

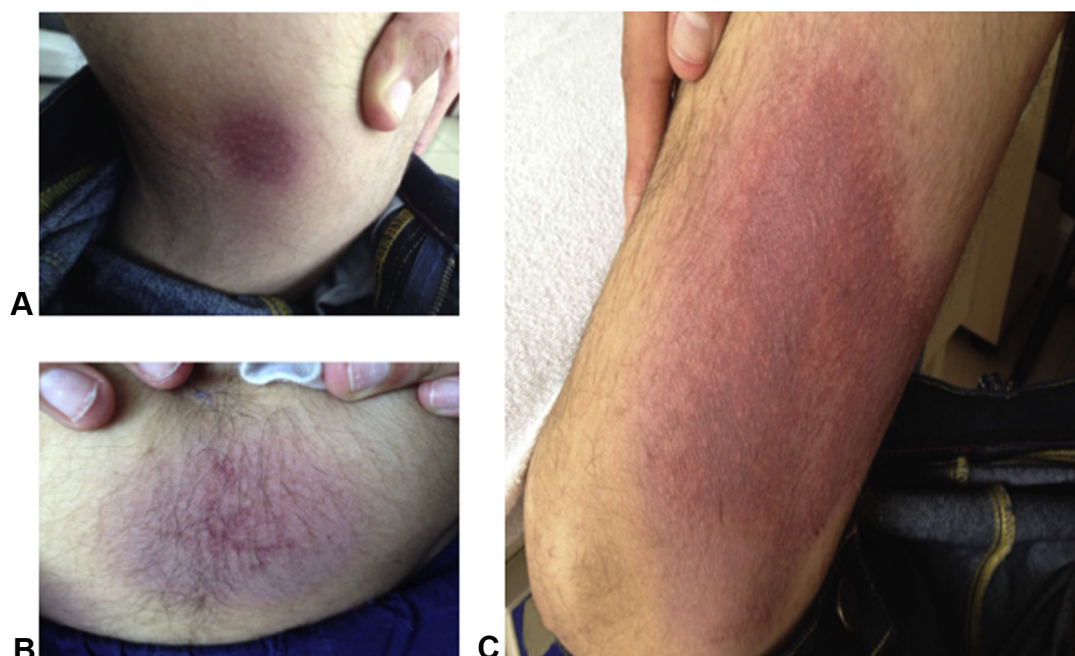
### Fixed Drug Eruption Related to Cefixime in an Adolescent Case



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Fixed drug eruption (FDE) is a distinctive type of drug reaction seen on skin or mucous membrane at the same location after administration of the causative drug.<sup>1</sup> FDE lesions are

characterized by erythematous patches or bullous patches and regress with or without hyperpigmentation.<sup>2</sup> FDE is well recognized with many drugs, including sulfonamides, tetracy-



**FIGURE 1.** Patches that appeared after cefixime use (A) on the upper lateral side of the left popliteal fossa, (B) below the umbilicus, and (C) on the medial area of the right thigh.

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clines, dapsone, ampicillin, acetaminophen, aspirin, other nonsteroidal anti-inflammatory drugs, pseudoephedrine, anti-convulsants, and oral contraceptives;<sup>3</sup> however, cefixime-related FDE is reported only a few in the literature.

A 16-year-old male patient followed by nephrology department with a diagnosis of chronic kidney failure, vesicoureteral reflux, and neurogenic bladder referred to our pediatric allergy department with a complaint of patches on his skin.

He was under treatment with cefixime for urinary tract infection for 4 days. There was no history of any other drug intake before the patches. In the patient's physical examination, an itchy, irregular-bordered, violet-colored 5 × 8 cm patch under the umbilicus, a red-colored 2 × 2 cm patch on the lateral side of the left popliteal fossa, and a 12 × 8 cm patch on the medial area of the right thigh were observed (Figure 1, A-C).

Blood tests were normal, but urine tests revealed 7 leukocytes per high power field. The patient stated that he also used



**FIGURE 2.** Hyperpigmented appearance of the affected area after 3 months of cefixime cessation.

cefixime 3 months ago, which caused similar patches in the same area, and those lesions regressed in 2 to 3 weeks when he discontinued the drug. Keeping in view the nature of lesions and recurrence of reactions after the use of the same drug, a diagnosis of FDE was made and the patient advised to avoid the use of cefixime. Patch tests were applied to the lesional skin and upper back with cefixime (10% in petrolatum) 6 weeks later; however, the results were negative even though the reaction reactivated after the reuse of the same drug. Patches in the thigh area did not regress completely after drug cessation and subsided with residual hyperpigmentation (Figure 2).

FDE is a type of delayed hypersensitivity reaction, and intraepidermal CD8<sup>+</sup> effector/memory T cells play an important role in reactivation of the localized epidermal lesions that characterizes FDEs.<sup>2</sup> In a recent Korean study on FDE,

antibiotics are the second most common causative drugs for FDE; however, cefixime-related FDE was not reported in the study.<sup>4</sup> To our knowledge, this is the second case reported in the literature that describes FDE by cefixime use in children.

Based on clinical presentation, the diagnosis of FDE is usually straightforward. Patch tests and oral provocation tests (OPT) can be helpful in identifying the culprit drug.<sup>5</sup> If there is a suspicion of FDE, skin biopsy can be performed. Histologic findings that support the diagnosis of FDE include liquefaction in the basal layer, mixed-type inflammatory cell infiltration involving eosinophils and melanin incontinence, and edema in papillary dermis in the lesional skin.<sup>6</sup>

Andrade et al<sup>7</sup> reported that the results of patch tests were positive in 40.4% of 21 patients in a 20-year review of patch testing for FDEs. In this report, re-exposure with cefixime after 3 months later induced acute flare on residual lesions; however, patch test results were negative. This result emphasizes the superiority of OPT over patch test in the diagnosis of FDE without generalized lesions.

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