

**Ciprofloxacin induced fixed drug eruption****M. Ravishankar\*, G. Deepika, S. Shwetha**

Department of Pharmacology,  
Adichunchanagiri Institute of  
Medical Sciences, Mandya,  
Karnataka, India

**Received:** 25 August 2014**Accepted:** 23 September 2014**\*Correspondence to**

Dr. M. Ravishankar,  
Email: ravipharmac@yahoo.  
com

**Copyright:** © the author(s),  
publisher and licensee Medip  
Academy. This is an open-  
access article distributed under  
the terms of the Creative  
Commons Attribution Non-  
Commercial License, which  
permits unrestricted non-  
commercial use, distribution,  
and reproduction in any  
medium, provided the original  
work is properly cited.

**ABSTRACT**

Fixed drug eruption (FDE) is a clinical entity occurring in the same site or sites each time the drug is administered. Acute lesions appear as sharply marginated erythematous plaques, which are usually found on lips, genitalia, abdomen, and legs. The eruptions usually occur within hours of administration of the offending agent and resolves spontaneously without scarring after few weeks of onset. Most common drugs causing FDE are sulfonamides, tetracyclines, salicylates, barbiturates, doxycycline, fluconazole, clarithromycin, etc. Ciprofloxacin, a widely used fluoroquinolone antimicrobial, induces cutaneous adverse drug reactions (ADRs) in about 1-2% of treated patients. Urticaria, angioedema, maculopapular exanthems, and photosensitivity are the most frequently documented cutaneous adverse reactions. In this case report, the patient soon after taking ciprofloxacin tablets, developed itching in the lips, palms and in scrotal region. On continuing the treatment, the next day he developed fluid filled lesions over palm, knuckle, and hyperpigmentation. He gives a history of severe itching and rashes in scrotal region. He gives a history of similar complaints in the previous month after taking ciprofloxacin medication. There was no history of intake of any other medication. On examination, bullous lesions and pustules in finger webs, hyperpigmentation on knuckles, and scrotal erosions were seen. In the present case report, the patient presented with FDE immediately after oral administration of ciprofloxacin and got completely cured after stopping the drug and taking adequate treatment. According to the Naranjo's ADR probability scale (score=8), this ADR is categorized as a "probable" reaction to the drug.

**Keywords:** Ciprofloxacin, Tablet, Antimicrobials, Non-steroidal anti-inflammatory drugs, Fixed drug eruption, Adverse drug reaction, Erosions, Bullous, Lesions, Naranjo, Probable

**INTRODUCTION**

Fixed drug eruption (FDE) is a clinical entity occurring in the same site or sites each time the drug is administered. Acute lesions appear as sharply marginated erythematous plaques which are usually found on lips, genitalia, abdomen, and legs. The eruptions usually occur within hours of administration of the offending agent and resolves spontaneously without scarring after few weeks of onset.<sup>1</sup> Most common drugs causing FDE are sulfonamides, tetracyclines, salicylates, barbiturates, doxycycline, fluconazole, clarithromycin, etc.<sup>1,2</sup>

Ciprofloxacin, a widely used fluoroquinolone antimicrobial, induces cutaneous adverse drug reactions (ADRs) in about 1-2% of treated patients.<sup>3</sup> Urticaria, angioedema, maculopapular exanthems, and photosensitivity are the most frequently documented cutaneous adverse reactions.<sup>4</sup>

**CASE REPORT**

A 30-year-old male patient with a history of conjunctivitis was treated with tablet ciprofloxacin 500 mg BD for 5 days. Soon after taking tablets, he developed itching in the lips, palms and in scrotal region. On continuing the treatment, the next day he developed fluid filled lesions over palm, knuckle, and hyperpigmentation. He gives a history of severe itching and rashes in scrotal region. He gives a history of similar complaints in the previous month after taking ciprofloxacin medication. There was no history of intake of any other medication. On examination, bullous lesions and pustules in finger webs, hyperpigmentation on knuckles and scrotal erosions were seen. The association was "probable" as per the Naranjo's scale. Hence, a diagnosis of ciprofloxacin induced drug eruption was made. The patient was treated with, injection avil (pheniramine maleate) intravenously (iv) stat, injection effcoril (hydrocortisone hemisuccinate) iv stat,

tablet wysolone (prednisolone) 20 mg 2-0-0 for 5 days, tablet atarex (hydroxyzine) 10 mg 0-0-1 for 5 days, Etan G cream (clobetasol propionate + gentamicin) for topical application. The patient was asked to review after 5 days.

## DISCUSSION

ADRs are one of the major hazards of modern medicine. Amongst them, cutaneous ADRs are frequently encountered. FDE is a distinctive drug-induced dermatological disorder with a characteristic recurrence at the same sites of the skin or mucous membrane after repeated exposure to the causative drug. FDE is believed to be a lymphocyte CD8-mediated reaction in which drug may induce local reactivation of memory T-cell lymphocytes localized in epidermal and dermal tissues.<sup>5</sup> The most common drugs causing FDE are antimicrobials followed by non-steroidal anti-inflammatory drugs.<sup>1</sup>

Ciprofloxacin is one of the most common antimicrobials used in practice. It is a fluorinated quinolone having broad antimicrobial activity against both Gram-positive and Gram-negative organisms, excellent tissue penetration, twice a day dosage schedule and is effective after oral as well as parenteral administration. Side effects of ciprofloxacin

are relatively few, and development of resistance by microbes is also rare. It is used in infections of urinary tract, respiratory tract, bones and soft tissues. A few cases of ciprofloxacin-induced photosensitivity, hypersensitivity, anaphylaxis, vasculitis, erythema multiforme or toxic epidermal necrolysis have been reported so far.<sup>6</sup> FDE to ciprofloxacin is rarely reported.

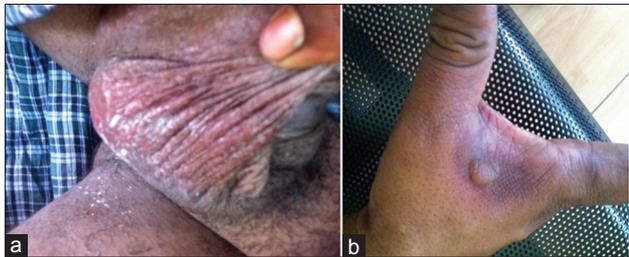
In the present case report, the patient presented with FDE immediately after oral administration of ciprofloxacin and completely cured after stopping the drug. According to the Naranjo's ADR probability scale (score=8),<sup>7</sup> this ADR is categorized as a "probable" reaction to the drug.

Therefore, this rare case is presented to create awareness about the side-effects associated with this very commonly prescribed antimicrobial agent. Another aspect to be noted in this case report is that a proper detailed history regarding previous drug-induced allergies would have averted this ADR as the patient had a previous history of a similar reaction to ciprofloxacin.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*



**Figure 1: (a and b) Tablet ciprofloxacin induced scrotal erosions, bullous lesions.**



**Figure 2: Tablet ciprofloxacin induced hyperpigmentation.**

## REFERENCES

1. Kaur I, Singh J. Cutaneous drug reaction with intravenous ceftriaxone. *Indian J Pharmacol.* 2009;41(6):284-5.
2. Chatterjee S, Ghosh AP, Barbhuiya J, Dey SK. Adverse cutaneous drug reactions: a one year survey at a dermatology outpatient clinic of a tertiary care hospital. *Indian J Pharmacol.* 2006;38:429-31.
3. Rönnau AC, Sachs B, von Schmiedeberg S, Hunzelmann N, Ruzicka T, Gleichmann E, et al. Cutaneous adverse reaction to ciprofloxacin: demonstration of specific lymphocyte proliferation and cross-reactivity to ofloxacin *in vitro*. *Acta Derm Venereol.* 1997;77(4):285-8.
4. Campi P, Pichler WJ. Quinolone hypersensitivity. *Curr Opin Allergy Clin Immunol.* 2003;3(4):275-81.
5. Shiohara T, Mizukawa Y. Fixed drug eruption: a disease mediated by self-inflicted responses of intraepidermal T cells. *Eur J Dermatol.* 2007;17(3):201-8.
6. Jeevanagi SR, Manjunath S, Wali VK. A case of ciprofloxacin-induced erythema multiforme. *Indian J Pharmacol.* 2008;40(1):45-6.
7. Naranjo CA, Busto U, Sellers EM, Sandor P, Ruiz I, Roberts EA, et al. A method for estimating the probability of adverse drug reactions. *Clin Pharmacol Ther.* 1981;30(2):239-45.

**doi:** 10.5455/2319-2003.ijbcp20141203

**Cite this article as:** Ravishankar M, Deepika G, Shwetha S. Ciprofloxacin induced fixed drug eruption. *Int J Basic Clin Pharmacol* 2014;3:1096-7.