**Hyperglycaemia in Pregnancy and long-term effects: Challenges and Opportunities**

Professor Ronald C.W. Ma

Department of Medicine and Therapeutics

The Chinese University of Hong Kong

**Abstract**  
There has been a marked increase in the prevalence of diabetes in Asia over the last few decades. Whilst the increased prevalence of diabetes has often been attributed to the nutritional transition and rising obesity associated with recent economic development, emerging data suggests that early life exposures also play a major role in shaping developmental trajectories, and contributes to alter an individual’s susceptibility to diabetes and other NCDs. Early life exposures such as in utero exposure to under-nutrition has been consistently linked with later risk of diabetes and obesity. Furthermore, in utero exposure to maternal hyperglycaemia has been linked with increased childhood obesity and later risk of diabetes. The prevalence of gestational diabetes has increased markedly over the last 2 decades, and is associated with approximately 7-fold higher risk of type 2 diabetes. Furthermore, maternal hyperglycaemia may contribute to the diabetes epidemic by driving macrosomia, childhood obesity and later risk of diabetes. Our recent follow-up data from HAPO noted long-term association between offspring glucose at age 18 with maternal glucose during pregnancy. The long-term effects of maternal hyperglycaemia on cardio-metabolic risk in the offspring is further compounded by the effects of maternal obesity and excessive gestational weight gain. In order to address the current burden of diabetes, a lifecourse perspective, incorporating multi-sectoral efforts from public health policy down to the individuals, focusing around the pregnancy window, will be needed to reduce the intergenerational effects of maternal hyperglycaemia.

Acknowledgement: Hong Kong Research Grants Council (AoE/M-401/24-R, N\_CUHK422/24and 14102719).