

ABSTRACT

CHARACTERIZATION AND RELEASE OF IBUPROFEN IN PRONIOSOME SYSTEM MADE BY SOLVENT PROPANOL AND AQUOUS PHASE GLYCEROL 0,1% IN HPMC GEL

Lailatul Mukharromah

The aim of this study was to determine the characterization and release of ibuprofen in proniosome system which consist of ibuprofen-Span 60-cholesterol with molar ratio 2:1:0,75 made by solvent propanol and aqueous phase glycerol 0,1% in HPMC gel. Proniosome Ibuprofen prepared by coacervation-phase separation method then formulated in HPMC gel. The evaluation of each formula are included by organoleptic, pH, spread diameter, and release test. The result showed that proniosome system had effect on the organoleptic, pH and spread diameter at zero load. Data analyze showed that pH of formula I was $4,74 \pm 0,19$ and formula II was $64,85 \pm 0,20$. Spread diameter at zero load formula I was $6,1 \pm 0,36$ cm and formula II was $5,57 \pm 0,058$ cm. Drug release was determined using a diffusion cell and cellophane membrane in phosphate buffer pH $6 \pm 0,05$; temperature $32 \pm 0,5^{\circ}\text{C}$ during 7 hours. The drug release (flux) of ibuprofen from HPMC gel without proniosome system and with proniosome system were $108,28 \pm 3,241 \mu\text{g}/\text{cm}^2/\text{menit}^{1/2}$ and $89,08 \pm 3,1676 \mu\text{g}/\text{cm}^2/\text{min}^{1/2}$. The result was analyzed by statistic programmed of using Independent sample T-test with degree of confident 95% ($\alpha = 0,05$). Research result revealed that ibuprofen release in proniosome system from HPMC gel was lower than release of ibuprofen from formula without proniosome system.

Keywords : Proniosome, ibuprofen, Span 60, characterization, drug release