

Multiple Onychocryptosis Following Treatment of Onychomycosis With Oral Terbinafine

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The authors report an unusual case of multiple onychocryptosis, which developed following treatment of onychomycosis with oral terbinafine. With new growth of the healthy nail plate, the distal aspect of multiple toenails became ingrown with periungual inflammation. This required several minor surgical procedures to alleviate the onychocryptosis. The authors present this case report as a potential complication of oral antifungal therapy.

We report an unusual case of multiple onychocryptosis in a 49-year-old man following successful treatment of onychomycosis with oral terbinafine. Onychocryptosis is a rarely reported complication of treatment for onychomycosis with oral antifungal agents.¹ Terbinafine and itraconazole used in the treatment of onychomycosis are both efficacious and relatively safe.² Side effects include possible drug interactions, especially with itraconazole.³ Adverse events have been noted to occur with both medications. In a comparison study of both terbinafine and itraconazole, DeBacker et al⁴ reported that adverse events occurred in approximately equal numbers of patients, with 38% for terbinafine and 35.5% for itraconazole. Adverse reactions appeared in the stomach, intestines, and skin and included abnormal liver function tests, taste disorder (terbinafine only), headache, vertigo, and other miscellaneous

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FIGURE 1. Onychocryptosis of the hallux and second toe occurring at the distal aspect of the healthy nail. Penrose drain around the base of the hallux in preparation for chemical matrixectomy.

events.⁴ Paronychia, inflammation, hyperkeratosis, and onycholysis were assessed clinically as a finding of onychomycosis throughout this study. Onychocryptosis did not appear to be an adverse event following treatment. In another comparison study of terbinafine and itraconazole, Arenas et al¹ reported that 5 of 53 patients (2 terbinafine and 3 itraconazole) developed onychocryptosis. The complication was attributed to the healthy proximal nail growth and distal thickened nail debris. Multiple onychocryptosis, found in one patient, has not been previously reported as a complication of oral antifungal therapy.

Case Report

The patient is a 49-year-old male Vietnam War veteran who presented for treatment of distal subungual

onychomycosis. Past medical history was remarkable for Agent Orange exposure during the Vietnam War with secondary peripheral neuropathy. He denied having a prior history of onychocryptosis. He was taking amitriptyline for his painful peripheral neuropathy and denied taking any other medication. Examination revealed thick, yellowish toenails with distal subungual debris. There were no signs of onychocryptosis. The fingernails were unaffected. The patient underwent routine liver function tests, complete blood count, and a fungal culture on dermatophyte test medium. The culture of the toenails was positive for dermatophytes, and the liver function tests and complete blood cell count were all within normal limits. The patient completed a 12-week course of oral terbinafine 250 mg once a day, with follow-up liver function test and complete blood cell count at 6 and 12 weeks. These studies were also within normal limits. Six months after the start of treatment, he presented with onychocryptosis with associated inflammation of the medial and lateral nail borders of the hallux and second toes of the left foot. All of the toenails revealed proximal clearing of the nail plate.

Interestingly, the site of the multiple onychocryptosis corresponded to the area of proximal clearing of the nail plate (Figure 1). Over the next 3 months, the patient developed onychocryptosis of the medial and lateral borders of the hallux and second toes of the right foot, which required multiple excisions of the nail borders. Eventually, chemical matrixectomy was performed on the medial and lateral nail borders of both great toes, right second and third toes, and the lateral border of the left second toe.

Discussion

Distal subungual onychomycosis is the most common type of fungal nail infection.⁵ The distal aspect of the nail is lifted with accompanying subungual debris. Oral antifungal agents are lipophilic and work by penetrating the nail plate.⁶ Clinically, this appears as proximal clearing of the nail plate with resolution of the distal subungual debris. As the healthy nail plate advances, it may adhere to the nail bed, cutting into the lateral nail folds. This theory could explain the cause of the patient's multiple onychocryptosis. The inflammation was secondary to the ingrowing nail and resolved after excision of the offending nail border. The authors reviewed the records of 33 patients who underwent oral terbinafine treatment for onychomycosis from August 1996 to July 1998.

Eighteen patients were seen in follow-up after completion of 12 weeks of therapy. The average follow-up

time was 5 months (range, 1 week–13 months). One patient developed multiple onychocryptosis as noted in the case report. One other patient developed a symptomatic ingrowing toenail 3 months after completion of oral terbinafine. The ingrowing nail was treated with excision of the nail border and chemical matrixectomy. The medication was discontinued after 6 weeks in one patient who had twice the normal level in a liver function test. Two patients discontinued the medication after developing a pruritic macular papular rash. Six patients developed gastrointestinal symptoms ranging from nausea to diarrhea, which resolved without intervention, and they completed the full 12 weeks of treatment.

Summary

Multiple onychocryptosis is a rare complication of oral antifungal therapy for the treatment of onychomycosis. More extensive prospective studies comparing patients treated with palliative foot care versus medical treatment with oral antifungal agents need to be conducted to determine the incidence of onychocryptosis. In our case report, the multiple cases of onychocryptosis were treated with chemical matrixectomy.

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