

Beau's Lines Associated with Itraconazole

Hsuan-Hsiang Chen and Yi-Hua Liao

Department of Dermatology, National Taiwan University Hospital, 7, Chung-Shan South Road, Taipei, Taiwan.

E-mail: flora0007@sinamail.com

Accepted May 6, 2002.

Sir,

Transverse grooves with an arcuate margin matching the lunula have been known for years as Beau's lines because of the endogenous temporary interference with nail formation some weeks after the precipitant. These may be on isolated diseased digits (trauma, inflammation or neurological events) or generalized, reflecting a systemic event, including malnutrition, cytotoxic agents, zinc deficiency, surgery, or high fever. We present a patient with onychomycosis of the right big toenail who developed Beau's lines on finger and toenails after receiving oral itraconazole.

CASE REPORT

The patient was a 61-year-old man who had onychomycosis at his right big toe for years without treatment and no previous systemic medical diseases, trauma, nutritional deficiency, infections or drug history. Two months after initiation of continuous oral therapy of itraconazole 200 mg per day for 3 months, transverse grooves developed on all his fingernails and toenails. On physical examination, these grooves had an arcuate margin matching the lunula in all 20 nails (Figs. 1, 2). The distance from the mid-portion of the groove to the cuticle of the right big toenail was 3.3 mm. These grooves have been found to be absent after new nail replacement.

DISCUSSION

Oral antifungal agents have never before been reported to cause Beau's lines. De Doncker & Pierard (1), who described the association of itraconazole with an increase in nail growth, found the development of nail surface beading in several patients who were receiving pulsed doses of itraconazole 400 mg per day (1, 2). Histological examination of these patients demonstrated hyperplasia of the dorsal portion of the nail plate without parakeratosis or nail pitting, which suggested a focal and temporary increase in the number of proliferating cells in the dorsal matrix. Beau's lines, however, were not found in their patients. Our patient, on the contrary, showed Beau's lines in his 20 nails without nail surface beading. If itraconazole has a cytotoxic effect on the nail matrix, it is surprising that Beau's lines have not been noted before in this extremely common situation.



Fig. 1. Beau's lines in all the finger nails.



Fig. 2. Onychomycosis of the right big toenail with Beau's lines as well.

The most reasonable explanation for the formation of Beau's lines in our patient could be the sudden transition of the nail growth from normal speed in all the nails (except the right big toenail where it was decreased) to an increased one.

REFERENCES

1. De Doncker P, Pierard GE. Acquired nail beading in patients receiving itraconazole – an indicator of faster nail growth? A study using optical profilometry. *Clin Exp Dermatol* 1994; 19: 404–406.
2. De Doncker P, Decroix J, Pierard GE, Roelant D, Woestenborghs R, Jacqmin P, et al. Antifungal pulse therapy for onychomycosis. A pharmacokinetic and pharmacodynamic investigation of monthly cycles of 1-week pulse therapy with itraconazole. *Arch Dermatol* 1996; 132: 34–41.