Formulation and evaluation of Lornoxicam Transdermal patch

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Abstract

In the present study, an attempt was made to develop Transdermal Patch of Lornoxicam by solvent casting method. Drug-excipients incompatibility study was carried out using Fourier Transform Infrared spectroscopy (FTIR) which shows that drug and excipients were compatible to each other. Transdermal Patch of Lornoxicam containing Hydroxy Propyl Methylcellulose K15M and natural polymer like Psyllium and Guar Gum were developed by solvent casting method by using glycerin and PEG 400 as a Plasticizer and propylene Glycol as a permeation enhancer. An optimized formulation P5 (Psyllium 50mg, HPMC K15M 150mg) was having excellent appearance, transparency, % elongation (20.46±0.43), tensile strength (8.48 kg/cm^2), folding endurance (398±1.027) and *ex vivo* maximum drug release 93.14 % drug within 24 h. Glycerin (40 % w/w of polymer) and PEG 400 (40%w/w of polymer) was used as the plasticizer which gave good elasticity to the film. Stability studies of an optimized batch showed no significant change in appearance, elasticity, folding endurance and *ex vivo* drug release after storage at 40 ±2 ^{o}C and 75±5% RH and 30±2°C and 65±5 % RH for a period of one month. This approach suggested that the transdermal patch of Lornoxicam using Hydroxy Propyl Methylcellulose K15M and psyllium gives control release for 24 h.

Key words: Transdermal Patch, Solvent casting method, Lornoxicam, Psyllium, Guar gum, HPMC K15M, Controlled drug release.