[PE1-12] [04/18/2003 (Fri) 09:30 - 12:30 / Hall P]

Swelling and Drug Release Behavior of Tablets Coated with Aqueous Hydroxypropyl Methylcellulose Phthalate (HPMCP) Nanoparticles

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Organic solvent-based enteric coating technology using hydroxypropyl methylcellulose phthalate (HPMCP) has been developed for many years due to low water solubility of HPMCP. In this work, aqueous HPMCP nanoparticles (HPMCP-NPs) were prepared by neutralization emulsification method using HPMCP powder and ammonium hydroxide (NH4OH) in the absence of any organic solvent and emulsifier. Tablets for enteric usage were coated with HPMCP-NP dispersions having different degree of neutralization, which was manipulated by ion exchange process. Disintegration and dissolution behavior of coated tablets were investigated using UV-visible spectrophotometer based on USP method (pH 1.2 and at 37oC) and simulated in intestinal fluid (pH 6.8 and at 37oC for 60min), respectively. The ion exchange process directly achieved by the protonation of dissociated carboxylic acid group of the aqueous HPMCP-NPs was introduced as a useful way to control the release rate of drug and hydrophobic nature of HPMCP coating layer with a view for pharmaceutical application. The drug release and swelling increased as conductivity of aqueous HPMCP-NPs increased. On the other hand, particle size and polydispersity decreases as degree of neutralization increased.

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Effect of *Acanthopanax koreanum* on D-galactosamine and lipopolysaccharide-induced fulminant hepatitis

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The roots and rhizome of *Acanthopanax koreanum* are used as folk medicine to ameliorate hepatitis in Korea. The ability of *A. koreanum* to protect mice from fulminant hepatitis induced in mice by D-galactosamine and lipopolysaccharide was evaluated. Preparations of *A. koreanum* used were an ethanol extract, a water extract, and the ethanol-soluble and ethanol-insoluble components of the water extract. Rats were pretreated with extract by intraperitoneal injection or orally, 12 h and 1 h before intraperitoneal injection of D-galactosamine and lipopolysaccharide. Intraperitoneal pretreatment with the water extract or the ethanol-insoluble component of the water extract markedly reduced the elevated levels of alanine aminotransferase (ALT), aspartate aminotransferase (AST) and tumor necrosis factor-alpha (TNF-alpha), reduced the histological changes in the liver, and attenuated hepatocyte apoptosis confirmed by the terminal deoxynucleotidyl transferase-mediated dUTP nick end-labeling method and DNA fragmentation assay. Oral pretreatment with the ethanol-insoluble component of the water extract also reduced serum AST, ALT and TNF-alpha levels. The present study shows that the ethanol-insoluble component of a water extract from *A. koreanum* has a protective effect against the induction of fulminant hepatitis in mice by D-galactosamine and lipopolysaccharide.