Efficacy of pulse vs. continuous terbinafine treatment for onychomycosis

Lawrence Feigenbaum
University of Missouri, USA

Abstract

Purpose: To review the literature and determine whether intermittent or continuous terbinafine therapy is more efficacious in the treatment of onychomycosis.

Data Sources: Searches of PUBMED via MESH database (2002-August 2012) were performed to identify randomized controlled trials using keyword search terms “onychomycosis,” “terbinafine,” and “pulse therapy.”

Study Selection/Data Extraction: All randomized controlled trial articles satisfying the publication date and English language criteria were evaluated in this study. All studies evaluating both continuous and intermittent terbinafine treatment of onychomycosis were included in the review.

Results: Four studies that elucidated whether pulse therapy or continuous therapy in the treatment of onychomycosis were identified. All of the identified studies evaluated aimed to determine whether pulse-dose terbinafine was as effective as standard continuous-dose terbinafine for onychomycosis confirmed by culture, and in some studies, by microscopy. For each of the studies, the continuous treatment group received the standard 250mg daily dose of terbinafine for 12 weeks time. The pulse therapy group adhered to one of the following 12 week total treatment regimens: 2 weeks of 350mg terbinafine daily followed by 2 weeks off treatment, 500mg daily for 1 week per four weeks, 250mg terbinafine daily for 4 weeks followed by 4 weeks of no terbinafine and then an additional 4 weeks of terbinafine, and 250mg terbinafine twice daily during the first week of a four week cycle. The primary outcome measure in most of the studies was mycological cure (defined as negative KOH and culture) evaluated at post-treatment dates ranging from 12 weeks – 36 weeks. Pulse therapy was minimally superior to continuous therapy in one study (83.7% vs. 78.1% cure rate), inferior to continuous therapy in two of the studies (-5.8%; 95% CI -11.8, 0.07 and -12.1%; 95% CI 1.02-1.43 - comparative cure rate), and had similar efficacy in the final study. Both treatment groups were equally well tolerated with abdominal pain, nausea, headaches, and flu-like symptoms being the most frequently reported adverse affects.

Limitations: One of the study’s populations primarily consisted of older men with severe onychomycosis. The differences in pulse-dose regimens make comparative trials difficult to evaluate.

Conclusions: Pulse-dose therapy of terbinafine for the treatment of onychomycosis is not more efficacious in comparison to standard continuous treatment. The purpose, in part, of dose-therapy is to mitigate side effects, however all of the studies reported similar adverse events between the two groups.