**PRALatrexate (pra-le-trex-ate)**

**Classification**
- Therapeutic: antineoplastics
- Pharmacologic: folic acid analogues
- Pregnancy Category: D

**Indications**
- Treatment relapsed/refractory peripheral T cell lymphoma.

**Action**
- Interferes with folic acid metabolism by acting as a folate analogue metabolic inhibitor that competitively inhibits dihydrofolate reductase; also acts as a competitive inhibitor for polyglutamylation by the enzyme folylpolyglutamate synthetase. Result is inhibition of DNA synthesis.

**Therapeutic Effects:**
- Death of rapidly replicating cells, particularly malignant ones.

**Pharmacokinetics**
- **Absorption:** IV administration results in complete bioavailability.
- **Distribution:**
- **Metabolism and Excretion:** Some metabolism by the liver; 34% excreted unchanged in urine.
- **Half-life:** 12–18 hr.

**TIME/ACTION PROFILE (effects on blood counts)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td>45 days†</td>
<td>unknown</td>
<td>unknown</td>
</tr>
</tbody>
</table>

- †median time to first response

**Contraindications/Precautions**
- **Contraindicated in:** End-stage renal disease (q risk of toxicity); OB: Avoid use during pregnancy; Lactation: Breast feeding should be avoided.
- **Use Cautiously in:** Moderate to severe renal impairment (q risk of toxicity); Geri: Consider age-related incr renal function; Pedi: Safety and effectiveness not established.

**Adverse Reactions/Side Effects**
- **CNS:** Fatigue.
- **EENT:** Epistaxis, pharyngolaryngeal pain.
- **Resp:** Dyspnea, cough.
- **CV:** Edema, tachycardia.
- **GI:** Mucositis, nausea, abdominal pain, anorexia, constipation, diarrhea, vomiting, 1 liver enzymes.
- **Derm:** Toxic epidermal necrolysis, exfoliation, pruritus, rash, ulceration.
- **F and E:** Dehydration, hypokalemia.
- **Hemat:** Neutropenia, thrombocytopenia, anemia.
- **MS:** Back pain, extremity pain.
- **Misc:** Fever, night sweats, tumor lysis syndrome.

**Interactions**
- **Drug-Drug:** Probenecid, NSAIDs, and trimethoprim/sulfamethoxazole may clear plasma and incr blood levels and the risk of toxicity.

**Route/Dosage**
- **IV (Adults):** 30 mg/m2 once weekly for 6 wk in 7-wk cycles until disease progresses or unacceptable toxicity occurs (supplemental intramuscular vitamin B12 1 mg every 8–10 wk and folic acid 1.0-1.25 mg orally on a daily basis is required); if adverse reactions occur, dose may be q 20 mg/m2.

**NURSING IMPLICATIONS**

**Assessment**
- Monitor BP, pulse, respiratory rate, and temperature frequently during administration. Report pulse-rate changes.
- Monitor for bone marrow depression. Assess for bleeding (bleeding gums, bruising, petechiae, guaiac stools, urine, and emesis) and avoid IM injections and taking rectal temperatures if platelet count is low. Apply pressure to venipuncture sites for 10 min. Assess for signs of infection during neutropenia. Anemia may occur. Monitor for increased fatigue, dyspnea, and orthostatic hypotension.
- Assess oral mucosa prior to and weekly for development of mucositis. Increased dosing interval and/or decreased dosing is recommended if lesions are painful or interfere with nutrition. Mucositis must be q Grade 1 for administration of pralatrexate. If Grade 2, omit dose and continue prior dose when mucositis recovers to q Grade 1. If Grade 2 recurs, omit dose and decrease next pralatrexate dose to 20 mg/m2.

**Patient/Family Teaching**
- Instruct patient to take medication as directed. Missed doses should be omitted. Consult health care professional before any dose changes. Therapy is lifelong. Use of this medication is associated with an increased risk of skin cancer, bone marrow suppression, and death. Report signs of infection, bruising, bleeding, and bone pain.

**Pharmacoemergencies**
- Overdose: Consult health care professional for treatment. Use of this medication is associated with an increased risk of skin cancer, bone marrow suppression, and death. Report signs of infection, bruising, bleeding, and bone pain.
Risk for infection (Adverse Reactions)

Potential Nursing Diagnoses

Patients should take oral folic acid 1.0–1.25 mg daily starting 10 days prior to first dose of pralatrexate, through full course of therapy, and for 30 days after completion of therapy. Patients should also receive vitamin B12 1 mg or more than 10 wk prior to first dose of pralatrexate and every 8–10 wk during therapy, may be given on same day as pralatrexate.

IV Administration

High Alert: Dupedos have occurred with incorrect administration of chemotherapy agents. Before administering, clarify all ambiguous orders. Double check single, daily, and course-of-therapy dose limits; have second practitioner independently double check original order, calculations and infusion pump settings. Clarify orders that do not include generic and brand names.

Solution should be prepared in a biologic cabinet. Wear gloves, gown, and mask while handling medication. Discard IV equipment in specially designated containers.

Direct IV: Withdraw calculated dose into syringe for immediate use. Do not dilute. Solution is clear yellow; do not administer solutions that are discolored or contain particulate matter. For single use only; discard unused portions. Stable if stored in original carton for 72 hrs at room temperature; protect from light. Rate: administer as an IV push over 3–5 minutes via side port of a free-flowing 0.9% NaCl injection.

Patient/Family Teaching

Advise patient to notify health care professional promptly if rash, fever; sore throat; signs of infection; bleeding gums; bruising; petechiae; blood in stools, urine, or emesis; increased fatigue; weakness; dyspnea; or orthostatic hypotension occurs. Caution patient to avoid crowds and persons with known infections. Instruct patient to use soft toothbrush and electric razor and to avoid falls. Caution patient not to drink alcoholic beverages or take medication containing aspirin or NSAIDs, because these may precipitate gastric bleeding.

Instruct patient to inspect oral mucosa for erythema and ulceration. If ulceration occurs, advise patient to use sponge brush, rinse mouth with water after eating and drinking, and use soft toothbrush and electric razor and to avoid falls. Caution patient not to drink alcoholic beverages or take medication containing aspirin or NSAIDs, because these may precipitate gastric bleeding.

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