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**succimer (sux-i-mer)**

**Chemical Classification**: Antidotes

**Pharmacologic: Chelating agents**

**Pregnancy Category**: C

**Indications**

Treatment of lead poisoning in children with blood lead levels >45 mcg/dL.

**Action**

Forms a water-soluble complex with lead, allowing urinary elimination of excessive amounts of lead. **Therapeutic Effects**: Decreased blood lead levels and decreased target organ damage in lead poisoning.

**Pharmacokinetics**

- **Absorption**: Rapidly and variably absorbed following oral administration.
- **Distribution**: Unknown.
- **Metabolism and Excretion**: Extensively metabolized; 10% excreted unchanged by the kidneys.
- **Half-life**: 2 days.

**TIME/ACTION PROFILE (urinary lead excretion)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET (HR)</th>
<th>PEAK (HR)</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>within 2 hr</td>
<td>2–4 hr</td>
<td>8–12 hr</td>
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</tbody>
</table>

**Contraindications/Precautions**

- **Contraindicated in**: Hypersensitivity or allergy to succimer; Lactation (should be discouraged during succimer therapy).
- **Use Cautionally in**: Renal failure (chelates are not dialyzable); Children (increased risk of breakthrough). Children with skeletal muscle myopathy (more prone to the rare, but serious, adverse reactions); Geriatric patients (use lower doses to adjust for decreased renal, hepatic, and cardiac function); Pregnancy or children 1 yr (safety not established).

**Adverse Reactions/Side Effects**

- **CNS**: Dizziness, drowsiness, headache.
- **EENT**: Cloudy film in eye, otitis media, plugged ears, watery eyes.
- **Resp**: Cough, nasal congestion, rhinorrhea, sore throat.
- **CV**: Arrhythmias.
- **GI**: Nausea, vomiting, abdominal cramps, anorexia, diarrhea.
- **GU**: Oliguria, proteinuria, voiding difficulty.
- **Derm**: Mucocutaneous reactions, pruritus, rashes.
- **Hemat**: Anemia, leukopenia, neutropenia, thrombocytopenia, anemia.
- **Misc**: Chills, fever, flu-like syndrome, menore.

**Interactions**

- **Drug-Drug**: Not recommended for use with other chelating agents.

**Route/Dosage**

**PO (Adults and Children)**: 10 mg/kg (350 mg/m²) q 8 hr for 5 days, then reduce to 10 mg/kg (350 mg/m²) q 12 hr for 2 more wk. Repeated courses should follow a 2-wk rest period.

**NURSING IMPLICATIONS**

- **Assessment**
  - Assess patient and family members for evidence of lead poisoning prior to and frequently throughout therapy. Acute lead poisoning is characterized by a metallic taste, colicky abdominal pain, vomiting, diarrhea, and coma. Symptoms of chronic poisoning vary with severity and include anorexia, a blue-black line along the gums, intermittent vomiting, paresthesia, encephalopathy, seizures, and coma.
  - Monitor strict intake and output and daily weight. Notify physician or other health care professional of any discrepancies. Patients undergoing succimer therapy should be adequately hydrated.
  - Monitor neurologic status closely (level of consciousness, pupil response, movement). Notify physician or other health care professional immediately of any changes.
  - Monitor patient for signs of allergic or other mucocutaneous reactions, especially during repeated courses of succimer therapy.
  - **Preventive Considerations**:
    - Monitor blood and urine lead levels prior to and periodically throughout therapy. After therapy, monitor patients for rebound of blood levels at least once weekly until stable. Succimer is indicated for treatment of blood lead levels of >45 mcg/dL.

**Overdosage**

- **Signs**: Overdosage is marked by severe chelation reactions. Monitor for signs of chelation reaction.

**Notes**

- **Genetic Implication**: CAPI TALS indicate life-threatening, underlines indicate most frequent. Strikethrough = Discontinued.
May cause elevated serum transaminases, alkaline phosphatase, and cholesterol; monitor prior to and at least weekly during therapy.

May interfere with serum and urine lab tests.

**Potential Nursing Diagnoses**

- Risk for poisoning (Patient/Family Teaching)
- Impaired home maintenance (Indications)
- Deficient knowledge, related to medication regimen (Patient/Family Teaching)

**Implementation**

- Coadministration of succimer with other chelation agents is not recommended.
- Patients who have received ethylenediamine tetraacetic acid (EDTA) or dimercaprol (British anti-lewisite [BAL]) may receive subsequent therapy with succimer after 4 wk.
- Course of treatment lasts 19 days. Doses are administered every 8 hr for 5 days and then every 12 hr for 14 days. Unless blood levels indicate prompt treatment is needed, a minimum of 4 wk between courses is recommended.
- PO: If patient is unable to swallow the capsule, open capsule and sprinkle medicated beads on small amount of soft food or place in a spoon and follow with a fruit drink.

**Patient/Family Teaching**

- Discuss need for follow-up appointments to monitor lead levels. Additional treatments may be necessary.
- Instruct patient to drink adequate fluids throughout therapy.
- Advise patient to notify health care professional if rash occurs.
- Contact local health department regarding potential sources of lead poisoning in the home, workplace, and recreational areas. Chelation therapy cannot be used as prophylaxis for lead poisoning.

**Evaluation/Desired Outcomes**

- Decrease in symptoms of lead poisoning.
- Decrease in blood lead levels to below 45 mcg/dL, although the normal upper limit is 29 mcg/dL.

**Why was this drug prescribed for your patient?**

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