

Department of Internal Medicine

Division of General Medicine

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Research Activities

Division of General Medicine, The Jikei University Hospital

We are constructing a database of our medical examinations and treatments performed for primary care in outpatients units. The data and information of every outpatient are being gathered from a form of our own design filled out by the physicians. The data and information include the reason for visiting the clinic, physical symptoms or complaints, whether other physicians had been consulted, primary diagnoses, and the contents of examinations and care. The accumulation of our data, especially in the case of initial visits, are expected to be useful for analyzing trends in primary care at major general hospitals.

Division of General Medicine, The Jikei University Aoto Hospital

The mechanisms of the beneficial effects of sarpogrelate, a 5-HT_{2A} receptor antagonist, were examined in diabetes mellitus. Sarpogrelate may improve cardiac function in diabetes by promoting the expression of membrane glucose transporters and by releasing insulin from the pancreas.

Division of General Medicine, The Jikei University Daisan Hospital

1. Study of factors of infection in elderly inpatients

To investigate the relation between infection and several factors in elderly inpatients, we studied the relation of infection with the nutritional state, administered drugs, and biochemical markers. We found that the poor nutritional state and the use of gastric acid-suppressive drugs promote infection in elderly inpatients.

2. Study of fever of unknown origin

We attempted to clarify the causes of fever of unknown origin by measuring white blood cells, the erythrocyte sedimentation rate, and levels of C-reactive protein, adenosine deaminase, 2-5 oligoadenylate synthetase, soluble interleukin-2 receptor, and procalcitonin. We found that viral infection can be distinguished from bacterial infection on the basis of the results of these measurements. Procalcitonin is useful for diagnosing Gram-negative rod sepsis.

Division of General Medicine, The Jikei University Kashiwa Hospital

1. Investigation of the role of general medicine on environmental health achievement

We carried out our tasks of community-based health care according to a regional medical plan in close coordination with the concerned government agencies and with the Kashiwa Medical Society. We developed a new regional nutritional education system for subjects with metabolic syndrome in the Kashiwa area, and this work received a grant from the Chiba Foundation for Health Promotion & Disease Prevention in 2010. We also participated again this year in the development of a local health care system in Kashiwa as members of a local governance committee and recognized the importance of point-of-care testing to detect patients in the early stage of illness. Therefore, we developed a system for measuring lipids in point-of-care testing and reported the results at the 79th annual conference of the European Atherosclerosis Society.

2. Studies of lipid metabolism and atherosclerosis

- 1) The relationship between the Japanese diet and the incidence of cardiovascular disease was investigated exhaustively through large-scale cohort studies in Japan.
- 2) Effects of carbohydrate cofeeding with lipids on postprandial hyperlipidemia were investigated with measurement of the serum level apolipoprotein B48.
- 3) An incubation study with bacteriophages was performed to examine the antiviral effects of plasma fractions, and the antiviral fraction was extracted from human plasma.
- 4) We developed a method for measuring lipoprotein A with our newly developed high-performance liquid chromatography technique. By measuring very low density lipoprotein cholesterol with this method, we proved the benefit of therapeutic exercise for reducing remnant lipoproteins.
- 5) Subanalysis by gender of the findings of the Japanese Investigation of Kinetic Evaluation in Hypertensive Event And Remodeling Treatment (JIKEI HEART) study was published.
- 6) Effects of astaxanthin on triglycerides, high-density lipoprotein, and adiponectin were investigated, and the results were reported at the annual scientific meeting of the Japanese Society of Clinical Nutrition.

3. Medical Education

- 1) A new, practical, evidence-based medicine algorithm on clinical practice was developed.
- 2) As an effective feedback system on undergraduate and postgraduate medical education, a portfolio education system was developed.

Publications

Yoshida H, Shimizu M, Ikewaki K, Taniguchi I, Tada N, Yoshimura M, Rosano G, Dahlöf B, Mochizuki S; Jikei Heart Study group. Sex differences in effects of valsartan administration on cardiovascular outcomes in hypertensive patients: findings from the Jikei Heart Study. *J Hypertens* 2010; **28**: 1150-7.

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Hirowatari Y, Yoshida H, Kurosawa H, Shimura Y, Yanai H, Tada N. Analysis of cholesterol levels in lipoprotein(a) with anion-exchange chromatography. *J Lipid Res* 2010; **51**: 1237-43.

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Wohlschlaeger J, Meier B, Schmitz KJ, Takeda N, Vahlhaus C, Levkau B, Stypmann J, Schmid C, Wermer-Schmid K, Baba HA. Cardiomyocyte survivin protein expression is associated with cell size and DNA content in the failing human heart and is reversibly regulated after ventricular unloading. *J Heart Lung Transplant* 2010; **29**: 1286-92.

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Reviews and Books

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