

Department of Clinical Pharmacology and Therapeutics

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General Summary

The principle of drug treatment is to maximize pharmacological effects while preventing adverse events. Clinical Pharmacology is the scientific discipline that involves all aspects of the relationship of drugs and patients. Research in clinical pharmacology is usually interdisciplinary and is often performed in collaboration with other professionals and with clinical researchers from other medical specialties. Clinical pharmacokinetics is the basis for determining the dose of a drug and optimizing the results achieved in each patient, so-called personalized medicine. Clinical pharmacology has an important role in the development of new drugs, repositioning drugs, and reevaluating drug efficacy on the basis of exploratory hypotheses from cohort studies.

In addition to conducting research, another important part of clinical pharmacology is the teaching of clinical pharmacology to medical students and new physicians, nurses, and pharmacists.

Research Activities

Cardiotoxicity of anticancer drugs

We are conducting a retrospective observational study of more than 2,000 patients receiving anticancer drugs at 4 affiliated Jikei University Hospitals in 2018 and 2019.

Pharmacokinetic/pharmacodynamic studies in disease states

We are evaluating the predictive performance of a pharmacokinetic–pharmacodynamic model of digoxin in patients with heart failure and renal impairment.

Clinical pharmacology of cardiovascular drugs

We are conducting a cohort study and are planning clinical trials to examine the effects of novel drugs in patients with heart failure.

Publications

Hirai T, Naganuma M, Shiga T, Echizen H, Itoh T, Hagiwara N. Serum digoxin concentrations and outcomes in patients with heart failure and atrial fibrillation: A single-center observational study. *Rinsho Yakuri (Jpn J Clin Pharmacol Ther)*. 2020; **51**(2): 57–64. doi.org/10.3999/jsct.51.57.

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