

[Yakuzaigaku, 56, 239-245(1996)]

[Lab. of Pharm. Engineering]

**Core-particle Design and Control of Coating Film by Suspension  
Coating with Chitosan.**

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and TOSHIYUKI NIWA

The core particles composed of theophylline and sodium tripolyphosphate for coating were prepared by agglomeration using the wet-spherical agglomeration process. The resultant agglomerates were coated uniformly with a chitosan-tripolyphosphate complex film by suspension coating in liquid. The drug (theophylline) release rate was described by 0-order kinetics, which was controlled inversely by the film thickness. The thickness of the complex film was determined by setting the agglomeration conditions for preparation of the core particles to the limit that suspension coating conditions were unchanged.

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[Lab. of Pharm. Engineering]

**Improvement in Compressing Properties of Drug crystals Using a  
Spray-drying Technique.**

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Three types of spray-dried particles of acetaminophen were prepared from the 10w/w% ethanol solution of acetaminophen (method A), 2w/w% aqueous solution of acetaminophen (method B) and 10w/w% aqueous suspension of acetaminophen (method C). The compressibility of those particles and the original powders were evaluated with the tensile strengths of the tablets. The values were in the following order: particle A = particle B > particle C > original powders. Improvement in the compressibility of the spray-dried particles was attributed to the finely recrystallized drug particles from the spray-drying process.

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[Lab. of Pharm. Engineering]

**Preparation of Controlled Releasing Acrylic Polymer Microspheres  
of Acebutolol Hydrochloride and Those Powder Coated Microspheres  
with Sodium Alginate in a Polymeric Spherical Crystallization Sys-  
tem.**

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TOMOAKI HINO

Acrylic polymer (Eudragit-RS or -RS PM) microspheres of acebutolol hydrochloride, a highly water soluble model drug, were prepared by the polymeric spherical crystallization technique with a good solvent (acetone + ethanol), a bridging liquid (water) and a poor solvent (cyclohexane) system. The microspheres were produced through coacervation of the drug and polymer in quasi-emulsion droplets of the good solvent and the bridging liquid mixture, but were dissolved when dispersed in the poor solvent.