Clinical Research Support Center

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General Summary

The Clinical Research Support Center was founded in April 2014 to promote the proper conduct of clinical research. The center has the following functions: protocol planning, statistical analysis, monitoring, support for clinical research conduct, and education. We started consulting for clinical research in September 2014 and had 40 protocols of consultation from April 2016 through March 2017. Consultations were as follows: 20 protocols for protocol planning and statistics (objective of the research, study design, control arm, study participants and their recruitment method, randomization, primary endpoint and its rationale, procedure to avoid/reduce bias, data collection, stopping criteria, statistical analysis, analysis sets, and sample size calculations), 5 protocol for the statistical analyses,1 protocol for the preparation of article, 8 protocols for the response to reviewers after the submission of articles (including additional analyses), 4 protocols for application of AMED research grant, and 11 protocols for conducting statistical analysis. Consultations were requested by the Departments of Endoscopy, Psychiatry, Cardiovascular Surgery, Anesthesiology, Neurosurgery, Otorhinolaryngology, Radiology, Pediatrics, Ophthalmology, Urology, Radiology, Surgery (Division of Breast and Endocrinology Surgery; Vascular Surgery), and Internal Medicine (Divisions of Diabetes, Metabolism and Endocrinology; Clinical Oncology/Hematology; Gastroenterology and Hepatology; and Nephrology and Hypertension), ICU, Laboratory Medicine, Tropical Medicine, Research Center for Medical Sciences, Center for International Affairs and students of the nursing master's degree course.

In cooperation with the Division of Clinical Pharmacology and Therapeutics we held a "Clinical Trial Seminar" 2 times to improve literacy about clinical trials among researchers. The themes were "Systems for improving the quality of clinical trials" "Basic knowledge on intellectual property for researchers". We also held a "Biostatistics Seminar for Tomorrow" consisting of 2 basic courses and 2 advanced courses to promote appropriate trial designs and the application of biostatistical methods.

Ethical guidelines for medical and health research involving human subjects have been implemented since April 2015. In these guidelines the principal investigator is obliged to perform monitoring if interventional studies are invasive. To meet this demand we prepared standard operating procedures for monitoring. The monitoring is performed by clinical research coordinators themselves or by supported investigators.

We introduced a clinical research liaison system to facilitate clinical research. We requested departments conducting many clinical trials to assign liaison physicians. Liaison physicians are invited to participate with priority in the "Biostatistics Seminar for Tomorrow" and are expected to act as liaisons between the department to which they belong and the Clinical Research Support Center.

Research Activities

Statistical methods of analyzing competing risks data

In the analysis of survival data, an individual is subjected to an event due to only 1 of several distinct types of causes, and the occurrence of 1 type omits other types of causes, such as death due to stroke and death due to myocardial infarction. These event types are given the statistical term "competing risks." When the primary endpoint is the mean change/percent change of a variable, such as HbA1c or blood pressure, from the baseline to the planned end of the study and is repeatedly measured, a typical problem is missing data. Nowadays, intensive discussions are done about the problem of missing data, and an Addendum to the Statistical Principles for Clinical Trials of the International Conference on Harmonization has been started by its expert working group. We have considered study design and methods of statistical evaluation applying a method of analyzing data on competing risks in such a situation since last year. We improved the methods of statistical evaluation from the point of beneficial effect for patients in non-inferiority trials.

To evaluate within patient consistency between measures, for example, pain intensities of patients are repeatedly measured with a visual analogue scale and an objective measuring device (Pain Vision, Nipro Co., Osaka) in clinical research, intraindividual coefficient of variations are compared between measures. The correlated samples, different interindividual variations due to different scales of the measures and missing data in either measure in certain time points should be taken into account in statistical analysis. In such a situation, a statistical approach to compare the intraindividual coefficient of variations was proposed with the adjustment of covariates.

Publications

Odawara M*[1]*, Kawamori R*[2]*, Tajima N, Iwamoto Y*[3]*, Kageyama S, Yodo Y*[4]*, Ueki F*[4]*, Hotta N*[5] *(*[1]Tokyo Medical Univ,*** [2]***Juntendo Univ Grad Sch Med,*** [3]***Asahi Life Foundation,*** [4]***Sumitomo Dainippon Pharma,*** [5]***Chubu Rosai Hosp).*** Long-term treatment study of global standard dose metformin in Japanese patients with type 2 diabetes mellitus. *Diabetology Int.* 2017; **8:** 286-95. Epub 2017 Feb 24.