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Dear Editör,

Photo-onycholysis Due to Tetracyclines: a Case Report

(Tetrasiklin Kullanımına Bağlı Fotoonikolizis: Olgu Sunumu)

Photo-onycholysis refers to separation of the nail plate from the nail bed after exposure to ultraviolet light. Drug induced photo-onycholysis is seen most commonly with tetracycline.

A-12-years old boy was admitted to our pediatric department because of fever and arthralgia. He was diagnosed as Brucellosis and treated with rifampin (20 mg/kg/24hr) and tetracycline (30mg/kg/24hr in 3 divided oral doses). Seven days later pinkish-purple discoloration and onycholysis developed on his fingernails. Two weeks later his fingernails darkened to a purple-black color and onycholysis became evident (Picture 1). He was admitted again. Toenails were normal. Tetracycline was discontinued after 14 days of treatment and trimethoprim- sulfamethoxazole was added to therapy. Two months later, the nail changes resolved spontaneously.

Photosensitivity is a well-recognized complication of tetracyclines. Photo-onycholysis has been observed with many of the tetracyclines usually appearing more than 2 weeks commencing drug administration (1, 2). It was first described by Segal as photosensitivity followed by discoloration of the nails and onycholysis (3). Tetracyclines were reported to cause pseudoporphyria, cutaneous pigmentation, erythema multiforme, toxic epidermal necrolysis, Steven-Johnson Syndrome, fixed drug eruptions, pruritis, urticaria and vasculitis (2, 4). Drug induced photo-onycholysis is seen most commonly with tetracyclines, psoralens, non-steroidal anti-inflammatory drugs and fluoroquinolones (5, 6).

Four distinct types of onycholysis were noted after the administration of either antibiotics or psoralens: Type I: Several fingers are involved. The separating part of the nail plate is half-moon shaped and concave distally with a pigmentation of variable intensity and shows a well-demarcated proximal border. Type II: One finger only is affected, a well-defined circular notch is present, which opens distally and has a brownish hue proximally. Type III: In central part of the pink nail bed on several fingers, there is initially a yellow staining that turns reddish after 5-10 days. Type IV: Bullae under the nails (7). Our patient's findings were the same with type-I photo-onycholysis.

A number of possible explanations for why the nails are the sites of predilection for phototoxic damage in some patients have been proposed. Irradiation with 313 to 500nm wavelength can penetrate a 7 mm fingernail plate. The nail acts as a convex lens, which may enhance and concentrate ultraviolet penetration. There is less melanin and therefore less ultraviolet protection in the nail beds than in other sites. It is also possible that application of chemical sunscreen may afford sufficient photo protection for exposed areas of skin while leaving the nail bed unprotected (7, 8). However, the exact patho-mechanism of phototoxic onycholysis remains a matter of conjecture.

In the reported case, the diagnosis of tetracycline-induced photo-onycholysis was made on clinical grounds. Photosensitivity and photo-onycholysis is a well-known side effect of the tetracyclines and derivatives. Especially in summer month's pediatricians must be aware of potential photosensitivity and patients who are prescribed tetracycline should be advised to avoid sun exposure.



Picture 1. Picture of the fingers of the boy, showing onycholysis.

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