

Editorial

Dissemination reports are concise informative reports of health-related research supported by funds administered by the Food and Health Bureau, for example, the *Research Fund for the Control of Infectious Diseases and Health and Health Services Research Fund* (which were consolidated into the *Health and Medical Research Fund* in December 2011). In this edition, ten dissemination reports of projects related to viral hepatitis, human immunodeficiency virus (HIV), tuberculosis (TB), and antibiotic resistance are presented. 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.

Chronic hepatitis B virus (HBV) infection occurs in 10% of the obstetric population in Hong Kong. There is concern that modulation of the mother's immune system as a result of pregnancy facilitates flare-up of chronic HBV infection and increase infectivity. Lao et al¹ determined the effect of pregnancy on the activity and replication of HBV during the three trimesters and identified the most sensitive clinically applicable markers of viral activity and maternal inflammation. They found HBV DNA in half of asymptomatic HBsAg-positive mothers. In-utero infection was associated with a maternal positive HBeAg status and higher HBV DNA load throughout pregnancy. The authors suggest that HBV DNA testing for every HBsAg carrier mother should be conducted, if feasible.

Coinfection of a host organism with hepatitis C virus (HCV) and HIV alters the course of infection of each virus. Yi et al² examined the gene expression

profiles of CD8+ and CD4+ T cells in treatment-naïve mono- and co-infected individuals. A wide variety of gene pathways was found to be affected. The study findings offer new insight into disease progression in HIV/HCV co-infection, and may help to identify new markers for its management.

Tuberculosis is a highly infectious airborne disease. Healthcare workers are at increased risk of infection because of exposure to infectious patients. The tuberculin skin test has been used to diagnose latent tuberculosis infection (LTBI) with variable success, as the majority of local residents have been inoculated with *Bacillus Calmette-Guerin* (BCG) vaccine at birth. In-vitro interferon gamma release assays (IGRA) can identify individuals infected with TB who have been vaccinated with BCG. Tsang et al³ determined the applicability of IGRA to daily use including contact investigation. The findings of this study have influenced the Hospital Authority guidelines on control of transmission of TB in healthcare settings and the behaviour and practice of research end-users, where an increase in utilisation of IGRA in investigation of LTBI, especially during outbreak/contacts investigation was observed.

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 (<http://www.fhb.gov.hk/grants>). Researchers interested in the funds administered by the Food and Health Bureau also may visit the website for detailed information about application procedures.

Supplement co-editors



Dr Edmond SK Ma
Consultant
(Research Office)
Food and Health Bureau



Dr Richard A. Collins
Scientific Review Director
(Research Office)
Food and Health Bureau

References

1. Lao TT, Leung TY, Chan HL, Wong VW. Effect of pregnancy on the activity and infectivity of hepatitis B virus in women with chronic hepatitis B infection. *Hong Kong Med J* 2015;21(Suppl 7):S4-7.
2. Yi L, Zhao J, Lu J, et al. Differential gene expression profile

- of CD4+/CD8+ T cells in patients with hepatitis C virus and/or human immunodeficiency virus infection. *Hong Kong Med J* 2015;21(Suppl 7):S11-3.
3. Tsang DN, Lai CK, Yam WC, et al. Use of interferon gamma release assay to assess latent tuberculosis infection among healthcare workers in Hong Kong. *Hong Kong Med J* 2015;21(Suppl 7):S22-5.