

Putting the *fun* in fungi: toenail onychomycosis

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Clinical question

How effective are treatments for mild to moderate adult toenail onychomycosis?

Bottom line

Up to 45% to 60% of patients taking oral treatments, 6% to 23% using topical treatments, and less than 10% taking placebo will be “cured” after about 1 year. Topical treatments should be reserved for cases with minimal ($\leq 40\%$) nail involvement.

Evidence

- Oral agents: In a meta-analysis of 43 RCTs of 9730 patients taking oral agents¹ (eg, about 60% to 70% nail involvement,² 12 to 16 weeks of treatment³), the rates of clinical cure after 4 months to 2 years of follow-up were as follows:
 - In 8 RCTs, rates were 48% for terbinafine and 6% for placebo (number needed to treat [NNT] of 3).
 - In 9 RCTs, the rate was 31% for “azoles” (mostly itraconazole) and 1.4% for placebo (NNT=4).
 - In 15 RCTs, rates were 58% for terbinafine and 46% for azoles (NNT=9).
- Topical ciclopirox: In 3 RCTs of 928 patients (48 weeks of treatment and about 40% nail involvement),^{4,5} “cure” (mycologic and clinical cure) rates were 6% to 8% with topical ciclopirox and 0% to 1% with placebo (NNT= 15 to 23).
- Topical efinaconazole: In 2 identical RCTs of 1655 patients (48 weeks of treatment, assessed at 52 weeks, about 40% nail involvement),⁶ the cure rate was about 16% and about 4% with placebo (NNT of about 9).
 - In an RCT of 135 patients, after 36 weeks’ treatment and 4 weeks’ follow-up (about 40% nail involvement),⁷ the cure rate was about 22% (9% with placebo; NNT=8).

Context

- British guidelines suggest laboratory confirmation before treatment,⁸ but only half of Canadian guidelines recommend this.⁹ Culture results take several weeks and have about a 35% false-negative rate.¹⁰ Fungal stains alone have low sensitivity.¹⁰
- Canadian guidelines suggest topical efinaconazole (<20% nail involvement), efinaconazole with or without oral terbinafine (20% to 60% involvement or for >3 nails), and oral terbinafine (>60% involvement).⁹

- The risk of terbinafine-induced liver injury is about 1 in 50000 to 120000 prescriptions.¹¹
- Terbinafine treatment without confirmatory testing is likely the most cost-effective approach.¹²
- Although not always statistically different, some RCTs found clinical improvement with 4- to 6-month compared with 3-month oral treatment regimens.^{3,13}

Implementation

Owing to the slow growth of toenails and lengthy time for “normal” nails to regrow, it can be difficult to determine the optimal length of therapy. Marking the nail at the proximal edge of infection after 3 to 4 months of oral therapy allows for monitoring of success. Ask the patient to return if the infection moves proximal to the mark or does not grow out after 12 to 18 months.¹⁴ Those with persistent infection might benefit from prolonged treatment. 🌿

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Competing interests

None declared

The opinions expressed in Tools for Practice articles are those of the authors and do not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.

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