

Editorial

Dissemination reports are concise informative reports of health-related research supported by the Health and Medical Research Fund (and its predecessor funds) administered by the Food and Health Bureau. In this edition, we present 11 dissemination reports of projects related to mental health, cancer, neurology, diabetes, stroke, and children's health. In particular, three projects are highlighted due to their potentially significant findings, impact on healthcare delivery and practice, and/or contribution to health policy formulation in Hong Kong.

Patients with unexplained neurological syndromes of the central nervous system may carry autoantibodies in their blood. Patients with such autoimmune diseases usually present with cognitive symptoms and seizure, but unexplained psychiatric presentation mimicking schizophrenia and other psychosis is not uncommon. Chong et al¹ determined the prevalence of anti-N-methyl-D-aspartate antibodies in Chinese patients with first-episode psychosis. They found that antibody prevalence was low at 1.5%. Antibody-mediated psychosis may represent a new form of mental illness requiring specific treatment. If patients with schizophrenia caused by antibodies can be treated early, there is potential to significantly improve patient outcomes and costs associated with the disorder.

Hepatocellular carcinoma (HCC) is the second leading cause of cancer death in China and the fifth most frequent malignancy worldwide. One notable finding from cancer genome sequencing studies is the repeated discovery of somatic driver mutations in genes that encode chromatin remodelling factors,

which regulate the epigenome. This suggests that changes in chromatin remodelling, which leads to epigenome disruption, is a hallmark of HCC. Cheng et al² investigated the role of silencing of tumour suppressor genes by trimethylation of histone H3 lysine 27 (H3K27me3) in the development of HCC following hepatitis B virus infection. Two proteins called YY1 and EZH2 were identified as crucial mediators of H3K27me3 modification. Targeting H3K27me3 epigenome for HCC prevention might benefit the large numbers of chronically HBV-infected patients.

Sporadic Parkinson disease (PD) involves a complex interplay between genetic susceptibility, environmental toxicity, and ageing. Ho et al³ developed an experimental mouse model that carried a specific mutation at the same genetic location in parallel with humans and administered twice weekly oral doses of a naturally occurring pesticide (rotenone) over half the lifespan of the mouse to mimic chronic exposure to environmental toxicity. They found that brain abnormalities and locomotor deficits in the new model were more faithful of the human PD than other existing models. These mice may be used to test novel therapeutics for PD.

We hope you will enjoy this selection of research dissemination reports. Electronic copies of these dissemination reports and the corresponding full reports can be downloaded individually from the Research Fund Secretariat website (<https://rfs2.fhb.gov.hk/>). Researchers interested in the funds administered by the Food and Health Bureau also may visit the website for detailed information about application procedures.

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References

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3. Ho SL, Ho PWL, Siu DCW. Parkinson disease and leucine-rich repeat kinase 2 gene mutation: abridged secondary publication. *Hong Kong Med J* 2020;26(Suppl 9):S22-6.