Pharmacological research development based on medical big data (disease name, Lab tests, medication, etc.) of 2 million patients at Nihon University Hospital for 15 years

Satoshi Asai

Division of Pharmacology, Department of Biomedical Science, Sch. Med. Nihon Univ.

Nihon University, having been striving for the further improvement of medical progress and medical services, is engaged in research concerning the utilization of information from daily clinical practice, and in 2004 has constructed the clinical data warehouse (CDW) known as "Nihon University School of Medicine's Clinical Data Management System" (NUSM's CDMS) As of March 2019 for 15years, this system stores over 2.43 million patient profiles, medical history data for 1.27 mil. patients (24 mil. records), drug prescription data of 690,000 patients (40 mil. records), injection medicine prescription data of 270,000 patients (17.5 mil. records), and clinical test data of 800,000 patients (440 mil. records). This system possesses a sufficient amount of information for highly reliable statistical analysis. We have announced to international journals our research thus far that utilizes this abundance of information, which includes studies of the additional effects in hypertensive drugs (add-on effects), and of the side-effects that occur in the combined use of antithrombotic drugs. NUSM's CDMS is a healthcare database based on information from daily clinical practice and furthermore constructed on the premise of use in research, already at a sufficiently practical level. In observational studies using NUSM'S CDMS, the drug effects, or so-called "effectiveness", in actual clinical settings, which cannot be understood through randomized clinical trials (RCTs) carried out in limited environments, are able to be verified and helpful evidence provided.