terbinafine (ter-**bi**-na-feen)

LamISIL

Classification

Therapeutic: antifungals (systemic)

Pregnancy Category B

For topical use, refer to Antifungals, Topical monograph

Indications

Onychomycosis (fungal nail infection). Tinea capitis.

Action

Interferes with fungal cell wall synthesis (ergosterol biosynthesis) by inhibiting the enzyme squalene epoxidase. **Therapeutic Effects:** Fungal cell death. **Spectrum:** Active against dermatophytes and other fungi.

Pharmacokinetics

Absorption: 70–80% absorbed after oral administration.
Distribution: Extensively distributed; penetrates dermis and epidermis; concentrates in stratum corneum, hair, scalp, and nails. Enters breast milk.
Protein Binding: 99%.
Metabolism and Excretion: Extensively metabolized by the liver by CYP isoenzymes 1A2, 2C9, 2C19, and 3A4.
Half-life: *Plasma*— 22 days; longer from skin and nails.

TIME/ACTION PROFILE (antifungal tissue levels)

ROUTE	ONSET	PEAK	DURATION
PO	several days	days–wk	several wk

Contraindications/Precautions

Contraindicated in: Hypersensitivity; Chronic or active liver disease; Heart failure or left ventricular dysfunction.

Use Cautiously in: History of alcoholism; Renal impairment (dose ↓ recommended for CCr <50 mL/min); ***OB, Lactation:*** Safety not established.

Adverse Reactions/Side Effects

CNS: depression, headache. **Resp:** cough, nasopharyngitis. **CV:** heart failure. **GI:** HEPATOTOXICITY, anorexia, diarrhea, nausea, stomach pain, vomiting, drug-induced hepatitis, smell disturbance, taste disturbance. **Derm:** DRUG REACTION WITH EOSINOPHILIA AND SYSTEMIC SYMPTOMS SYNDROME, STEVENS-JOHNSON SYNDROME, TOXIC EPIDERMAL NECROLYSIS, itching, rash. **Hemat:** neutropenia, pancytopenia. **Misc:** pyrexia.

Interactions

Drug-Drug: Alcohol or other **hepatotoxic agents** may ↑ risk of hepatotoxicity. **Rifampin** may ↓ effectiveness. **Fluconazole** and **cimetidine** may ↑ levels. May ↑ effects of CYP2D6 substrates including **tricyclic antidepressants**, **selective serotonin reuptake inhibitors**, **beta-blockers**, **flecainide**, and **propafenone**.
Drug-Natural Products: ↑ **caffeine** levels and side effects with caffeine-containing herbs (**cola nut**, **guarana**, **mate**, **tea**, **coffee**).

Route/Dosage

PO (Adults): 250 mg once daily for 6 wk for fingernail infection or 12 wk for toenail infection.
PO (Children ≥4 yr— ≥35 kg): 250 mg/day for 6 wk.
PO (Children ≥4 yr— 25–35 kg): 187.5 mg/day for 6 wk.
PO (Children ≥4 yr— <25 kg): 125 mg/day for 6 wk.

NURSING IMPLICATIONS

Assessment

- Assess for signs and symptoms of infection (nail beds, scalp) before and periodically throughout therapy.
- Specimens for culture should be taken before instituting therapy. Therapy may be started before results are obtained.
- Monitor for depression periodically during therapy.
- **Assess for rash periodically during therapy. May cause Stevens-Johnson syndrome. Discontinue therapy if severe or if accompanied with fever, general malaise, fatigue, muscle or joint aches, blisters, oral lesions, conjunctivitis, hepatitis and/or eosinophilia.**
- ***Lab Test Considerations:*** CBC should be monitored in patients receiving therapy for >6 wk. Discontinue if abnormal values occur.
- **Monitor AST and ALT prior to, and periodically throughout, therapy. Terbinafine should be discontinued if symptomatic elevations occur.**

- If signs of secondary infection occur, monitor neutrophil count. If $<1000/mm^3$, discontinue treatment.
- May cause ↓ absolute lymphocyte count.
- Monitor serum potassium. May cause hypokalemia.

Potential Nursing Diagnoses

Risk for infection (Indications)
Noncompliance (Patient/Family Teaching)

Implementation

- **Do not confuse Lamisil (terbinafine) with Lamictal (lamotrigine).**
- **PO:** May be administered without regard to food.
- *Oral granules* should be taken with food and may be sprinkled on a spoonful of pudding or other soft, nonacidic food, such as mashed potatoes and swallowed in entirety. Applesauce or fruit-based foods should not be used.

Patient/Family Teaching

- Instruct patient to take medication as directed, for the full course of therapy, even if feeling better. Doses should be taken at the same time each day.
- **Instruct patient to notify health care professional immediately if signs and symptoms of liver dysfunction (unusual fatigue, anorexia, nausea, vomiting, upper right abdominal pain, jaundice, dark urine, or pale stools) depression, or rash occur. Terbinafine should be discontinued.**
- May cause disturbance in smell. Advise patient to notify health care professional if this occurs.
- Advise patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking other medications.

Evaluation/Desired Outcomes

- Resolution of clinical and laboratory indications of fungal nail infections. Inadequate period of treatment may lead to recurrence of active infection.
- Resolution of tinea capitis infection.

Why was this drug prescribed for your patient?