Standardization of Glucolipid Metabolic Disorders (GLMD) Biobank

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Background of the establishment of GLMD Biobank

Glucolipid Metabolic Disorders (GLMD) is characterized by disorders of sugar and lipid metabolism. Many reasons including genetic, environmental, mental, diet and other factors. It is caused by neuroendocrine disorders, insulin resistance, oxidative stress, chronic inflammatory reaction and intestinal flora disorder are the core pathogenesis. The main clinical manifestations are single or combined appearance of hyperglycemia, dyslipidemia, non-alcoholic fatty liver disease, overweight, hypertension, and atherosclerosis. Comprehensive prevention and control of diseases. Its morbidity remains high and is a worldwide problem.

Due to the complexity and great harm of GLMD disease, biomarkers and comprehensive diagnosis and treatment for early warning, diagnostic typing, clinical treatment and prognosis evaluation have always been the research focus and difficulty of GLMD. The construction of the biological sample database of GLMD aims to build a database through the comprehensive collection of biological samples combined with Chinese and Western doctors’ biometric information, and to provide biological support for the discovery of GLMD biomarkers and the formulation of comprehensive diagnosis and treatment plans.

Standard Construction of GLMD Biobank

Establish GLMD biological sample database according to domestic and foreign standards, including project collection and reserve collection. Sample donors collect GLMD clinical samples in accordance with the Standard Operating Procedure (SOP) specifications, and collect patients with GLMD through complete information such as self-developed equipment clinical biological information collection system, chronic disease management system, and Chinese medicine tongue, facial and pulse information collection constitution identification system Information, combining macroscopic and microscopic information of western medicine diagnosis information, clinical symptom information, fourth diagnosis information of traditional Chinese medicine, pathological histology, biochemical index detection, imaging information and in vivo multi-omics microscopic information of glucose and lipid metabolism disease. Randomly sample biological samples for quality control, such as RNA integrity and purity, sample location information, sample clinical information, etc.

Achievements made by the research team of the GLMD Biobank

Established the GLMD Biobank standard operation specification and quality control system for integrated Chinese and Western medicine. The biological samples cover various types of plasma, blood cells, urine, saliva, leukocytes, etc., with a stock of more than 20,000 copies. Research, translational medical research, precise diagnosis and treatment provide important supporting conditions. It supports more than 30 major topics including national key research and development plans, national major new drug creation, and key projects of the National Natural Science Foundation of China. Published more than 200 papers in top journals such as Cell Metabolism and Hepatology. Won 23 invention patents (including 2 patents got from Europe and America). Our team had won 12 scientific and technological awards including the National Science and Technology Progress Second Prize, China Patent Excellence Award and the Provincial and Ministerial Science and Technology Progress First Prize.

Organizational Structure of GLMD Biobank

Guangdong Metabolic Diseases Research Center of Integrated Chinese and Western Medicine

First Affiliated Hospital of Guangdong Pharmaceutical University

Basic Research Department
Clinical Research Department
Product Development
Health Management Department

GLMD Biobank

Biological sample management
Clinical information management
Quality control management

Sample collection group
Sample processing group
Storage management group

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Our research team of GLMD with Professor Guo Jian as academic leader

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