Formulation and evaluation of Transdermal drug delivery of anti emetic drug

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Abstract

In the present study, an attempt was made to develop transdermal film of Prochlorperazine maleate by solvent casting method intended for treatment of chemotherapy induced nausea and vomiting and selection of most satisfactory formulation by *ex vivo* evaluation. 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 film of Prochlorperazine maleate containing Hydroxy Propyl Methyl cellulose K4M, Hydroxy Propyl Methyl cellulose K15M and glycerin were developed by solvent casting method. An optimized formulation was having excellent appearance, transparency, % elongation, tensile strength, folding endurance and ex vivo drug release. Batch F8(4%)(50:50) shows maximum ex vivo drug release with a maximum time. Glycerin (20 % w/w) was used as the plasticizer which provide good elasticity to the film. Stability studies of an optimized batch showed no significant change in appearance, elasticity, folding endurance and in vitro 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 film of Prochlorperazine maleate using Hydroxy Propyl Methyl cellulose K4M(2%) and Hydroxy Propyl Methyl cellulose K15M(2%) gives more sustain release action in around 12 hours and may decrease the dosing frequency of the drug in management of chemotherapy induced nausea and vomiting.