ABSTRACT

Hydrogel are used as transdermal drug delivery systems for systematic therapeutic purposes. We hypothesized that the skin permeation profile o could be modulated by incorporating HPMC E50 LV into a hydrogel containing differing proportions of thickening agent. The objectives of this study were as follows: 1) to determine the stability and skin irritability of hydrogel gels containing 1%, 2%, and 3% (w/w) HPMC E50 LV. 2) to compare the skin permeation profiles and drug deposition patterns of the hydrogel and 3) to visualize the drug delivery routes of the hydrogel. First prepare gel by taking 6gm HPMC E50 LV with 100 ml water, continuously stirring in the magnetic starrier. Then check that visual and sensory observation. After that determine the pH by using pH meter. Next study FTIR spectroscopy. The spreadability was performed by two glass slide , take 1gm gel and check the spreadability. And viscosity study was performed by brookfield viscometer, to check the viscosity in 37-38°C. The drug release have performed by using buffer with pH 1.2 and 7.4, in drug release kinetic the temperature kept constant 37°C and with draw sample in 5min interval for analysis. Check the absorbance in UV visible spectrophotometer in 263nm wavelength and calculate the percentage of drug release and release kinetics profile of drug form gel. In this case also performed the antimicrobial study against S.aureus and Pseudomonas aeruginosa and calculate the zone of inhibition.

Keywords: hydrogel, HPMC E50 LV, TDDS, spectroscopy, antimicrobial, S.aureus and P. aeruginosa

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