Division of Clinical Pharmacy
Department of Pharmaceutics

Outline

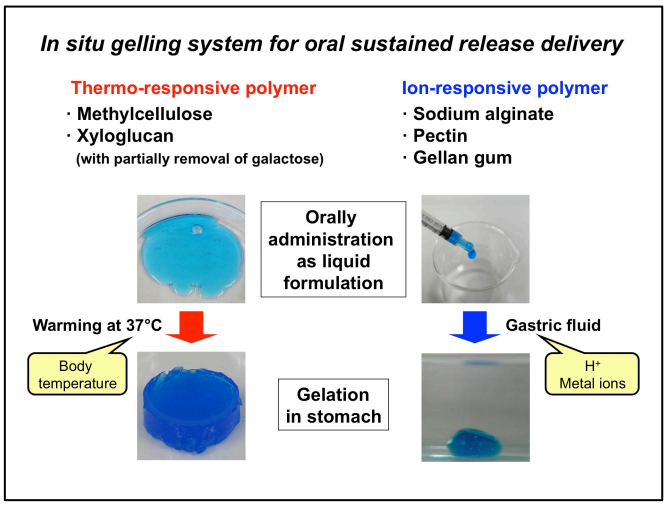
With the functional decline of swallowing, it was frequently difficult to swallow the tablets and capsules in elder patients. In our laboratory, a variety of materials have been investigated to prepare gel formulations with suitable characteristics for use by geriatric patients. In Japanese medical institution, Simple Suspension Method (SSM) is used to administrate drugs via enteral feeding tubes for the patient who can not swallowing. However, the information of the drug solubility and stability at SSM is insufficient. So we are also aiming to construct the database of solubility of many drugs at SSM.

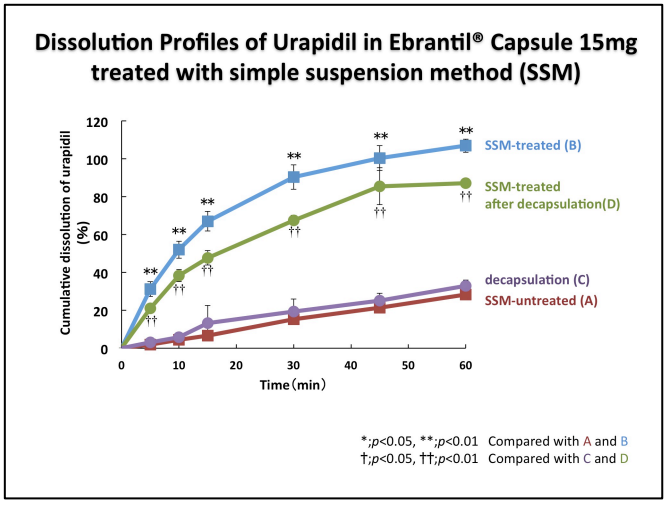
Faculty members

Professor ; Michiya KOBAYASHI, Ph.D.
Associate Professor ; Kunihiko ITOH, Ph.D.
Assistant Professor ; Tetsuya SHIMOYAMA, Ph.D.

Main research in progress

1) Analysis of dissolution behavior for various solid formulations treated with Simple Suspension Method.
2) Monitoring of blood concentrations of drugs for Therapeutic Drug Monitoring.
3) Design of suitable formulation for geriatrics and dysphagic patients by use of natural polysaccharide gels.
4) Analysis of rheological properties of natural polysaccharides.





Current publications

* Sakurada W, Shimoyama T, Itoh K, Kobayashi M, Changes in elution of urapidil sustained release capsules prepared by simple suspension method, *Jpn. J. Pharm. Health Care Sci.*, 42(5), 350-355 (2016).
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* Shimoyama T, Uraki M, Takahashi A, Kobayashi M, Takahata M, Makino Y, Itoh K, Kobayashi M, Effect of drug on physical characteristics of oral methylcellulose/alginate formulation, *J. Pharm. Sci. Tech. Jpn*, 74(1), 73-83 (2014).
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* Shimoyama T, Miyagi Y, Itoh K, Kobayashi M, Effect of storage temperature on gelation of oral methylcellulose formulation, *Yakugaku Zasshi*, 133(6), 719-725 (2013).
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* Itoh K., Hatakeyama T., Kimura T., Shimoyama T., Miyazaki S., D'Emanuele A., Attwood D., Effect of D-sorbitol on the thermal gelation of methylcellulose formulations for drug delivery, *Chem. Pharm. Bull.*, 58(2), 247-9 (2010).
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