

Iontophoretic Drug Transport of Some Anti-Diabetic Agents

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Abstract : Transdermal iontophoretic drug delivery system is viable drug delivery platform technology and has a strong market worldwide. Transdermal drug delivery system is particularly desirable for therapeutic agents that need prolonged administration at controlled plasma level. This makes appropriateness to antihypertensive and anti-diabetic agents for their transdermal development. Controlled zero order absorption, easily termination of drug delivery and easy to administration also support for popularity of transdermal delivery. In this current research iontophoretic delivery of various anti diabetic agents like glipizide, glibenclamide and glimepiride were carried out. The experiments were carried out at different drug concentrations and different current densities using cathodal iontophoresis. Diffusion cell for iontophoretic permeation study was modified according to Glikfield Design. Pig skin was used for in vitro permeation study and for the in-vivo study New Zealand rabbits were used. At all concentration level iontophoresis showed enhanced permeation rate compared to passive controls. Iontophoretic transports of selected drugs were found to be increased with the current densities. Results showed that target permeation rate for selected drugs could be achieved with the aid of iontophoresis by increasing the area in an appreciable range.

Keywords : transdermal, iontophoresis, pig skin, rabbits, glipizide, glibenclamide

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