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Dyslipidemia and dysglycemia in non-human primates

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Obesity becomes a global epidemic issue most likely due to economic growth, urbanization, modernization, life-style change and decreased physical activity. One of the main comorbidities of obesity is the insulin-resistant diabetes (Type 2 diabetes mellitus, T2DM), the most common form of diabetes. Inflammation, mitochondrial dysfunction, hyperinsulinemia, lipotoxicity and others, such as genetic background and aging, may result in obesity and insulin resistance. T2DM and obesity dynamically influence each other and often escalate patients' other health problems. It is recognized that sustained greater energy intake than expenditure is the main cause of obesity due to excessive fat accumulation which can potentially lead to insulin resistance and diabetes. The underlying precise mechanisms and interactions between obesity and T2DM need to be further elucidated. Various animal models have been induced and generated for research on understanding the pathophysiology of human obesity and diabetes. Also, animal models have been widely used for testing new novel therapies of obesity and diabetes. In recent years, we have been studying obesity and diabetes in non-human primates either naturally developed or high calorie diet (HCD)-induced. The characteristics of dyslipidemia and dysglycemia in NHPs diseased with obesity and diabetes are summarized and discussed in our presentation.

Biography

Yong-Fu Xiao, MD, PhD, senior director of *in vivo* pharmacology in CVMD department, adjunct professor of Suzhou University and University of Medicine and Dentistry of New Jersey, has extensive training and working experiences in cardiovascular and metabolic research in various animal models. Before joining CrownBio, he worked as principal scientist on gene and protein therapy for heart and metabolic diseases in Medtronic, Inc. and on cardiovascular physiology and pharmacology as Assistant Professor of medicine and Associate Biophysicist in Harvard Medical School and Massachusetts General Hospital with over 100-published research papers, reviews, book chapters and patents.

Yi-Xin (Jim) Wang, MD, senior vice president, Crown Bioscience Inc. Academia in physiology and pharmacology: postdoctoral fellow (Boston University) and assistant professor (University of Tennessee at Memphis). Over 20 years working experience in major pharmaceutical companies (GSK, Roche, Schering/Bayer AG) and biotechnology Inc. (Arete) from preclinical R&D to Phase II. Specialized in cardiometabolic research with ~100 peer-reviewed publications.

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