Editorial

Dissemination reports are concise informative reports of health-related research supported by the Health and Medical Research Fund administered by the Health Bureau. In this edition, we present 13 dissemination reports of projects related to advanced technology, clinical trials, primary healthcare and preventive medicine, non-communicable diseases, and musculoskeletal conditions. In particular, research findings of three projects may provide insights to enhance clinical practices and help inform health policy formulation in Hong Kong.

Nonalcoholic fatty liver disease (NAFLD) is a global health problem that affects around 30% of the world's population. NAFLD is highly associated with type 2 diabetes (T2D), and both are well-established risk factors for development of cirrhosis and subsequent hepatocellular carcinoma. As patients with NAFLD are commonly managed in primary care or endocrine clinics, Yip et al[1] developed a deep learning model using routinely collected clinical, laboratory, and medication data from nearly 27 000 patients with NAFLD; such data were validated in approximately 385 000 patients with T2D. The model with the best calibration and discriminatory power had an area under the time-dependent receiver operating characteristic curve of 0.865 in the validation cohort. Such models could be useful to facilitate clinicians to accurately predict and stratify patients with T2D regarding their risks of liver-related complications for management and follow-up.

In recent years, next-generation sequencing, including low-pass genome sequencing, has emerged as a powerful tool in prenatal genetic analysis, offering superior detection resolution and enhanced sensitivity for identifying mosaicism, compared to chromosomal microarray analysis (CMA). Dong et al[2] compared an in-house low-pass mate-pair genome sequencing approach with CMA in a prospective cohort of 400 fetuses with ultrasound abnormalities to evaluate detection performance. Compared to CMA, the low-pass mate-pair approach resulted in an increased diagnostic yield and was able to identify additional cryptic and mosaic copy number variants, as well as to reclassify 60% of variants of uncertain significance identified by CMA. The study showed that low-pass mate-pair genome sequencing can serve as an alternative method for classifying fetal ultrasound abnormalities.

Prostate cancer is the second most common cancer in men globally and its incidence is rising, especially in Hong Kong. Multiparametric magnetic resonance imaging (MRI) can improve detection of prostate cancer and can guide targeted biopsies and reduce unnecessary ones. However, access to MRI is limited in the public healthcare setting, and it is important to focus resources on patients at higher risk. Chiu et al[3] conducted a study aimed at optimising allocation of MRI resources based on risk stratification using the blood Prostate Health Index (PHI) in a cohort of 159 Chinese men with clinical suspicion of prostate cancer. The study found that the use of MRI and PHI improved risk stratification for men with elevated prostate-specific antigen levels. Selectively avoiding MRI in men with lower PHI scores can save costs and reduce unnecessary biopsies, while ensuring timely diagnosis of clinically significant prostate cancer. Risk stratification based on PHI can optimise allocation of MRI resources and improve the efficiency of prostate cancer screening and early detection.

Supplement editors

Dr Anne Fung
Head
Research and Data Analytics Office
Health Bureau

Dr Richard A Collins
Senior Scientific Reviewer
Research and Data Analytics Office
Health Bureau

References

1. Yip TCF, Wong GLH, Wong VWS, et al. Machine learning models for estimating risks of hepatic complications in patients with nonalcoholic fatty liver disease: risk stratification and treatment recommendation (abridged secondary publication). Hong Kong Med J 2025;31(Suppl 7):S4-8.
2. Dong Z, Leung TY, Lo IFM, Kwok YKY. Mate-pair low-pass genome sequencing for prenatal diagnosis of fetuses with ultrasound anomalies: abridged secondary publication. Hong Kong Med J 2025;31(Suppl 7):S13-7.
3. Chiu PKF, Chu WCW, Cho CMC, Teoh YCJ, Ng CF. Prostate Health Index for risk stratification before magnetic resonance imaging: abridged secondary publication. Hong Kong Med J 2025;31(Suppl 7):S38-40.