

ABSTRACT

The Effect of Concentration Hydroxypropyl Methylcellulose K15M towards Physical Characteristics, Floating Characteristics, and Release Ranitidine HCl from Sustained Release Floating Tablets.

Muhammad Arif Kurniawan

The rationale of this research was to prepare a gastroretentive drug delivery system of Ranitidine HCl. Floating Drug delivery system used to target drug release in the stomach or to the upper part of the intestine. Currently, floating tablets are one of the important categories of drug delivery systems with gastric retentive behavior. Ranitidine hydrochloride is a H₂ blocker and absorbed from the upper part of gastrointestinal track and hence there is need to develop a dosage form that release the drug in stomach so that it can be absorbed from upper part of gastrointestinal track leading to improved bioavailability.

Four different formulas of ranitidine HCl were prepared by wet granulation using different concentration of hydroxypropyl methylcellulose K15M, which first formula (FI) without hydroxypropyl methylcellulose. The formula II, formula III and formula IV used hydroxypropyl methylcellulose K15M 10%, 20% and 30% respectively. The prepared tablets were evaluated on their physical, floating and drug release characteristics. The dissolution test was performed using 900 ml of 0,1 N hydrochloric acid, at $37 \pm 0,5^{\circ}\text{C}$ and 50 rpm.

The result showed that the kinetic release of all the formulas (FII, FIII and FIV) are dominated Higuchi kinetics.

Key word : ranitidine HCl, *floating* tablet, Hydroxypropyl methylcellulose K15M.