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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

HIV, aging and non-communicable diseases

Dr. Yingying Ding

Associate professor of Epidemiology
School of Public Health, Fudan University

HONG KONG TIME

5 Oct 2022 (WED) **Online via ZOOM**
12:00pm-1:00pm

Zoom : <https://cityu.zoom.us/j/96969012249?pwd=TXMwNjlrMDBPWk5tWlB4d09zTnd3QT09>

Meeting ID: 969 6901 2249

Passcode: 423253

Remarks : The seminar will be recorded and shared among JCC staff and students upon request.

Abstract:

In the post-combination antiretroviral therapy (ART) era, HIV infection has become a chronic, treatable disease. Emerging research including our earlier reports indicates that HIV-positive individuals experience greater aging advancement and greater risk of age-related non-communicable diseases (NCDs) than their HIV-negative counterparts. Low grade chronic inflammation is a central pathogenic mechanism in the etiology of disease, and is a mechanism by which HIV infection may increase the NCDs risk through metabolic and cellular changes, yet the exact pathophysiology is still being uncovered. In a recent study, we performed untargeted metabolomics of archived plasma from HIV-negative normal controls (NCs), HIV-positive NCs, and treated HIV+ patients with only one of the four different NCDs (ie, subclinical carotid atherosclerosis, neurocognitive impairment, liver fibrosis and renal impairment), and aimed to characterize the key metabolites and metabolic pathways associated with HIV infection and presence of multiple NCDs, focusing on identifying the common metabolic pathways underlying them. GPL metabolism emerges as the common metabolic disturbance linking HIV to NCDs, followed by glutamine and glutamate metabolism. Our data point to the aforementioned metabolisms and related metabolites as potential key targets in studying pathophysiology of NCDs in HIV infection and developing therapeutic interventions.

Speaker's Biography:

Yingying Ding, PhD, is associate professor of Epidemiology at the Fudan University School of Public Health. She received her Ph.D in Epidemiology from UCLA in 2012. Dr. Ding research mainly focuses on HIV, aging and non-communicable diseases (NCDs).

During 2014-2015, She led a cross-sectional study of HIV infection and aging-related diseases among well-matched HIV-positive versus HIV-negative individuals aged over 40 years, which is the first study focusing on HIV and NCDs in China. Since 2017, she worked with Dr. Na He to establish a large-scale matched prospective cohort of HIV-positive and HIV-negative individuals in China (the CHART cohort) to study HIV and NCDs. Research findings (eg, shorter telomere length, higher prevalence of frailty, neurocognitive disorders, subclinical carotid atherosclerosis, ECG abnormalities in HIV-positive vs HIV-negative) have been published in *Clinical Microbiology and Infection*, *Lancet HIV*, *Aging and Diseases*, *Journal of Infectious Diseases*, etc. Most recently, she has focused on immune dysfunction and the use of multi-omic strategies to study the aging and NCDs in HIV infection. In a recent paper published in *EBioMedicine*, she and colleagues identified the common metabolic pathways underlying various NCDs in treated HIV infection.

All are welcome

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