ABSTRACT

Effect of Drug Polymer Ratio on Physical Characteristic and Release Profile of Ketoprofen-Carboxymethyl Chitosan Microparticles (Prepared by spray drying methods)

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Microparticles of ketoprofen could be developed to decreased gastric irritation and extend absorption that ranging in size from 1 to 1000 µm. The aim of this research was to investigate the effect of ketoprofen-carboxymethyl chitosan (CM Chitosan). Ratio on physical characteristic, drug content, and drug release of microparticles ketoprofen-CM Chitosan. Microparticle with ketoprofen-CM Chitosan ratio 3:15 (F1), 5:15 (F2) and 6:15 (F3) were prepared by ionic gelation with CaCl₂, then dried by spray drying methods. The result showed that CM Chitosan microparticle of ketoprofen have irregular shape. The particle size, drug content, and encapsulation efficiency of microparticles increased by increasing the amount of ketoprofen. In simulated intestinal fluid, the release rate ketoprofen in microparticles was slower than ketoprofen powder. Microparticle with the highest amount of ketoprofen have the fastest release rate.

Keywords: ketoprofen, carboxymethyl chitosan, microparticle, spray drying, calcium chloride.