



14th Diabetes & Cardiovascular Risk Factors – East Meets West Symposium Conference Review

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Abbreviations used in this review

CV = cardiovascular

HDL/LDL = high/low density lipoprotein

About Research Review

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Welcome to this special edition of Research Review, which covers the recent East Meets West Symposium October 1–2. Now in its 14th year, this meeting has become an important annual meeting to provide up-to-date information for clinicians and healthcare professionals on the latest advances in the fields of diabetes, obesity and CV risk factors. We have selected some of the highlights of the conference for you, and hope you will enjoy reading them.

Kind regards

Prof Ronald Ma

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Depression, obesity and metabolic syndrome

Presenter: An PAN, Assistant Professor, Saw Swee Hock School of Public Health, National University of Singapore, Singapore

Summary: The results of a meta-analysis of 29 cross-sectional and prospective studies evaluating the association between depression and metabolic syndrome were presented, along with findings from other investigators who examined the evidence regarding depression and obesity. A significant association was seen between depression and metabolic syndrome (unadjusted odds ratio 1.42 [95% CI 1.28, 1.57]); adjustments for covariates resulted in a slight attenuation. An analysis of data from nine prospective studies revealed a significant association between metabolic syndrome and incident depression (odds ratio 1.49 [95% CI 1.19, 1.87]), while a significant association was also seen between depression and incident metabolic syndrome in an analysis of data from four prospective studies (1.52 [1.20, 1.91]). The meta-analysis of data from cross-sectional and prospective studies supported a bidirectional association between depression and obesity. The presenter advocated early detection and management of depression among patients with obesity/metabolic syndrome and vice versa.

Comment: The emerging link between depression, obesity and cardiometabolic risk including diabetes is of much interest and highly relevant to clinicians. Whilst all these conditions are common, the bidirectional association observed suggests there are underlying pathophysiological links. Increased awareness of this link among clinicians should help towards early detection and treatment of depression and metabolic problems.

Reference: Pan A et al, *Diabetes Care* 2012;35(5):1171–80

<http://care.diabetesjournals.org/content/35/5/1171.long>



Independent commentary by Dr Ronald Ching Wan Ma, Professor, Department of Medicine and Therapeutics, Chinese University of Hong Kong.

Dr Ronald Ma has served on the advisory boards and as a consultant to various pharmaceutical companies, proceeds of which have been donated to support diabetes research.

For full bio [CLICK HERE](#).

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HKAS SYMPOSIUM

Metabolic surgery but PLEASE DON'T CUT? Possibilities and realities

Presenter: Simon WONG, Consultant, Department of Surgery, Prince of Wales Hospital, Hong Kong

Summary: There is strong evidence that bariatric surgeries can improve and induce remission in most patients with obesity-related type 2 diabetes. In its 2011 position statement, the International Diabetes Federation agreed on the role of surgical intervention as a treatment option for obese type 2 diabetes. However, such procedures in nonmorbidly obese patients with diabetes should continue to be regarded as experimental. The mechanism by which bariatric surgery is associated with diabetes remission is intriguing, with bodyweight loss significantly improving insulin resistance and changes in gut hormones that impact on satiety and β -cell function. Improved understanding of the pathophysiological changes associated with bariatric surgery over the last decade has allowed the development of new procedures that mimic these pathophysiological changes but reduce/remove the risks associated with surgery. These include endoscopic procedures to reduce gastric capacity or mimic duodenal-jejunal bypass, and gastrointestinal electrical stimulation to modulate satiety. While these new procedures appear promising, durability of efficacy has still to be determined.

Comment: Improved understanding of the pathophysiological processes following bariatric surgery has led to breakthrough insights and innovative methods to induce weight loss. This is one of the most exciting developments in the field of diabetes and obesity. Whilst the procedures may be suitable for carefully selected patients, advances in understanding of the incretin pathway and other gut hormones are likely to lead to revolutionary development and new treatment strategies.

Latest advances in the prevention of thromboembolic complications

Presenter: Raymond WONG, Consultant Physician, Department of Medicine and Therapeutics, Prince of Wales Hospital, Hong Kong

Summary: Vitamin K antagonists, which have been standard therapy for thromboembolic complication prevention for decades, are underutilised and have inherent limitations that often result in poor management. Novel, fixed-dose anticoagulants such as rivaroxaban (factor-Xa inhibitor) and dabigatran (direct thrombin inhibitor) obviate many of the difficulties associated with warfarin therapy (e.g. routine monitoring, onset of action, interactions with other drugs/dietary components). The ROCKET-AF and RE-LY trials have respectively demonstrated superiority of these agents over warfarin for thromboembolic outcomes. The presenter commented that not only do these new oral anticoagulants have the potential to replace vitamin K antagonists as first-line treatment for preventing stroke in patients with atrial fibrillation, they could also reduce morbidity and mortality associated with cardioembolic stroke.

Comment: Thromboembolic complications remain an important cause of morbidity and mortality, including patients with diabetes, who are at increased risk of atrial fibrillation and stroke. The advent of these novel anticoagulants, with proven efficacy and a favourable safety profile when compared against warfarin, is a most welcomed advance.

EMW LUNCH SYMPOSIUM

The use of noninvasive tools to detect prediabetes and diabetes

Presenter: Risa OZAKI, Associate Consultant, Department of Medicine and Therapeutics, Prince of Wales Hospital, Hong Kong

Summary: There is a need for early detection of prediabetes and diabetes so early interventions can prevent disease progression; however, existing screening involves blood sampling, which can reduce compliance and is a problem for locations with limited laboratory access. Using reverse iontophoresis, the EZSCAN[®] device can quickly, noninvasively detect early neuropathy manifesting as abnormal sweat chloride levels on the hands and feet of nonfasting subjects. This presentation reported the findings of a programme that used validated risk scores, clinical measurements, point-of-care tests and EZSCAN[®] for detecting diabetes and prediabetes in individuals of working age. Compared with nonobese participants and those with high blood pressure, high blood glucose levels and low risk scores, participants with ≥ 1 of these risk factors had greater EZSCAN[®] measurements. The presenter concluded that this noninvasive technology could be valuable for detecting high-risk individuals requiring further evaluation when used in conjunction with other noninvasive tools.

Comment: Screening for diabetes is an area that generates much interest as well as controversy. To screen or not to screen, who to screen and how best to screen remain important questions that are often the subject of much debate. The results of the ADDITION-Cambridge Study have further heightened this debate. This novel device appears to be a promising tool that can help detect early stages before progression to type 2 diabetes.

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HKAS PLENARY LECTURE

Implications of recent lipid-lowering trials on clinical management

Presenter: Anthony WIERSBICKI, Consultant, Metabolic Medicine and Chemical Pathology, Guy's and St Thomas' Hospitals, UK

Summary: This presentation discussed the clinical use of lipid-lowering treatments in light of recent trials. Meta-analyses have indicated that statins should be first-line therapy for patients with CV disease, diabetes and those at high risk of developing CV disease. However, controversy persists around the use of statins in low-risk patients, due to adverse/hyperglycaemic effects. There is also substantial controversy associated with second-line therapies after statins. Novel therapies in development include cholesterol ester transfer protein (CETP) inhibitors, which increase HDL cholesterol levels while reducing LDL cholesterol levels. LDL cholesterol can also be reduced by disrupting its synthesis or increasing receptor-mediated uptake, and there are agents in development that target these mechanisms, but trials with CV disease endpoints will be required to validate their utility.

Comment: How best to reduce residual risk after optimisation of LDL levels using statins remains an area of intensive research. Dr Wierzbicki gave a comprehensive overview of some of the latest results from lipid-lowering trials, including the promising results from the latest development, antibody-based therapies that target PCSK9.

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HKFRDD SYMPOSIUM

Gestational diabetes – recent update on guidelines and management

Presenter: Wing-hung TAM, Associate Professor, Department of Obstetrics and Gynaecology, The Chinese University of Hong Kong, Hong Kong

Summary: Treating mild gestational diabetes has been shown to significantly reduce maternal and foetal morbidities; the cost effectiveness of such treatment has also been confirmed. The Hyperglycaemia and Adverse Pregnancy Outcome (HAPO) study also showed that maternal glucose levels lower than those diagnostic of diabetes were associated with increased birthweight and increased cord blood serum C-peptide levels, which led to the International Association of Diabetes and Pregnancy Study Groups (IADPSG) Consensus Panel defining new diagnostic criteria for gestational diabetes. However, whether these new diagnostic criteria should be adopted and the optimal screening strategy remain controversial. Furthermore, higher cardiometabolic risk has been described among offspring of mothers with gestational diabetes. This presentation discussed the short- and long-term health outcomes of children born to mothers with gestational diabetes, as well as follow-up data from the HAPO study.

Comment: Gestational diabetes has become increasingly common among developed countries. The revised diagnostic criteria of gestational diabetes mellitus proposed by the IADPSG following the HAPO study will lead to further escalation in the number of pregnant women diagnosed with gestational diabetes. New insights into the harmful effects of maternal hyperglycaemia to the offspring suggest that early detection and management is important in order to minimise the adverse effects of maternal hyperglycaemia.

Related references

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Hyperglycemia, hypoglycemia and cognitive function

Presenter: Wayne SHEU, Professor, Department of Medicine, Taichung Veterans General Hospital, Taiwan

Summary: Diabetes increases the risk of vascular and neurodegenerative dementia and accelerates progression from mild cognitive impairment to dementia, and these effects have been associated with decreased diabetes self-care ability and adherence to medication. Some studies have also suggested that cognitive function deficits worsen glycaemic control. Furthermore, these effects are increased by factors such as depression, CV disease and cerebrovascular disease. Hypoglycaemic episodes have also been associated with an increased risk of developing dementia in patients with type 2 diabetes. This presentation reported an analysis of the Taiwanese National Health Insurance database showing that the risk of developing dementia was increased 3-fold in patients with diabetes and a diagnosis of hypoglycaemia. The presenter concluded that the impact of hypoglycaemic episodes on brain function requires further investigation.

Comment: There is increasing appreciation towards the link between diabetes and cognitive function, and several large studies, including ACCORD, have highlighted the link between hyperglycaemia and cognitive dysfunction as well as between impaired cognitive function and the risk of severe hypoglycaemia. This suggests that clinicians should individualise treatment goals for patients, and avoid over-aggressive lowering of glucose levels in subjects with impaired cognitive function.

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