### Lindane (lin-dane)

**gamma benzene hexachloride, GBH, Hexit, PMS Lindane**

#### Pregnancy Category: B

#### Indications

Second-line treatment of parasitic arthropod infestation (scabies and head, body, and crab lice) for use only in patients who are intolerant to or do not respond to less toxic agents.

#### Action

Causes seizures and death in parasitic arthropods. **Therapeutic Effects:** Cures of infestation by parasitic arthropods.

#### Pharmacokinetics

**Absorption:** Significant systemic absorption (9–13%) greater with topical application to damaged skin.

**Distribution:** Stored in fat.

**Metabolism and Excretion:** Metabolized by the liver.

**Half-life:** 17–22 hr (infants and children).

#### Contraindications/Precautions

- **Contraindicated in:** Hypersensitivity; Areas of skin rash, abrasion, or inflammation (absorption is increased); History of seizures; Lactation: Potentially toxic to infants; may **impair milk supply**; **Pedi:** Premature neonates (risk of CNS toxicity).
- **Use Cautiously in:** Patients with skin conditions (risk of systemic absorption and CNS side effects).

#### Adverse Reactions/Side Effects

All adverse reactions except dermatologic are signs of systemic absorption and toxicity. CNS: seizures, headache; CV: tachycardia; GI: nausea, vomiting. **Derm:** contact dermatitis (repeated applications), localized irritation.

#### Interactions

**Drug-Drug:** Concurrent use of medications that lower seizure threshold (may **risk of seizures**). Simultaneous topical use of skin, scalp, or hair products may **risk systemic absorption**.

#### Route/Dosage

**Scabies**

**Topical (Adults and Children ≥ 1 mo):** 1% lotion applied to all skin surfaces from neck to toes; wash off 6 hr after application in infants, after 6–8 hr in children or after 12 hr in adults; may require a 2nd treatment 1 wk later.

**Head Lice or Crab Lice**

**Topical (Adults and Children):** 15–30 mL of shampoo applied and lathered for 4 min; may require a 2nd treatment 1 wk later.

### Nursing Implications

**Assessment**

- Assess skin and hair for signs of infestation before and after treatment.
- Examine family members and close contacts for infestation. When used in treatment of pediculosis pubis or scabies, sexual partners should receive concurrent prophylactic therapy.

**Potential Nursing Diagnoses**

Relative impaired skin integrity (Indications)

**Implementation**

- Due to serious side effects, no more than 2 oz may be dispensed at a time and no refills are allowed.
- **Topical:** When applying medication to another person, wear gloves to prevent systemic absorption. Avoid contact with the eyes. If eye contact occurs, flush thoroughly with water and notify physician or other health care professional.
● Institute appropriate isolation techniques.

Lotion: Instruct patient to bathe with soap and water. Dry skin well and allow to cool before application. Apply lotion in amount sufficient to cover entire body surface with a thin film down neck-down (60 mL for an adult). Leave medication on for an appropriate time frame (see dosing). Rinse the area by washing, if rash, burning, or itching develops. Wash off medication and notify physician or other health care professional.

Shampoo: Use a sufficient amount of shampoo to wet hair and scalp (30 mL for short hair, 45 mL for medium hair, 60 mL for long hair). Rub thoroughly into hair and scalp and leave in place for 4 min. Then use enough water to work up a good lather. Follow with thorough rinsing and drying. If applied to showers or baths, do not let shampoo run down on other parts of body or into water in which patient is sitting. When hair is dry, use fine tooth comb to remove remaining nits or nit shells. Shampoo may also be used on combs and brushes to prevent spread of infestation.

Patient/Family Teaching

● Instruct patient on application technique and provide with a medication guide. Patient should repeat therapy only at the recommendation of health care professional. Discuss hygiene measures to prevent and to control infestation. Discuss potential for infectious contacts with patient. Explain why household members should be examined and sexual partners treated simultaneously.

● Instruct patient to wash all recently worn clothing and used bed linens and towels in very hot water or to dry clean to prevent reinfestation or spreading.

● Instruct patient not to apply other oils or creams during therapy; these increase the absorption of lindane and may lead to toxicity.

● Explain to patient that itching may persist after treatment; consult health care professional about use of topical hydrocortisone or systemic antihistamines.

● Advise patient that eyelashes can be treated by applying petroleum jelly 3 times/day for 1 wk.

● Instruct patient not to reapply sooner than 1 week if live mites appear.

Shampoo: Advise patient that shampoo should not be used as a regular shampoo in the absence of infestation. Emphasize need to avoid contact with eyes.

● Advise parents to monitor young children closely for evidence of CNS toxicity (seizures, dizziness, clumsiness, fast heartbeat, muscle cramps, nervousness, restlessness, irritability, nausea, vomiting) during and immediately after treatment.

● Pedi: Cover hands of young children to prevent accidental ingestion from thumb-sucking.

Evaluation/Desired Outcomes

● Resolution of signs of infestation with scabies or lice.

Why was this drug prescribed for your patient?