

Open-label, open-ended study of the safety of diclofenac sodium topical solution for management of osteoarthritis: characterization of application-site adverse events

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Purpose

Randomized, double-blind trials of diclofenac sodium topical solution (TDiclo) in osteoarthritis (OA) of the knee have demonstrated efficacy similar to oral diclofenac, with fewer systemic adverse events (AEs). The most common AEs occurring with TDiclo were application-site reactions. To characterize these reactions in a clinical setting, safety data were analyzed in patients who received TDiclo in a Canadian compassionate-use treatment program for OA.

Method

This was a multicenter, open-label, open-ended study conducted in Canada. Patients with physician-diagnosed OA were instructed to apply 5 drops (small joint, eg, knuckle), 20 drops (medium joint, eg, wrist), or 40 drops (large joint, eg, knee) of TDiclo, 4 times daily. Follow-up safety assessments were scheduled at one month, 3 months, 6 months, and 12 months, and yearly thereafter. At each visit, the investigator asked the patient open-ended questions about any AE occurring since the last visit, assessed the application site for signs of irritation and scored it (0=no visible reaction; 0.5=equivocal response, itching burning sensation, pruritus; 1=mild erythema; 2=intense erythema; 3=intense erythema with edema; and 4=intense erythema with edema and vesicular eruption).

Results

A total of 4213 patients were enrolled. The duration of exposure to TDiclo extended over 6 to 12 months in 12.4% and ≥ 12 months in 19.8%. The most common AEs were application-site reactions in 112 of the 4213 patients (2.7%), which included rash (1.2%), dry skin (.6%), and pruritus (.5%). Data regarding skin irritation score were available for 1923 patients; of these, 1798 (93.5%) had a score of 0 (no visible reaction), 59 (3.1%) had a score of .5 (equivocal response, itching, burning sensation); and 48 (2.5%) had a score of one (mild erythema). A score of 2 (intense erythema) was recorded in 7 (0.4%) and a score of 3 (intense erythema with edema) in 6 (.3%) patients; a score of 4 (intense erythema with edema and vesicular eruption) was recorded in only 5 patients (.3%). A total of 40 patients (.9%) reported discontinuing treatment because of an application-site reaction. No data were collected on potential patient interventions such as emollients or creams.

Conclusions

Consistent with published controlled, clinical trials, the most common AEs in individuals with OA treated with TDiclo in clinical practice were skin-related. Their occurrence was low, and few patients discontinued treatment because of these reactions. Given the risk of systemic AEs associated with oral diclofenac, TDiclo has obvious potential for the reduction of adverse effects.