Fixed Drug Eruption Induced by Levocetirizine

A 45-year-old woman presented to our clinic with itchy erythematous lesions distributed on the left wrist, right knee, and back. The patient had been prescribed levocetirizine 5 mg/day due to allergic rhinitis. One day after taking the first dose of levocetirizine, the patient noticed a burning sensation and itching, followed by patchy plaques. Patient history revealed that, within the last two years, the patient had developed similar lesions four times after using levocetirizine for allergic rhinitis. Skin examination revealed multiple well-defined erythematous patchy lesions distributed on the dorsum of the right hand, left hand wrist, and right knee [Figures 1 and 2]. Skin biopsy was performed from the lesions on the left arm. Histopathologic examination showed eosinophilic spongiosis in the epidermis, vacuolar changes in the basal layer, and perivascular infiltrate of lymphocytes, accompanied by eosinophil leukocytes in the upper dermis [Figure 3]. The diagnosis of FDE was established based on the clinical findings, clinical history of the patient, and the histopathologic findings.

Fixed drug eruption (FDE) is a common drug reaction that often recurs at the same location after exposure to the same drug and is characterized by erythematous and edematous plaques.[1] More than one hundred drugs have been blamed in the pathogenesis of FDE, predominantly including tetracyclines, sulfonamides, and barbiturates. Rarely, antihistamines such as cetirizine, levocetirizine, and laratadine, being antiallergic drugs, paradoxically produce FDE lesions.[1-5] Lesions in FDE typically occur within a few hours or days after exposure to the offending drug. These lesions may be localized in any part of the body, glans penis, and the sacral region.[2]

Diagnosis of FDE is often established clinically. However, histopathologic analysis can be helpful for the diagnosis. Oral provocation tests can be performed to confirm the diagnosis of FDE; however, these tests are not recommended because they have a risk of generalized bullous eruption. Patch testing is particularly used as a first step in the diagnosis of children and common bullous fix drug eruptions.[3,4] In our patient, no oral provocation test and patch test was performed as the idea was rejected by the patient. The causal relationship between levocetirizine and the FDE was found to be definite according to the objective causality assessment by the Naranjo probability scale (Naranjo score = 10). According to the World Health Organization-Uppsala Monitoring Center (WHO-UMC) criteria, which were used for the evaluation of adverse drug reaction for causality assessment, the assigned causality category for this adverse drug reaction was revealed as “certain.”

Levocetirizine, which is a derivative of piperazine, is a second-generation antihistamine agent. It is commonly prescribed for the treatment of allergic rhinitis. Although it is known to be a safe drug, levocetirizine may lead to cutaneous side effects, including itching, urticaria, and angioneurotic edema.[4,5] In the literature, only a few cases of FDE caused by levocetirizine have been reported.[2-5] In this report, we presented a patient with levocetirizine-induced fixed drug eruption whose diagnosis was confirmed by histopathologic findings. Although levocetirizine-induced FDE is a rare entity,
Figure 1: Sharply margined, erythematous patches of varying sizes are seen on the extensor surface of right hand, left wrist, and right knee.

Figure 2: Sharply margined, erythematous patches of varying sizes are seen on the left extensor surface of forearm.

Figure 3: Eosinophilic spongiosis in the epidermis, vacuolar changes in the basal layer, and perivascular infiltrate of lymphocytes accompanied by eosinophil leukocytes in the upper dermis (HE; ×400).

Clinicians should be aware of this side effect during the levocetirizine therapy.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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