Dear Editor

Positive Skin Prick Test to Cefcapene Pivoxil Hydrochloride Hydrate: A Case Report

Cefcapene pivoxil hydrochloride hydrate (CFPN-PI) (Flomox®, Shionogi & Co., Ltd., Osaka, Japan) is an oral cepham antibiotic that exerts an antibacterial effect by inhibiting the synthesis of bacterial cell walls. Here, we described the first case of a positive skin prick test to CFPN-PI.

A 67-year-old Japanese man was referred to our department for performance of allergy tests. He had undergone tooth extraction using local anesthesia (xylocaine 2% with adrenaline, xylestesin™-A, 3M Health Care Ltd., Tokyo, Japan) at a private dental clinic because of caries 1 month before his first visit to our department. After the treatment, he had taken a CFPN-PI 100 mg tablet. After 30 minutes, he noticed multiple wheals over his whole body with slight dyspnea. He immediately visited the emergency department of a general hospital and the eruption and the dyspnea disappeared completely within a few hours with treatment with intravenous drip injection of Strong-Neo-Minophagen C. On the next day he consulted with a dermatologist in the general hospital. A medication allergy to CFPN-PI or local anesthetic was suspected based on the history. In an initial physical examination in our department, no eruption was seen anywhere on his body. Laboratory data, including a complete blood count and liver function test results, were also within normal limits. A false positive was observed in a lymphocyte transformation test to CFPN-PI (stimulation index 1.6; false positive 1.6-1.7; positive ≥1.8). Therefore, skin prick tests were performed in an inpatient setting using a CFPN-PI tablet and xylestesin™-A diluted (×1, ×10, ×100) with normal saline solution, respectively. The skin prick tests were carried out using 1% histamine hydrochloride solution and normal saline as positive and negative controls, respectively. After fifteen minutes, the tests showed negative with xylestesin™-A (×1, ×10, ×100) and CFPN-PI solutions (×10, ×100), but positive with a CFPN-PI solution (×1) (Fig. 1). The same tests were all negative in a healthy control. Therefore, we diagnosed this case as immediate type drug allergy due to CFPN-PI.

CFPN-PI was developed in 1997 in Japan as a cepham antibiotic used to treat infections. It is indicated for treatment of a wide range of bacterial infections, including skin, respiratory, pharyngeal tonsil, urinary tract, gynecologic, ophthalmologic, otologic, dental, and oral infections. CFPN-PI is also approved for use in bacterial infections in Korea. However, to our knowledge, this report and that of Kawada et al. are the only two descriptions of drug allergy induced by CFPN-PI in the English language literature. In Kawada et al., the patient was given 100 mg/day oral CFPN-PI for prevention of infection of the thigh skin at a site at which an angioinfusion catheter had been placed for hepatic cancer 2 days earlier. Patch tests with CFPN-PI 10% and 1% pet were positive, which indicated delayed type allergy. The patient in our case showed an immediate-type allergic reaction on the basis of positive skin prick test. Therefore, this report is the first to describe a CFPN-PI-induced immediate type drug eruption.

Oral administration of CFPN-PI is considered to be useful and convenient for treatment of various bacterial infections in an outpatient setting. In the past, he had also used CFPN-PI several times to treat bacterial infection. Therefore, the sensitization to CFPN-PI might have occurred unconsciously. According to the Shionogi pharmaceutical company, a frequency of CFPN-PI-induced immediate type reaction such as urticaria and anaphylactic shock was <0.1%. However, medical practitioners should be aware of potential allergic reactions to CFPN-PI, which might occur in the form of immediate or delayed-type adverse drug reactions.

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