

Case report

Cross-sensitivity among oxicams in piroxicam-caused fixed drug eruption: two case reports

Ordoqui E, De Barrio M, Rodríguez VM, Herrero T, Gil PJ, Baeza ML. Cross-sensitivity among oxicams in piroxicam-caused fixed drug eruption: two case reports. Allergy 1995; 50: 741-744. © Munksgaard 1995.

E. Ordoqui, M. De Barrio,
V. M. Rodríguez, T. Herrero, P. J. Gil,
M. L. Baeza

Sección de Alergología, Hospital General
Universitario "Gregorio Marañón", Madrid,
Spain

Fixed drug eruption (FDE) caused by oxicams is very rare. There are few reports of FDE induced by piroxicam, and this explains why cross-sensitivity among oxicams (piroxicam, tenoxicam, and droxicam) has been studied in only one patient. The patch test on residual lesions has lately been used by some authors in FDE diagnosis with variable results. We describe two cases of piroxicam-caused FDE and demonstrate cross-sensitivity among piroxicam, tenoxicam, and droxicam in both of them. One patient had residual lesions and the patch test was useful for diagnosis and cross-sensitization studies. The second patient had no residual lesions, and the patch test was negative on normal but previously affected skin; therefore, the study was performed by single-blind controlled oral challenge.

Key words: cross-sensitivity; droxicam; fixed drug eruption (FDE); NSAIDs; oxicams; patch test; piroxicam; tenoxicam.

Dr Manuel De Barrio
Sección de Alergia, HGU "Gregorio Marañón"
C/ Dr Esquerdo, 46
28007 Madrid
Spain

Accepted for publication 4 April 1995

Fixed drug eruption (FDE) is a peculiar cutaneous reaction caused by various drugs (1, 3, 10). The pathogenesis of FDE is unknown although there is some evidence that antibody-dependent cellular cytotoxicity causes keratinocyte damage (12).

Oxicams are nonsteroidal anti-inflammatory drugs (NSAIDs) widely used in osteoarthritis treatment. There are three drugs in this family available in Spain: piroxicam, droxicam, and tenoxicam. Their most common adverse effects are related to the gastrointestinal tract, central nervous system, and skin (7, 9). Frequently, these side-effects are mild, and the overall tolerance of oxicams is good.

FDE caused by oxicams is unusual and cross-sensitivity among these drugs has not yet been established. We have found only one study on a patient who reacted to piroxicam, droxicam, and tenoxicam on patch testing (8).

Photosensitivity is more common, and cross-

sensitivity between droxicam and piroxicam has been described in some patients who did not react to tenoxicam on photopatch testing (11, 13). Droxicam is a piroxicam prodrug which is rapidly hydrolyzed in the gastrointestinal tract, and a similar biotransformation process may occur in the skin (13). This might explain the cross-sensitivity between these two different chemical structures.

We describe two cases of piroxicam-related FDE and show cross-sensitivity among piroxicam, droxicam, and tenoxicam.

Case reports

Case 1

A 45-year-old white woman with osteoarthritis, otherwise healthy, had received several treatment courses of different NSAIDs with good tolerance. Five years before, after rectal administration of

piroxicam, she had developed large edematous plaques with bullae on both elbows, distal hand phalanges, thighs, and the inguinal region. On physical examination, a well-defined hyperpigmented area was observed on the left thigh region.

Allergologic study

The patch test was performed by a modified technique described by Alanko et al. (1). Briefly, 0.1 ml of piroxicam (10%), tenoxicam (10%), or droxicam (10%) in dimethyl-sulfoxide (DMSO) was applied with standard epicutaneous occlusive disks (Leuko TestTM). No reaction was observed when patch tests were placed on normal back skin, but an FDE-like lesion appeared when they were applied on residual thigh lesions after 24 h, with piroxicam, tenoxicam (Fig. 1), and droxicam (Fig. 2). DMSO by itself did not evoke a cutaneous reaction on normal skin or residual lesions.

Case 2

A 40-year-old white man with psoriasis, thrombopenia, and cervicoarthritis, and no personal or family

history of allergic diseases, exhibited erythematoviolaceous maculae on the left foot, after oral administration of piroxicam. No residual lesions were observed.

Allergologic study

The patch test with piroxicam in DMSO (10%) on normal but previously affected skin was negative. Single-blind, oral, controlled challenge with 10 mg of tenoxicam was positive. Eight hours after challenge, erythematoviolaceous maculae appeared on the left foot. When 5 mg of droxicam was given, the same FDE lesions were observed after 24 h. Sixteen hours after oral administration of 5 mg of piroxicam, the reaction reappeared.

Discussion

FDE is a cutaneous reaction caused by various drugs, mainly barbiturates, pirazolones, psychotropic drugs, chemotherapeutic agents, several antimicrobials (sulfonamides, tetracyclines), and NSAIDs (1). Oxicams are a rare cause of it.

Cross-sensitivity among drugs with similar chemi-



Fig. 1. Topical provocation (patch test) with tenoxicam (10%, DMSO). FDE-like lesion after 24 h.



Fig. 2. Topical provocation (patch test) with droxicam (10%, DMSO). FDE-like lesion after 24 h.

cal structures has been studied in FDE (1, 5), especially among pirazolones and sulfonamides, by topical testing and/or controlled oral challenge. Patch testing on residual lesions has previously given variable results, probably because of the use of inappropriate vehicles or drug concentrations (1, 2, 6). Recently we have confirmed, through anatomicopathologic studies, the induction of local FDE lesions in sensitive patients after topical provocation with sulfonamides (4) and piroxicam (14). This technique is noninvasive and useful for diagnosis and may help to establish the antigenic relationship among related drugs. We emphasize the patch test on residual lesions as a noninvasive and sensitive tool for FDE diagnosis.

Gastamiza et al. (8) reported one patient with FDE caused by piroxicam who reacted to tenoxicam and droxicam on patch testing on residual lesions. We describe two more cases of piroxicam-caused FDE and confirm cross-sensitivity among these three drugs.

We conclude that all oxicams should be avoided when one of them is shown to cause this cutaneous disease.

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