Preface

Diverse and innovative technology developments ensure the rapid advancement of diagnosis, treatment, and understanding of diseases, as witnessed today. Blood, which is composed of blood cells and plasma, not only plays important role in the maintenance of homeostasis in the human body, but also provides useful information on the person's health condition; it is not an exaggeration to say that blood testing is the most frequently performed routine analysis in everyday practice. Recently, molecular alterations associated with the development and/or progression of a number of diseases have been unveiled, further heightening the importance of blood-based molecular diagnosis.

In hematologic diseases, malignant or nonmalignant, numerous molecular alterations have been identified and have become clinically utilized, more than in any other disease field, for better diagnosis, disease understanding, prognostic prediction, treatment response evaluation, and prediction of relapse at an early stage in everyday practice. This seminar has been organized to provide an opportunity to share with healthcare professionals the future of hematologic disease management expected to be brought about by advances in innovative testing and diagnosing technologies, with a focus on genome medicine, minimal residual disease, liquid biopsy, and hemostasis monitoring in hematologic malignancies, among the tests employed for hematologic disease care.

Dr. Keisuke Kataoka (Keio University) will present in his lecture "Future Direction of Genome Medicine in Hematologic Malignancies" the findings on hematologic malignancies obtained via genome sequencing and the current status and future prospects of genome medicine in this field envisaged based on these novel findings. Dr. Takashi Taga (Shiga University of Medical Science) will give a lecture entitled "Minimal residual disease in pediatric leukemia". Minimal residual disease (MRD) is an indicator of response to hematologic disease treatment that has recently been gaining attention. The professor will explain about MRD measurement methods and their clinical relevance and challenges to be addressed in practice. Dr. Akihiro Tomita (Fujita Health University) in his lecture "Utilization of Liquid Biopsy in Clinical Practice of Hematological Diseases" will speak about the principle and clinical application of genetic analysis of cell-free nucleic acids derived from tumor tissue in the body fluid of patients in whom direct tumor tissue sampling is virtually impossible. And Dr. Keiji Nogami (Nara Medical University) in his lecture "Advances and innovations in diagnosis and hemostasis control and also the importance of comprehensive quantification of the coagulation function and its clinical relevance in patient monitoring in hemophilia care.

The testing methods to be presented in the seminar are those it is desired will become prevalent in general laboratories and in clinical practice for the management of not only hematologic disorders, but also other organ diseases. It would be our great pleasure if this seminar could serve as an opportunity for all healthcare providers to learn about latest testing technologies and their predicted clinical use.

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