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Jockey Club College of Veterinary
Medicine and Life Sciences

香港城市大學
City University of Hong Kong
in collaboration with Cornell University



JCC RESEARCH SEMINAR

TOPIC

Untargeted metabolomics identifies succinate as a biomarker and therapeutic target in aortic aneurysm and dissection

Prof. Lemin ZHENG

Vice chair and Professor
The Institute of Cardiovascular Sciences
Peking University

HONG KONG TIME

29 March 2022 (TUE)

2:30 PM - 3:30 PM

Online Via ZOOM

ABSTRACT

Our research focuses on metabolism and cardiovascular function. Aortic aneurysm and dissection (AAD) are high-risk cardiovascular diseases with no effective cure. Macrophages play an important role in the development of AAD. As succinate triggers inflammatory changes in macrophages, we investigated the significance of succinate in the pathogenesis of AAD and its clinical relevance. Untargeted metabolomics revealed that plasma succinate concentrations allow distinguishing patients with AAD from both healthy controls and patients with AMI or PE. We further uncovered that succinate concentrations are regulated by the p38 α -CREB-OGDH axis in macrophages. In another study, we found that TMAVA, an intestinal microbial metabolite, inhibits γ -butyrobetaine hydroxylase and exacerbates fatty liver in mice. Finally, I will discuss our recent work about gut microbiota production of trimethyl-5-aminovaleric acid, which reduces fatty acid oxidation and accelerates cardiac hypertrophy.

SPEAKER'S BIOGRAPHY



Prof. Lemin Zheng, PhD, is the Vice Chair of the Institute of Cardiovascular Sciences at Peking University. He is also the Assistant Director of the Key Laboratory of the Ministry of Education and the Director of Lab of Cardiovascular Metabolism. His laboratory investigates lipid metabolism and vascular function in diseases and aging. In addition, the team also develops and applies new materials and technologies in cardiovascular and cerebrovascular functions, focusing on treatment and in vitro diagnostic technologies.

For more information, please visit leminlab.com

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