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# Unusual Cutaneous Manifestations of Quinolone Therapy

S Antony, E Soto-Ruiz

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## Abstract

Fluoroquinolones are generally well-tolerated antibiotics and are commonly associated with central nervous system and gastrointestinal disturbances [1]. The overall frequency of adverse events among fluoroquinolones ranges from 3-40%. Fluoroquinolones are rarely associated with dermatologic adverse events, which occur at an overall rate of 0.5-3% [2]. Photosensitivity is typically the most common dermatological effect; however there are other rare occurring dermatologic effects such as vasculitis, erythema multiforme, eruptions with hemorrhagic bullae, and Henoch-Schönlein purpura [2]. Few case reports have been published on fluoroquinolone induced Henoch-Schönlein purpura and vasculitis [3-9]. We now report a case of purpura associated with levofloxacin.

## CASE REPORT

A 50 year old white female, with no history of drug allergies, was seen because of purpuric lesions under her fingernails appearing as splinter hemorrhages. The lesions were present in the third, fourth, and fifth fingernails of the left hand as well as in the fourth and fifth fingernails of the right hand. She was initially treated for a urinary tract infection with levofloxacin for five days with good clinical response. Seven days later she developed a bruised quality under the fingernails, which led her to seek further medical care (Figure 1). The patient did not recall any recent trauma to the fingernails and also denied any recent gardening or animal exposure. Her nails were negative for any transverse grooves on the fingernails (Beau's lines). The nails were also negative for leukonychia, which usually present as white spots or streaks on the nail due to separation of the nail and bed. Medications at the time included norethindrone/mestranol (Ortho-Novum®) 1/50 and black cohosh for perimenopausal symptoms. She also used clobetasol topical cream as needed for eczema. Her medical history was negative for hypertension, diabetes, or any hematologic disorder. Laboratory results revealed normal electrolytes, hemoglobin, platelets, and white blood cells. Additional results included negative anti-nuclear antibody and normal C - reactive protein. Based on her recent history and clinical presentation the patient was worked up for possible endocarditis. The levofloxacin had been stopped but was then restarted by her primary care physician with a presumptive diagnosis of sepsis from an unclear source. In

addition , linezolid 600 mg by mouth twice daily was also started .She received 4 weeks of these antibiotics. Echocardiogram was negative and blood cultures revealed no growth after 5 days. During the course of antimicrobial therapy she was sent to the Mayo clinic for further evaluation of the purpura under her fingernails. The mayo clinic was unable to add any further data/diagnostic criteria to her current problem. They did however, stop all her antibiotics. The purpura under the patient's fingernails resolved spontaneously three weeks after initial presentation.

Figure 1



## DISCUSSION

Purpuric lesions, appearing as splinter hemorrhages, often result secondary to trauma or endocarditis. The patient's nails were worn long and well manicured without Beau's lines or leukonychias which reinforces the exclusion of trauma as a cause of the lesions. Endocarditis was also ruled out due to the negative echocardiogram and blood cultures, as well as normal C - reactive protein and sedimentation rate. Medical history did not reveal any hematologic abnormalities and autoimmune disorders were ruled out due to negative anti-nuclear antibody. While at the Mayo Clinic, the patient did exhibit a slightly elevated bleeding time (8.5 min), however this tends to be consistent with the adverse effect profile of fluoroquinolones [1,2]. By a diagnosis of exclusion, medications then became the focus for determining the etiology of the patient's lesions. She had

been taking Ortho-Novum and black cohosh. These medications were evaluated but were not a likely cause of the lesions because the patient had been taking them for a substantial time period without any adverse effects. The purpuric lesions seem to have been attributed to the patient's initial exposure to levofloxacin since her symptoms did not begin until after exposure to the first course of antibiotic treatment. Two case reports of fluoroquinolone-induced purpura described purpuric lesions appearing in the lower extremities within a few days of treatment with a fluoroquinolone. In both cases the lesions resolved after treatment with prednisone, suggesting that this adverse reaction may be immune-modulated [3,4,5]. However, there have some cases where purpuric lesions have spontaneously resolved without steroid treatment [6,7]. The location of purpuric lesions does not seem to be exclusive to the lower extremities, as they have been reported to appear on the trunk, face, and upper extremities [7,9]. This is a rare adverse event associated with various fluoroquinolones but should be included in the differential diagnosis of purpura.

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**Author Information**

**Suresh J. Antony, MD**

Center for Infectious Diseases and Travel Medicine

**Enrique Soto-Ruiz, PharmD**

University of Texas College of Pharmacy