction occurs, basiliximab therapy should be permanently discontinued. Patients who have previously received basiliximab should only receive subsequent therapy with extreme caution.
● Monitor for infection (fever, chills, rash, sore throat, purulent discharge, diarrhea) at each dose. Notify physician immediately if these symptoms occur; may necessitate discontinuation of therapy.
● Be alert for signs of lower respiratory infection; if symptoms occur, may necessitate discontinuation of therapy.

Nursing Considerations
Max: 50 mg; 100 mg IV in 100 mL of normal saline;
Infusion: Use constant infusion, rate controlled.
Infusion time: 1 hr.

Other: Discontinue in reaction.

Focal: Discontinue.

Other: Discontinue.
May cause:
- Serum cholesterol levels.
- Serum creatinine, and uric acid concentrations.
- Serum magnesium, phosphate, and platelet levels.

Potential Nursing Diagnoses
Risk for infection (Side Effects)

Implementation

IV Administration
- **pH:** Near Neutrality
- Reconstitute with 2.5 mL or 5 mL of sterile water for injection for the 10 mg or 20 mg vial, respectively. Shake gently to dissolve powder.
- **Direct IV:** May be administered undiluted. Bolus administration may be associated with nausea, vomiting, and local reactions (pain).
- **Concentration:** 4 mg/mL. **Rate:** Administer over 20–30 min via peripheral or central line.

Intermittent Infusion
- **Diluent:** Dilute further with 25–50 mL of 0.9% NaCl or D5W. Gently invert bag to mix; do not shake, to avoid foaming. Solution is clear to opalescent and colorless; do not administer solutions that are discolored or contain particulate matter. Discard unused portion. Administer within 4 hr or may be refrigerated for up to 24 hr. Discard after 24 hr. **Concentration:** 0.08–0.16 mg/mL. **Rate:** Administer over 20–30 min via peripheral or central line.

Additive Incompatibility:
- Do not admix; do not administer in IV line containing other medications.

Patient/Family Teaching
- Explain purpose of medication to patient. Explain that patient will need to resume lifelong therapy with other immunosuppressive drugs after completion of basiliximab course.
- May cause dizziness. Caution patient to avoid driving or other activities requiring alertness until response is known.

Evaluation/Desired Outcomes
- Prevention of acute organ rejection in patients receiving renal transplantsations.

Why was this drug prescribed for your patient?