NEXTSTEPS IN DERM | GW School of Medicine & Health Sciences

Terbinafine Therapeutic Cheat Sheet

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TRADE NAME

- Lamisil

MECHANISM OF ACTION

- An allylamine that inhibits squalene epoxidase, an enzyme involved in the biosynthesis of ergosterol, an essential component of fungal cell membranes. Inhibition of squalene epoxidase also leads to intracellular squalene accumulation, which eventually causes cell death by interfering with the growth and integrity of the fungal cell wall.[1]

FDA APPROVED FOR

- Oral formulations:
  - Onychomycosis of the toenail or fingernail due to dermatophytes (fda insert)
  - Tinea capitis in patients ≥ 4 years of age
- Topical formulations:
  - Treatment of tinea pedis, tinea cruris and tinea corporis

PREGNANCY

- Pregnancy category B. However, studies have found that terbinafine is safe to use in both its topical and oral forms during pregnancy.[18]
- Caution advised while breastfeeding as it can be found in breast milk. Treatment not recommended while nursing.

MONITORING

- Manufacturers recommend periodic monitoring of liver function. Given the low rate of clinically meaningful lab abnormalities, however, it is increasingly being suggested that lab monitoring is unnecessary in healthy individuals.19 There are currently no guidelines outlining appropriate lab monitoring.
- Per package insert, in patients with known or suspected immunodeficiency, CBC should be checked if treating for > 6 weeks due to risk of a decrease in ALC11

CONTRAINDICATIONS

- Active or chronic hepatic disease or hepatic dysfunction
- History of allergic reaction to oral terbinafine

DOSING

- In its oral form, terbinafine comes in 250mg tablets which adult patients typically take once daily for a number of weeks, depending on the condition being treated:
  - Fingernail onychomycosis: 6 weeks
  - Toenail onychomycosis 12 weeks
  - Tinea pedis/manum/corporis/cruris: 2 weeks[3,4]
  - Majocchi granuloma, tinea barbae: 2-6 weeks[5,6]
- Tinea capitis: administered once daily for 6 weeks. Dosage is based on weight and ranges between 62.5mg to 250mg per day.
- For sporotrichosis, a dose of 500mg twice daily is recommended until 2-4 weeks after lesions resolve[7]
- Topical terbinafine comes in cream, gel and spray formulations and is applied to affected areas:
  - Tinea corporis/cruris: once daily for 1 week
  - Tinea pedis: twice daily for 1-2 weeks

OFF-LABEL USES (ORAL FORMULATION)

- Onychomycosis in the pediatric population[2]
- Tinea corporis/cruris/faciei[3]
- Tinea pedis/manum[4]
- Tinea barbae[5]
- Majocchi's granuloma[6]
- Sporotrichosis (lymphocutaneous and cutaneous)[7]
- It is important to note that although topical formulations be of benefit in tinea versicolor, oral terbinafine is ineffective in these cases[8]

SIDE EFFECTS

- Elevated liver enzymes and hepatotoxicity are likely the most frequently discussed adverse effect when referring to terbinafine, however, reports of serious liver injury are extremely rare. Several studies have highlighted the fact that elevations in liver enzymes are relatively infrequent and, for the most part, clinically irrelevant. A meta-analysis reported that the risk of LFT elevation requiring discontinuation of terbinafine was only 0.35%, while the risk of asymptomatic LFT elevation not requiring treatment discontinuation was 0.7%[9]
- GI symptoms including diarrhea, dyspepsia, nausea and abdominal pain
- Disturbance or loss of taste or smell which typically resolves within weeks of discontinuing medication, although it has been reported to be permanent in some cases[10]
- Headache[10]
- Depressive symptoms which may improve with discontinuation and may recur when therapy is re-started
- Hematologic adverse effects: Neutropenia, transient decreases in absolute lymphocyte count, anemia, thrombocytopenia, pancytopenia, agranulocytosis and thrombotic microangiopathies such as thrombotic thrombocytopenic purpura and hemolytic uremic syndrome[11]
- Pruritus[10]
- Cutaneous reactions reported in the literature: Stevens Johnson Syndrome (SJS)/Toxic epidermal necrolysis (TEN)[12], acute generalized exanthematous pustulosis (AGEP)[13], Drug induced hypersensitivity syndrome (DIHS) / drug reaction with eosinophilia and systemic symptoms (DRESS)[14], urticaria, erythema multiforme[15], psoriasiform eruptions or psoriasis exacerbation[16]
- There are several reports of induction or exacerbation of subacute cutaneous lupus erythematosus (SCLE) which typically develops 1-8 weeks after starting terbinafine[17]

DRUG INTERACTIONS

- Terbinafine is a CYP450 2D6 inhibitor and can therefore lead to increased levels of other drugs metabolized by this enzyme. Therefore, caution is advised when taken with antidepressants, beta-blockers and class IC antiarrhythmics.