A Rare Case of Rifampicin-Induced Urticaria Confirmed by Drug Provocation Test

Sir,

Urticaria is defined as a skin lesion consisting of a wheal (intracutaneous edema) and flare (surrounding area of erythema) reaction which is generally pruritic.[1] Drug-induced urticaria (DIU) accounts for 0.16% of medical inpatients and 9% of chronic urticaria or angioedema seen in Dermatology Outpatient Departments.[2] DIU is the second most common type of cutaneous drug eruption, the most common being maculopapular rash. DIU usually occurs within 24 h of drug intake.[2] DIU has been reported with many drugs. Rifampicin has been extensively used for tuberculosis and leprosy. Rifampin is usually considered as safe drug and rifampicin-induced urticaria has been rarely reported in the literature.[3] Here, we report a case of rifampicin-induced urticaria in a patient with multibacillary leprosy.

A 15-year-old male, known case of multibacillary Hansen’s Disease, presented with complaints of generalized itching and erythematous raised lesions on the body within 30 min of intake of 600 mg of rifampicin. He also gave history of similar lesions during the last dose of rifampicin, 1 month back. During both the episodes, the patient took levocetirizine 5 mg over the counter and was relieved. When the patient presented to the hospital, he did not have any symptoms. Since the lesions appeared only on the day he took rifampicin and never on the other days, it was suspected to be due to rifampicin. Hence, dapsone and clofazimine were continued, ofloxacin was added and rifampicin was stopped. The patient was called for admission for drug provocation test (DPT) after 1 month. On admission, the patient was explained about the test and written informed consent was obtained. Before the test, there was no significant finding on his mucocutaneous examination. His vitals and all the routine investigations were within normal limits. He was given 300 mg of oral rifampicin capsule after keeping the resuscitation tray ready. The patient was observed. After around 30 min of the drug intake, he developed pruritic erythematous plaque of 1 cm × 1 cm to 2 cm × 1 cm scattered over bilateral upper limbs and trunk [Figures 1 and 2].
On examination, his temperature was 98.1°F, pulse 86 beats/min, and blood pressure was 120/70 mm of Hg. There was no swelling of lips or hoarseness of voice. There was no history of any other drug intake except those mentioned above. His complete blood counts, liver, and renal function tests after the DPT also were within normal limits except slightly raised eosinophils count (8%). Based on the history and DPT, he was diagnosed with a case of rifampicin-induced urticaria. The patient was given tablet fexofenadine 180mg once a day for three days. The patient was relieved within 4 h after taking single dose of fexofenadine.

Rifampicin was discovered in 1957 and since 1968, it has been extensively used for tuberculosis and leprosy. Its action is bactericidal mainly by inhibition of bacterial RNA polymerase. The high prevalence of tuberculosis and leprosy in our part of the world, and that it is one of the most potent antibiotics against bacterial pathogens makes it an important drug. Rifampicin is usually considered a safe drug. The most common adverse drug reaction of rifampicin are hepatotoxicity, flu-like syndrome, gastrointestinal symptoms, thrombocytopenia, vasculitis, purpura, and elevated transaminases levels. However, urticaria and angioedema has rarely been documented in the literature. A DPT is the controlled administration of a drug used to diagnose drug hypersensitivity reactions. It is also known as drug challenge test and is performed under medical surveillance. The drug to be tested can be administered by any of the following routes: parenteral, subcutaneous, topical, bronchial, or conjunctival. However, the oral route is favored if possible, since absorption and the development of adverse reactions is slower, thus can be treated earlier. The dose of the drug to be given while testing for its hypersensitivity depends on various factors such as: (i) the drug, (ii) the route of administration (iii) the time between the drug intake and onset of hypersensitivity reactions, (iii) type of the reaction, (iv) comorbidities of the patient, if any and (v) the overall state of the health of the patient. DPT should be started with a low dose, carefully increasing it and stopping as soon as the first objective symptom appear. Hence, we started at 300 mg (half of which had led to the reaction). Since, the patient had reaction at this dose, a higher dosing was not required. Most of the patients are labeled as being allergic to the drugs based on the history or on the nonspecific laboratory tests, for example, higher levels of IgE in patients with aspirin hypersensitivity. If the hypersensitivity reactions are not severe enough, it is always better to perform a challenge test to confirm the drug, especially if the patient is on multidrug therapy.

DIU has been seen with many drugs such as antibiotics and nonsteroidal anti-inflammatory drugs. However, very few cases have been reported with rifampicin. Rifampicin is an important drug in the treatment of leprosy, any adverse reaction occurring due to it, should be well documented and confirmed.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/ their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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