Fixed Drug Eruption to Cetirizine: An Unusual Villain

Sir,
The H1-antihistamine cetirizine, a second generation piperazine derivative widely used in daily dermatology practice, is rarely the cause of cutaneous drug reaction. We present the case of a 24-year-old man with a multilocalized fixed drug eruption (FDE) following oral intake of cetirizine for his skin disease.

A 21-year-old male patient presented to department of dermatology with chief complaints of itchy dark-colored lesion over his left lower leg since 2 months. On examination there was single localized, scaly, hyperpigmented, and eczematous plaque. Diagnosis of nummular eczema was made and patient was advised topical steroid with emollients and oral cetirizine 10 mg per day to control pruritus. The following day, patient came back with multiple itchy dark color lesions associated with burning sensation over trunk, upper extremities, and buttocks. Lesions were multiple, well circumscribed, round, hyperpigmented patches with surrounding erythema [Figures 1a and b]. Patient gave the history of developing these lesions immediately 1 h after taking cetirizine. Oral cavity and genitals were not involved. Patient denied any history of oral cetirizine intake and similar complaints in the past. Patient was told to stop taking cetirizine and continue with emollients. Provisional diagnosis of FDE to cetirizine and erythema multiforme was made. Use of the Naranjo Adverse Drug Reaction (ADR) Probability Scale[1] indicated a probable relationship between this cutaneous adverse effect and cetirizine therapy in this patient. Histopathological examination revealed epidermal hyperplasia, spongiosis, interface vacuolar changes, pigmentary incontinence, and lymphocytes within basal layer. The dermis showed eosinophilic and neutrophilic perivasculat infiltrate and extravasated red blood cells (RBCs) [Figures 2 and 3]. Final diagnosis of FDE to cetirizine was made on basis of these findings and history. On follow-up visit, after resolution of lesions, patient denied both oral provocation test and patch testing due to the fear of having these lesions again, despite our best counselling. Patient was reassured and advised not to take cetirizine and other related piperazine derivatives in future.

FDE is characterized by a sudden onset of annular, edematous, dusky-red macules, or plaques on the skin and/or mucous membranes, along with burning sensation and/or itching.[2,3] Characteristic residual hyperpigmentation will be seen after lesions subside.

Second generations H1 antihistamines have an excellent safety profile, with little or no affinity for muscarinic cholinergic receptors and are hence free from anticholinergic effects. FDE due to antihistamines is very rare, considering their extensive use worldwide for allergic rhinitis, urticaria, eczema and, other allergic disorders, and they may be under recognized. The H1-antihistaminics implicated in FDE are diphenhydramine, cyclizine, phenothiazines, loratadine, hydroxyzine, and in few cases with cetirizine and levocetirizine.[4] To the best of our knowledge, there are only six case reports [Table 1] of FDE to cetirizine.[4] Reactions to one preparation are likely to show similar reactions with other members of the same class.

Cetirizine, being an anti-allergic medication is rarely suspected of causing hypersensitivity reactions and FDE. Proper history, clinical examination and past history of drug reactions should be elicited and a high degree of suspicion should be kept in mind regarding possibility of reactions to antihistamines.

Financial support and sponsorship
Nil.

How to cite this article: Ardeshna KP, Rohatgi S, Jerajani HR. Fixed drug eruption to cetirizine: An unusual villain. Indian Dermatol Online J 2018;9:55-7.

Access this article online
Website: www.idoj.in
DOI: 10.4103/idoj.IDOJ_20_17
Quick Response Code:
Ardeshna, et al.: An unusual villain

Table 1: Previous case reports of fixed drug eruption (FDE) to cetirizine

| Author                  | Comments                                                                                                                                                                                                 |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kränke and Kern. 2000   | Multilocated erythematous eruptions with central bulla, following 12 h of oral cetirizine intake in a 27-year-old male. One month later, similar eruptions with same morphological features and at same site were reported after 6 h of cetirizine intake. Histopathology and patch test with cetirizine on the previous lesion were confirmatory. Patient tolerated unrelated antihistamine loratadine very well. First case to be reported |
| Gharami. 2001           | Solitary reddish brown patch over left chest, one day following oral cetirizine intake in a 24-year-old male. Oral provocation test with cetirizine after 4 weeks was positive                                           |
| Assouère, et al. 2002   | Third episode of FDE to cetirizine and hydroxyzine in a 73-year-old male, after 4 h of oral intake, with same morphological features and at same site to that of previous episodes. Histopathology was positive; however, patch test was negative |
| Inamadar, et al. 2002   | Multiple, slate-colored, well-circumscribed, round lesions on trunk surrounded by erythema, appeared on second day of oral cetirizine intake in a 45-year-old male. Oral rechallenge test with cetirizine after 15 days was positive |
| Cravo, et al. 2007      | Multiple round, erythematoviolaceous, well-defined plaques, with central blisters, localized on trunk, forearms and dorsum of hands, following 4 h of oral intake of 10 mg cetirizine in a 45-year-old female. History of three previous cutaneous eruptions with the same morphological features in the same sites following cetirizine intake were present. Patch test were positive for hydroxyzine, cetirizine, and levocetirizine |
| Gupta, et al. 2014      | Multiple, itchy, erythematous, and edematous macules over pre-existing hyperpigmented patches that were present for the last 4 years in a 52-year-old female, following 3 h of levocetirizine intake. History of five similar episodes in last 4 years were present. Oral provocation test were positive for cetirizine and levocetirizine |
Conflicts of interest

There are no conflicts of interest.

References

1. 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;30:239-45.
2. Sehgal VN, Srivastava G. Fixed drug eruption (FDE): Changing scenario of incriminating drugs. Int J Dermatol 2006;45:897-908.
3. Nigen S, Knowles SR, Shear NH. Drug eruption: Approaching the diagnosis of drug induced skin diseases. J Drugs Dermatol 2003;2:278-99.
4. Shakouri, Alireza A, Bahna, Sami L. Hypersensitivity to antihistamines. Allergy Asthma Proc 2013;34:488-96.
5. Kränke B, Kern T. Multilocalized fixed drug eruption to the antihistamine cetirizine. J Allergy Clin Immunol 2000;106:988.
6. Gharami RS. An unusual reaction to a commonly used drug. Indian J Dermatol Venereol Leprol 2001;67:107.
7. Assouère MN, Mazereeuw-Hautier J, Bonafé JL. Cutaneous drug eruption with two antihistaminic drugs of a same chemical family: Cetirizine and hydroxyzine. Ann Dermatol Venereol 2002;129:1295-8.
8. Inamadar AC, Palit A, Athanikar SB, Sampagavi VV, Deshmukh NS. Multiple fixed drug eruptions due to cetirizine. Br J Dermatol 2002;147:1025-6.
9. Cravo M, Gonçalo M, Figueiredo A. Fixed drug eruption to cetirizine with positive lesional patch tests to the three piperazine derivatives. Int J Dermatol 2007;46:760-2.
10. Gupta LK, Agarwal N, Khare AK, Mittal A. Fixed drug eruption to levocetirizine and cetirizine. Indian J Dermatol 2014;59:411-3.