ABSTRACT

Effect of Carboxymethyl Chitosan Concentration on Physical Characteristic and Release Profile of Ketoprofen-Carboxymethyl Chitosan Microparticles
(Prepared by Spray drying method)

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Microparticles of ketoprofen-carboxymethyl chitosan could be developed to extend absorption and decrease gastric irritation. The aim of this research is to investigate the effect of carboxymethyl chitosan concentration (0.125%, 0.250%, 0.375%, and 0.750%) on physical characteristic, drug content, and drug release of ketoprofen-carboxymethyl chitosan microparticles. Microparticle was prepared by ionic gelation using CaCl₂ as cross linker, and dried by spray drying method. The result showed that as the carboxymethyl chitosan concentration increased, the mean particle size of microparticles and the entrapment efficiency of the drugs increased. In simulated intestinal fluid, the release ketoprofen in microparticles was slower than ketoprofen control.

Keywords: ketoprofen, carboxymethyl chitosan, CaCl₂, microparticle, spray drying