

## Systemic contact dermatitis due to norfloxacin with a positive patch test to quinoline mix

J. F. SILVESTRE, R. ALFONSO, M. MORAGÓN<sup>1</sup>, R. RAMÓN AND R. BOTELLA

Department of Dermatology, Hospital General de Alicante, C/Maestro Alonso 109, 03012 Alicante, Spain

<sup>1</sup>Department of Dermatology, Hospital de San Juan, Spain

**Key words:** systemic contact dermatitis; norfloxacin; quinoline mix; cross-sensitivity; medicaments; oral quinolones.  
© Munksgaard, 1998.

Norfloxacin is a fluorinated 4-quinolone derived from quinoline; clioquinol and chlorquinaldol, in the quinoline mix, are halogenated hydroxyquinolines. All 3 of their structures are based on the 4-oxo-1,4-dihydroquinoline ring.

### Case Report

A 70-year-old male presented with an itchy eruption that had appeared 3 weeks earlier in the genital region, and then spread to the abdomen, lumbosacral region and thighs. It was characterized by merging papulopustular lesions on an erythematous oedematous base. The only significant data in the previous medical history were moderate hypertension and a stroke, resulting in his having taken nimodipine, nifedipine and tetrazepam for 3 years. 3 days before the onset of the eruption, he had received treatment with norfloxacin (400 mg/12 h) for a urinary tract infection. Clinical findings were interpreted as a toxicoderma secondary to norfloxacin, so he received treatment with prednisone (30 mg/24 h) for 15 days, after which the lesions healed. 1 month later, patch testing with the European standard series resulted in a very itchy, erythematous oedematous reaction to quinoline mix, associated with a flare-up of papulopustular lesions in the genital region and inner thighs.

### Discussion

The term systemic contact dermatitis describes delayed-type hypersensitivity to a hapten administered systemically. Systemic contact dermatitis is rare, but lesions such

as contact dermatitis can occasionally be produced by the systemic administration of a substance in patients who have previously been treated with it. The clinical spectrum includes flares at previous sites of dermatitis, flexural dermatitis, the 'baboon' syndrome, eruptive vesicular hand eczema, and a non-specific maculopapular rash.

Regarding the pathogenesis of this dermatitis, immunohistochemical studies performed after administration of the drug reveal that the pathogenetic mechanism includes delayed hypersensitivity (1). There are several well-documented examples of delayed hypersensitivity drug reactions diagnosed by patch testing (2), but, to our knowledge, none due to the new oral quinolones. The positive quinoline mix patch test and the concurrent appearance of a flare-up in the genital region in our patient are clinical evidence that the pathogenetic mechanism in our case is a Type IV hypersensitivity reaction.

Although our patient gave no history of previous sensitization to quinolines, many widely used topical antibacterials have them as an active principle. It is therefore possible that many elderly persons are sensitized to them and thus the risk of toxicoderma secondary to systemic administration of quinolones in elderly people may be increased.

### References

1. Menné T, Veien N, Sjölin K E et al. Systemic contact dermatitis. *Am J Contact Dermatitis* 1994; 5: 1–12.
2. Calkin J M, Maibach H I. Delayed hypersensitivity drug reactions diagnosed by patch testing. *Contact Dermatitis* 1993; 29: 223–233.