

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)¹ is an oral cephem 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, xylestesinTM-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 xylestesinTM-A diluted ($\times 1$, $\times 10$, $\times 100$) 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 xylestesinTM-A ($\times 1$, $\times 10$, $\times 100$) and CFPN-PI solutions ($\times 10$, $\times 100$), but positive with a CFPN-PI solution ($\times 1$) (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 cephem 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.²⁻⁴ CFPN-PI is also approved for use in bacterial infections in Korea. However, to our knowledge, this report and that of

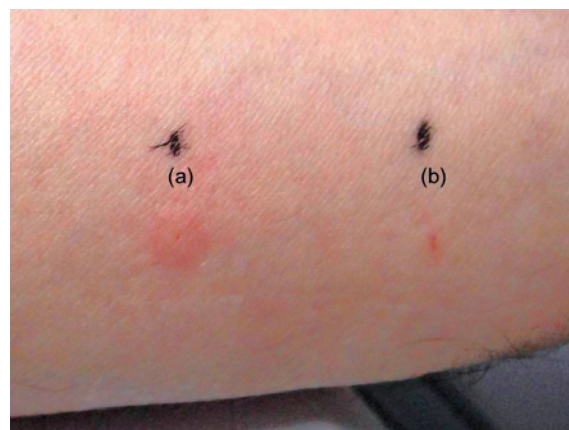


Fig. 1 Positive skin prick test in response to CFPN-PI on the left forearm. (a) $\times 1$ dilution, (b) normal saline.

Kawada *et al.*¹ are the only two descriptions of drug allergy induced by CFPN-PI in the English language literature. In Kawada *et al.*,¹ 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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