

Photo-onycholysis: two cases induced by doxycycline

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S U M M A R Y

Photo-onycholysis is a phototoxic reaction, which is usually drug-induced. It consists of the separation of the nail from the nail bed due to ultraviolet radiation. We report two cases of female patients who developed distal onycholysis while receiving doxycycline. Among the drugs that cause photo-onycholysis, the most frequently cited are tetracyclines, psoralens and fluoroquinolones. Photo-onycholysis is often distal, half-moon shaped and can be surrounded by pigmentation. Spontaneous recovery follows within a few months of discontinuing the drug.

Introduction

Photo-onycholysis is a phototoxic reaction, which is usually drug-induced. It consists in the separation of the nail from the nail bed due to ultraviolet radiation.

Observations

CASE 1

A 42-year-old female patient was examined in September. She had a one month history of painful lesions of all fingernails. Clinical examination of all nails revealed a distal half-moon shaped onycholysis surrounded by a brownish zone. The patient revealed that she had been treated with doxycycline for 20 days during the June and August. Figure 1.

CASE 2

A 20-year-old female patient was being treated for

two months with doxycycline for acne vulgaris, and developed painless nail lesions that appeared immediately on commencement of the treatment. Physical examination revealed a distal onycholysis of all the fingernails. Figure 2.

Follow-up revealed no chronic evolution after the discontinuation of treatment in both cases.

Comment

Photo-onycholysis is an uncommon phototoxic reaction consisting of the separation of the nail from the nail bed due to ultraviolet radiation.

Photo-onycholysis is often drug-induced but it may occur in some disorders characterized by photosensitization, and one such typical condition is porphyria (1). Some authors have also reported cases of spontaneous photo-onycholysis (2). Among the drugs that cause photo-onycholysis, the most frequently cited are tetracyclines (3, 4, 5, 6), psoralens (4, 5, 7), and fluoroquinolones (4). Other drugs may also cause photo-ony-

K E Y W O R D S

**photo-onycholysis,
doxycycline**



Figure 1. Distal onycholysis surrounded by pigmentation.



Figure 2. Distal onycholysis after intake of doxycycline.

cholysis, such as chloramphenicol, oral contraceptives and chlorpromazine (4). Photo-onycholysis may occur immediately after the intake of the drug or may appear several weeks after ceasing to take it. In the latter case, it is probably due to the traces of the drug or certain metabolites in the skin (7).

Clinically, three subtypes of the separation of the nail from its bed may be observed (5):

Type I: a half-moon shaped distal separation surrounded by a pigmented zone, as reported above in our patients. This subtype is the most frequent.

Type II: a proximal circular notch.

Type III: lesions in the central part of the nail.

Photo-onycholysis may be associated with pain, but not in all cases. In our patients, photo-onycholysis was painful in one case only.

Photo-onycholysis is a phototoxic reaction. Some authors have reported that its action spectrum is in the ultraviolet A domain (2), while others believe that it is in the UV-B (3). Hitherto, it has not been possible to reproduce photo-onycholysis simply by exposure to UV light (1, 7).

The affliction of the nails without any involvement of the skin may be explained by the nail structure which acts as a convex lens, focusing ultraviolet radiation onto the nail bed (3, 5). The lack of melanin as well as the absence of stratum granulosum and sebaceous glands in the nail bed limit the natural photoprotection (5).

The outcome is usually benign, and the onycholysis resolves spontaneously within a few months of discontinuing the drug. Our case studies support this outcome.

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