

Short Communication

Piroxicam- β -cyclodextrin and photosensitivity reactions

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Piroxicam is one of the more frequently prescribed non-steroidal anti-inflammatory drugs (NSAIDs) in Portugal, due to its efficacy and once-daily dosage (1). A new piroxicam formulation has recently been marketed in Portugal: piroxicam- β -cyclodextrine (PBCD; Brexin®), the result of supermolecular encapsulation of piroxicam with the cyclic oligosaccharide β -cyclodextrine, which results in increased bioavailability (2).

Piroxicam photosensitivity reactions are well-known (3). Their proximate cause is a photoproduct, induced by the UVA radiation, which cross-reacts with thimerosal (4, 5). In 1996, thimerosal accounted for 15.4% of patch test reactions in the grouped data of the GPEDC (6).

Patients and Methods

We reviewed the records of 15 patients with confirmed piroxicam photosensitivity, observed between January 1996 and September 1997. All patients were patch tested with thiosalicylic acid 1% pet., piroxicam 0.5% and 1% pet. and the implicated NSAID, in duplicate sets, and the standard series proposed by the GPEDC. After 2 days, 1 set of patches was irradiated with 5 J/cm² UVA. Readings were made at 2 and 4 days, according to ICDRG recommendations.

Results

The patients studied were equally distributed by sex (53% female), with a mean age of 47 years (26–73 years). Only 1 patient had a family history of atopy. 2 patients reported a previous allergic reaction to Merthiolate. The cause of sensitization was unknown in the other patients. Reactions occurred all the year round, with 2 peaks in March and July. The drug implicated was free piroxicam in 9 cases and PBCD in 6 cases. All patients gave positive patch tests to thimerosal and thiosalicylic acid, and positive photopatch tests to piroxicam and the drug "as is". Only 1 patient had a positive patch test to mercury ammonium chloride.

Discussion

According to INFARMED data (Portuguese Drugs and Pharmacy Institute), PBCD accounted for about

16.6% of piroxicam sales in 1996. Thus, there is a clear disproportion between the PBCD photosensitivity cases (6 out of 15) and the number of sales of this drug ($p=0.02$ and 95% confidence interval 0.175–0.65). We think this could be because of its greater bioavailability. In the USA, the frequency of adverse drug reactions to piroxicam is about 2.4% (7). However, in 1996, in our Cutaneous Allergology and Occupational Dermatitis Out-patient Clinic, piroxicam photosensitivity represented 21.1% of the positive medicament patch tests. We suspect that piroxicam photosensitivity prevalence in the Portuguese population is higher than that reported in the USA, due to our higher background level of thimerosal sensitization.

We propose that piroxicam use, especially in its new formulation PBCD, should be avoided in Portugal, and other countries with high prevalences of sensitization to thimerosal. If an oxicam drug is required, tenoxicam should be prescribed, which does not show such photosensitivity (5).

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