

ABSTRACT

The Effect Of Various Concentration HPMC K100LV toward Physical and Mucoadhesive Characteristics Of Ranitidine HCl from Sustained Release Mucoadhesive Tablets.

(Combination Of Carbopol 934P and HPMC K100LV as Matrix Tablet)

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The purpose of this study is to prepare an oral sustained release mucoadhesive tablet. Mucoadhesive tablets are developed to prolong gastric residence time. Ranitidine HCl is one of the H_2 blocker that commonly used for treatment of gastrointestinal disease such as gastric ulcer and duodenal ulcer. Mucoadhesive drug delivery system is developed to prolong gastric residence time to enhance the absorption of ranitidine HCl. The desired outcome of the mucoadhesive systems is to increase its bioavailability and to reduce the frequent of its administration.

The tablets are prepared using wet granulation with combination of Carbopol 934P and Hydroxypropil Methylcellulose K100LV (HPMC K100LV) as matrix tablet. Combination of Carbopol 934P dan HPMC K100LV are used because Carbopol have good mucoadhesive strength so the tablet could adhere on the mucus and HPMC K100LV was used to control the release of the drug from matrix tablet. The prepared tablets will be evaluated on their physical and mucoadhesion characteristics. The tablets will be evaluated for its friability, and hardness. Mucoadhesion characteristics consist of mucoadhesion time and swelling index.

In this research, different concentration of HPMC K100LV (10%, 20%, 30%) influences on its mucoadhesive properties in result increasing the value of swelling index. In the other hand, different concentration of HPMC K100LV don't increase the hardness of tablet and the friability of tablet don't have significant difference. The ex vivo study can't be measured properly because of the mucin turnover. In the next research, measuring mucoadhesion time must use the other method.

Keywords : ranitidin HCl, mucoadhesive tablet, HPMC K100LV, Carbopol 934P.