

Lateral Edge Nail Involvement Indicates Poor Prognosis for Treating Onychomycosis with the New Systemic Antifungals

Sir,

The new systemic antifungal drugs quickly reach the nail plate via rapid diffusion across the nail bed (1-3). This is possible as the nail plate and nail bed are tightly bound.

In 5 out of the 18 patients who did not respond to,

or relapsed on, oral itraconazole or terbinafine we found involvement of the lateral edge of the nail plate.

Looking at the normal histology of this nail region (Figs. 1, 2), we became convinced that there is poor penetration of the antifungal agent into the lateral edge of the nail via the

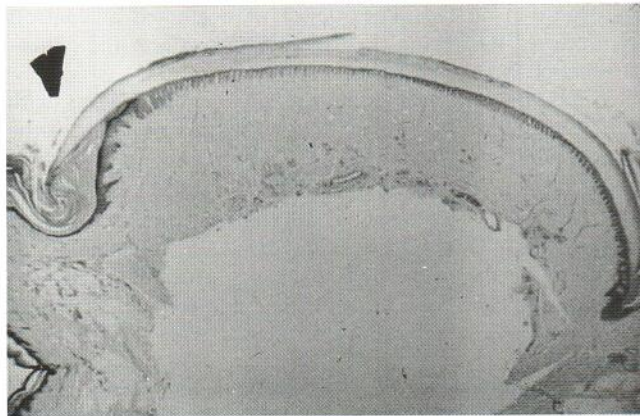


Fig. 1. Transverse section of the distal phalanx, showing absence of adherence of the nail plate to the lateral nail groove (courtesy G. Rodriguez, Colombia).



Fig. 2. Lateral edge of the nail, showing poor adherence to the lateral nail groove (courtesy G. Rodriguez, Colombia).

lateral nail groove, since they do not adhere to subungual tissue. Diffusion of the drug into the lateral nail area probably results mainly from take-up of an antifungal within the newly formed nail, via the matrix. To test our hypothesis, we took 400 mg itraconazole daily for 1 week. On the 8th day we cut 56 mg of the distal margin and 23 mg of the lateral edges of the fingernails to be sent to Janssen Research Foundation. The concentration of itraconazole in the distal margin was 1,013 ng/g but only 677 ng/g in the lateral edges. This difference supports our premise.

Consequently, the physician may want to supplement systemic therapy with surgical partial nail avulsion or keratinolysis (urea avulsion) when the lateral edge of the nail plate is mycotic, or to consider combination therapy with one of the new transungual drug delivery systems.

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Robert Baran¹ and Piet De Doncker²

¹Nail Disease Center, 42, Rue des Serbes, F-06400 Cannes, France and ²Janssen Research Foundation, B-2340 Beerse, Belgium.