oprelvekin (o-prell-ve-kin)

Name /bks_53161_deglins_md_disk/oprelvekin

Classification
Therapeutic: colony-stimulating factors
Pharmacologic: interleukins, thrombopoietic growth factors

Pregnancy Category: C

Indications
Prevention of severe thrombocytopenia and reduction of the need for platelet transfusions following myelosuppressive chemotherapy in patients with nonmyeloid malignancies at risk for thrombocytopenia.

Action
Stimulates production of megakaryocytes and platelets. Therapeutic Effects: Increased platelet count.

Pharmacokinetics
Absorption: 80% absorbed following subcut administration.
Distribution: Unknown.
Metabolism and Excretion: Appears to be mostly metabolized, with metabolites eliminated by kidneys.
Half-life: 6.9 hr.

TIME/ACTION PROFILE (q in platelet count)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcut</td>
<td>5–9 days</td>
<td>unknown</td>
<td>7–14 days†</td>
</tr>
</tbody>
</table>

†Counts continue to rise for 7 days following discontinuation and then return to baseline by 14 days

Contraindications/Precautions
Contraindicated in: Hypersensitivity; Lactation: Lactation.
Use Cautiously in: Any condition in which sodium and water retention would pose problems (HF, renal disease); Pre-existing pericardial effusion or ascites (may be exacerbated); History of atrial arrhythmias (especially if receiving cardiac medications or previous doxorubicin therapy); Pre-existing papilledema or tumors of the CNS.

Adverse Reactions/Side Effects
CNS: dizziness, headache, insomnia, nervousness, weakness.
EENT: conjunctival hemorrhage, blurred vision, changes in visual acuity, blindness, papilledema, pharyngitis, rhinitis.
Resp: cough, dyspnea, pleural effusions.
CV: ventricular arrhythmias, atrial fibrillation, edema, palpitations, syncope, tachycardia, vasodilation, ventricular tachycardia.
GI: anorexia, constipation, diarrhea, dyspepsia, mucositis, nausea, oral moniliasis, vomiting, abdominal pain.
Derm: alopecia, ecchymoses, rash.
F and E: sodium and water retention.
Local: injection site reactions.
MS: bone pain, myalgia.
Misc: chills, fever, infection, pain.

Interactions
Drug-Drug: None significant.

Route/Dosage
Subcut (Adults): 50 mcg/kg once daily for 10–21 days.

NURSING IMPLICATIONS
Assessment
● Assess patient for signs of fluid retention (dyspnea on exertion, peripheral edema) during therapy. Fluid retention is a common side effect that usually resolves within several days following discontinuation of orelvekin.

● Lab Test Considerations: Monitor platelet count prior to and periodically during therapy, especially at expected nadir. Therapy is continued until postnadir platelet count is ≥50,000 cells/mL.

● CBC should be monitored prior to and at regular intervals during therapy. Decrease in hemoglobin concentration, hematocrit, and RBC count may occur because of increased plasma volume (dilutional anemia); usually begins within 3–5 days of therapy and is reversible within a week of discontinuation of therapy.

● Monitor electrolyte concentrations in patients receiving chronic diuretic therapy. Hypokalemia may be fatal.

● May cause an ↑ in plasma fibrinogen.

Potential Nursing Diagnoses
Excess Fluid Volume (Side Effects)

Nursing Considerations
Cautions: May cause an ↑ in plasma fibrinogen.
Implementation

- Do not confuse Neumega (oprelvekin) with Neupogen (filgrastim) or Neulasta (pegfilgrastim).
- Therapy should be started within 6–24 hr after completion of chemotherapy and continued for 10–21 days.
- Treatment should be discontinued at least 2 days prior to next planned chemotherapy cycle.
- Subcut: Reconstitute with 1 mL of sterile water for injection without preservatives for a concentration of 5 mg/mL. Direct diluent to sides of vial and swirl gently. Solution is clear and colorless. Do not administer solutions that are discolored or contain particulate matter. Do not shake or agitate vigorously. Do not freeze. Do not reconstitute. Administer within 3 hr of reconstitution as a single injection in abdomen, hip, thigh, or upper arm.

Patient/Family Teaching

- Instruct patient in proper technique for preparation and administration of medication. Provide puncture-resistant container for disposal of needles.
- May cause transient blurred vision or dizziness. Caution patient to avoid driving or other activities requiring alertness until response to medication is known.
- Advise patient to notify health care professional if pregnancy is planned or suspected.
- Inform patient of side effects and advise patient to notify health care professional if chest pain, shortness of breath, fatigue, blurred vision, or irregular heartbeat persists.

Evaluation/Desired Outcomes

- Increase in postnadir platelet count to \( >50,000 \text{ cells/mL} \).

Why was this drug prescribed for your patient?