

Fixed drug eruption induced by ciprofloxacin and cross-reactivity to other quinolones

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Fixed drug eruption (FDE) is a cutaneous delayed hypersensitivity reaction related to the administration of different drugs that usually resolves upon discontinuation and reappears at the same location after re-exposure to the triggering drug, leaving residual hyperpigmentation. To date, few cases of FDE caused by ciprofloxacin have been reported (1–4).

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Conflicts of interest: None to declare.

Case Report

A 75-year-old woman with a long history of recurrent urinary tract infections resulting from ureteral stenosis presented with three episodes (September 2015, March 2016, and May 2016) of pruritic erythematous plaques of different sizes, > 3 cm, on the right leg, thighs, and left arm, ~48 h after oral intake of ciprofloxacin (Fig. 1).

Skin tests were performed with ciprofloxacin, norfloxacin, levofloxacin, ofloxacin, and moxifloxacin. Prick tests gave positive results for ofloxacin and moxifloxacin, and negative results for ciprofloxacin, norfloxacin, and levofloxacin. Patch tests applied both lesionally, in hyperpigmented areas, and on healthy skin at concentrations



Fig. 1. Cutaneous lesions compatible with a fixed drug eruption caused by ciprofloxacin.

of 10 and 20% pet. gave negative results for all tested quinolones (Table S1).

Therefore, an oral challenge was performed with 500 mg of ciprofloxacin every 12 h; this gave a negative result initially, but, 48 h later, that is, after the fourth

dose, the patient had an FDE at the same location as previous reactions; no new lesions appeared. A skin biopsy was performed, and showed lymphocytic perivascular dermatitis with slight spongiosis of the epidermis. Oral challenge with levofloxacin gave a negative result.

Discussion

We present a case of FDE caused by ciprofloxacin, confirmed by oral challenge and skin biopsy, in which cutaneous tests, including those performed on previously affected sites, gave negative results. Tolerance to levofloxacin has been shown, indicating an absence of cross-reaction between ciprofloxacin and levofloxacin, as described in other studies. Controlled oral challenge seems to be the only way to determine the diagnosis and to show cross-reactivity, as the results of cutaneous tests are inconclusive in the diagnosis of FDE caused by quinolones (5). It is also important to emphasize that the patch test should be performed first, and, if it gives a positive result, the reactivation of previous lesions by an oral challenge should be avoided.

Supporting Information

Additional Supporting Information may be found in the online version of this article:

Table S1. Performed tests and concentrations for prick and patch test.

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	CIPROFLOXACIN	NORFLOXACIN	LEVOFLOXACIN	OFLOXACIN	MOXIFLOXACIN
Prick test (immediate)	(-) 2mg/ml	(-) 20mg/ml	(-) 5mg/ml	(+) 2mg/ml	(+) Tablet 400 mg suspended in NaCl
Prick test (delayed)	(-)	(-)	(-)	(-)	(-)
Patch test (48-96 h and 10 days)	(-) 10-20% vaseline	(-) 10-20% vaseline	(-) 10-20% vaseline	(-) 10-20% vaseline	(-) 10-20% vaseline
Oral challenge immediate	(-)	NT	(-)	NT	NT
Oral challenge delayed	(+)	NT	(-)	NT	NT

(Table S1) Performed tests and concentrations for prick and patch test

NT: no test, (-) negative, (+) positive