In-vitro skin permeation and biological evaluation of lornoxicam monolithic transdermal patches.

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Abstract

ABSTRACT
Objective: Transdermal patch is a promising approach that allows continuous input of drugs with short biological half-lives. The present study was designed to evaluate the short t1/2- lornoxicam (LX) transdermal patches through in-vitro skin permeation, skin irritation and biological evaluation on rat induced paw edema.
Methods: LX patches were prepared using different polymer blends and plasticizers. The effect of Span80 and TranscutolÈ as permeation enhancers in absence and presence of oleic acid (OA), isopropyl myristate (IPM), triacetine and castor oil, on transdermal permeation through rat skin, was investigated. The safety of LX patches was evaluated through skin irritation study. The biological evaluation regarding the antiinflammatory effect of LX patches on rat paw edema was tested.
Results: The following were the principal findings of this research. First, there was very good correlation between LX flux and the presence of IPM, Oleic as well as propylene glycol compared to other oils and triacetine. Second, span80 had significantly improved LX permeation from Eudragit blends (E100). while combining transcutol- castor oil showed no remarkable increase in drug flux. Third, the primary irritancy index (PII) proved the non-irritancy of the drug or any of the film components and showed that the innovated films are safe to be applied to skin for the intended period of time. Finally, LX patches had significantly inhibited the carrageenan induced rat paw edema compared to oral treatment.
Conclusion: This study has supplied us with brightening results concerning the questionable equipotent therapeutic efficacy of transdermal versus oral LX and not irritant to skin.
Keywords: Lornoxicam, Transdermal patches, Inhibition of edema, Irritation test

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