DPP 2016

亞洲糖尿病基金會
Asia Diabetes Foundation

Diabetes Preventing the Preventables Forum 2016

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In partnership with:

香港糖尿病及肥胖症研究所
HONG KONG INSTITUTE OF DIABETES AND OBESITY
10th Anniversary

21-22 May 2016

CORDIS, Hong Kong at Langham Place

CONTENTS

WELCOME MESSAGE

Dear faculty and delegates,

Welcome to Hong Kong, a beautiful city with a rich history and culture. Just like most cities in Asia undergoing rapid transition, diabetes has come a long way over the last two decades. From a simple classification of type 1 and type 2 diabetes, there is now an explosion of information on the phenotypes and genotypes of this complex disease. From a handful of medications, we are now overwhelmed with a growing number of compounds for the treatment, of not just diabetes, but many of its associated conditions and comorbidities.

Diabetes is a lifelong disease and the most challenging aspect in managing diabetes is to help patients manage their disease for the rest of their life. To do this effectively, the care team has to systematically collect and manage a large amount of information, collected at any one time and over time, in order to assess and advise their patients accordingly.

Our health care systems have never been designed to manage these chronic problems and information which are new health care challenges. This DPP Forum is a meeting designed to address these needs. It aims to foster collaborations amongst all relevant stakeholders, who see the need of a new paradigm shift to change the way how chronic care should be delivered, in order to bring out the best of our expertise and technologies to make chronic care accessible, sustainable and affordable.

To this end, we are fortunate to have invited a faculty of experts and thought leaders with a diversity of experiences who will share with us their views and insights into this health care challenge.

We hope you will enjoy this meeting and that you will continue to be part of this growing network to prevent and control diabetes and chronic disease.

Best regards,

Prof. Juliana Chan
Chairman

Prof. Ronald Ma
Co-Chairman

ORGANIZER

亞洲糖尿病基金會
Asia Diabetes Foundation

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IN PARTNERSHIP WITH

Diabetes and Endocrine Centre (DMEC) -
Prince of Wales Hospital

香港糖尿病及肥胖症研究所
HONG KONG INSTITUTE OF DIABETES AND OBESITY
10th Anniversary

Hong Kong Institute of Diabetes and Obesity,
The Chinese University of Hong Kong

ORGANIZING COMMITTEE

Chairman: Prof. Juliana Chan

Co-chairman: Prof. Ronald Ma

Members: Dr. Francis Chow
Dr. Alice Kong
Ms. Vanessa Lau
Dr. Andrea Luk
Dr. Risa Ozaki
Dr. Wing-Yee So

FACULTY MEMBERS

Juliana Chan

Chair Professor of Medicine and Therapeutics, Hong Kong Institute of Diabetes and Obesity, The Chinese University of Hong Kong and Chief Executive Officer, Asia Diabetes Foundation, Hong Kong

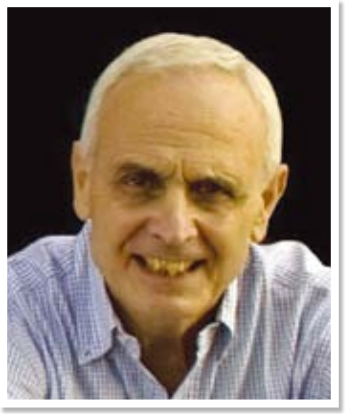
Professor Juliana Chan is a Chair Professor of Medicine and Therapeutics, at the Chinese University of Hong Kong. She is also the Founding Director of the Hong Kong Institute of Diabetes and Obesity and the Chief Executive Officer of the Asia Diabetes Foundation. Her major areas of interest include genetic epidemiology, clinical trials and care models in diabetes. Her team advocates the use of risk stratification, registry, personalized reporting and collaborative care to prevent and control diabetes. She has published over 500 papers and trained more 50 than postgraduate students/fellows. She is also a member of steering committees of multinational studies and advisory boards of Hong Kong Government and international agencies.

Philip Clarke

Professor of Health Economics, Centre for Health Policy, School of Population and Global Health, The University of Melbourne, Australia

Professor Philip Clarke holds a Chair in Health Economics at the Melbourne School of Population and Global Health, University of Melbourne. He has been involved in the economic evaluation of many large diabetes studies including UKPDS, FIELD and ADVANCE studies. His broader health economic research interests include developing methods to value the benefits of improving access to health care, health inequalities and the use of simulation models in health economic evaluation.

FACULTY MEMBERS



Juan José Gagliardino

Consultant Professor, Facultad de Ciencias Médicas, National University of La Plata, Argentina
Director of Postgraduate Course, Prevention and Treatment of Diabetes and Other Cardiovascular Risk Factors (DIFAR), Facultad de Ciencias Médicas, National University of La Plata, Argentina and Indiana University, USA

Professor Juan José Gagliardino is Consultant Professor and Doctor in Medicine of Facultad de Ciencias Médicas (FCM) from National University of La Plata (UNLP) in Argentina. He is the Director of Postgraduate Course of Prevention and Treatment of Diabetes and Other Cardiovascular Risk Factors (DIFAR) of Facultad de Ciencias Médicas (FCM) from National University of La Plata (UNLP) in Argentina and Indiana University in USA. He is also an Associate Editor of Diabetes Research and Clinical Practice and member of the IDF-BRIDGES Executive Committee. He has published more than 300 papers related to basic and clinical aspects of diabetes and cardiovascular risk factors in international journals and received many scientific awards.

Linsey Utami Gani

Associate Consultant, Department of Endocrinology, Department of Medicine, Changi General Hospital, Singapore

Dr. Linsey Utami Gani is an Associate Consultant at the Department of Endocrinology, Changi General Hospital, Singapore. She is the program director for the Eastern Health Alliance, Eastern Community Health Outreach (ECHO) in Singapore. She also holds a Clinical Lecturer position in the Department of Medicine, Yong Loo Lin School of Medicine, National University of Singapore ("NUS Medicine").

She is a fellow of the Royal Australian College of Physician and has a Masters of Public Health in health care management and public policy from the Harvard School of Public Health.

FACULTY MEMBERS

Edward Gregg

Chief of Epidemiology and Statistics Branch, Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, USA

Dr. Edward Gregg's role involves oversight of the National Diabetes Surveillance system and the integration of surveillance, epidemiology, health services, and economic studies at CDC to better guide health policy for diabetes. His research interests include surveillance of national and international trends in diabetes and related risk factors and the impact of lifestyle interventions diabetes and related complications. Dr. Gregg has published over 240 articles and chapters in chronic disease epidemiology and prevention and is a lead or co-investigator in several national multi-center studies, including Natural Experiments in Translation for Diabetes (NEXT-D) and the Look AHEAD Study.

Cindy Lam

Danny D. B. Ho Professor in Family Medicine, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong

Professor Cindy Lam, JP, is the Danny D. B. Ho Professor in Family Medicine and Head of the Department of Family Medicine and Primary Care of the University of Hong Kong. She serves as Co-Chair of the Grant Review Board of the Health and Medical Research Fund of the Food and Health Bureau, Government of Hong Kong SAR and Chief Censor of the Hong Kong College of Family Physicians. Her main research interests are health-related quality of life and health services in primary care. She has published more than 230 peer-reviewed journal articles and book chapters.

FACULTY MEMBERS

Andrea Luk

Associate Professor, Division of Endocrinology, Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Dr. Andrea Luk is currently the Associate Professor, Division of Endocrinology, Department of Medicine and Therapeutics, the Chinese University of Hong Kong. She is also the Honorary Associate Consultant at the Prince of Wales Hospital and the Deputy Medical Director of the Asia Diabetes Foundation.

Dr. Luk graduated from the University of Auckland, New Zealand, and received post-graduate training in Sydney, Australia and Hong Kong. She obtained her fellowship in endocrinology, diabetes and metabolism in 2007 at the Hong Kong College of Physicians. Her research focus is in diabetes epidemiology with special interests in diabetic kidney disease and young-onset diabetes. She is also extensively involved in clinical trials at the Diabetes and Endocrine Research Unit and Phase 1 Clinical Trial Unit.

Jonathan Shaw

Domain Head – Population Health Research, Baker IDI Heart and Diabetes Institute, Australia

Associate Professor Jonathan Shaw underwent his clinical and research training in the United Kingdom, before moving to Australia. At Baker IDI Heart and Diabetes Institute, he runs a large research section focussing on epidemiology and clinical research in diabetes, and is also a consultant physician in the diabetes services. He has authored over 300 peer-reviewed scientific papers and 35 book chapters. He is the Chair of the national Diabetes Expert Advisory Group, Past-President of the International Diabetes Epidemiology Group, was awarded the global Novartis Diabetes Award (for research) in 2006, and, in 2011, was awarded the International Diabetes Epidemiology Group Peter Bennett Award. In 2014, he was included in the Thomson Reuters *The World's Most Influential Scientific Minds*, which lists the 1% most highly cited scientists in the world since 2002. In 2015, he was awarded the inaugural Jeff Flack Diabetes Data Award from the Australian Diabetes Society for his outstanding contribution to Diabetes Data Collection in Australia.

FACULTY MEMBERS

Nick Wareham

Director of the MRC Epidemiology Unit and co-Director of the Institute of Metabolic Science, The University of Cambridge School of Clinical Medicine, UK

Nick Wareham is the Director of the MRC Epidemiology Unit and co-Director of the Institute of Metabolic Science at the University of Cambridge. His principal research interests are the aetiology and prevention of obesity and diabetes and he leads the Aetiology of Diabetes and Related Metabolic Disorders Programme, and is the Director of the University Centre for Diet and Activity Research (CEDAR). He qualified from St Thomas' Hospital Medical School, London, and trained in epidemiology at the London School of Hygiene and Tropical Medicine, London and the University of Cambridge, where he is now Professor of Epidemiology.

Xilin Yang

Professor and Head, Department of Epidemiology and Biostatistics, Tianjin Medical University, China

Dr. Xilin Yang obtained his PhD degree from the University of Melbourne in 2002; and completed postdoctoral training at the Chinese University of Hong Kong in 2007 and is a professor and head of Department of Epidemiology and Biostatistics, Tianjin Medical University.

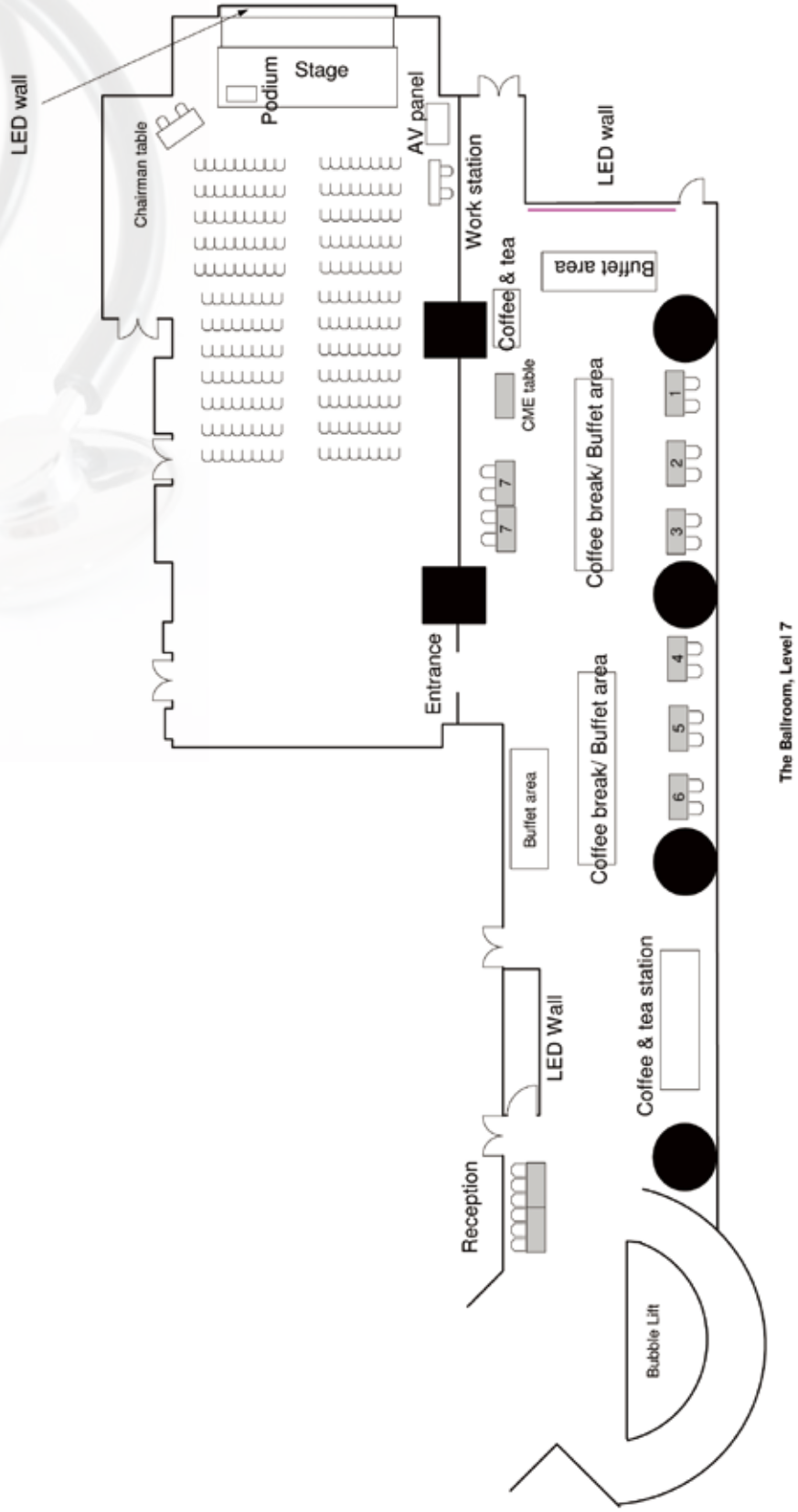
He and coworkers set up the screening and management system for GDM in Tianjin, China 16 years ago, and conducted two translational studies in this population, to examine the effectiveness and cost-effectiveness of lifestyle intervention during pregnancy and after delivery among women with prior GDM.

SCIENTIFIC PROGRAMME

21 May (Saturday)		
10:00 - 17:00	Prevent the Preventables Programme (for public)	

22 May (Sunday)		
09:00 - 09:10	Welcome Remarks	Juliana Chan, Hong Kong Ronald Ma, Hong Kong
Plenary Symposium 1		**Co-chairs: Wing-Yee So and Benny Zee**
09:10 - 09:55	The legacy of UKPDS Outcome Model	Philip Clarke, Australia
09:55 - 10:40	The changing character of diabetes and its complications	Edward Gregg, USA
10:40 - 10:55	Coffee Break	
Symposium 1		**Co-chairs: Ronald Ma and Jojo Kwan**
10:55 - 11:25	Prevention of gestational diabetes in China: a case of translational studies in Tianjin	Xilin Yang, China
11:25 - 11:55	Diabetes Education: evidences of its key role in diabetes treatment and prevention	Juan José Gagliardino, Argentina
11:55 - 12:25	Holistic diabetes management in primary care	Cindy Lam, Hong Kong
12:25 - 13:25	Lunch	
Plenary Symposium 2		**Co-chairs: Alice Kong and Vincent Yeung**
13:25 - 14:10	Diabetes and Cancer – insights from a 1 million person registry	Jonathan Shaw, Australia
14:10 - 14:55	Diabetes and Cancer – from screening to prevention	Nick Wareham, UK
Symposium 2		**Co-chairs: Risa Ozaki and Alexander Chiu**
14:55 - 15:25	Diabetic Kidney Disease in Asia – where are the gaps?	Andrea Luk, Hong Kong
15:25 - 15:40	Coffee Break	
15:40 - 16:10	Use of biosimilar insulin in Asia	Linsey Utami Gani, Singapore
16:10 - 16:40	Implementing the JADE Program in China – challenges and opportunities	Juliana Chan, Hong Kong
16:40 - 16:50	Closing Remarks	Juliana Chan, Hong Kong Ronald Ma, Hong Kong

FLOOR PLAN


LED wall
Stage
Podium
Chairman table
AV panel
Work station
LED wall
Buffet area
Coffee & tea
CME table
Coffee break/ Buffet area
Entrance
Buffet area
Coffee break/ Buffet area
LED Wall
Coffee & tea station
Reception
Bubble Lift
The Ballroom, Level 7

EXHIBITORS AND ACADEMIC ACCREDITATIONS

Exhibitors

Booth No.	Exhibitors Name
1	AstraZeneca Hong Kong Ltd.
2	BioScan Ltd.
3	Eli Lilly Asia, Inc (Hong Kong)
4	Fresenius Kabi Hong Kong Ltd.
5	Novartis Pharmaceuticals (HK) Ltd.
6	Sanofi-aventis Hong Kong Ltd.
7	Asia Diabetes Foundation

Academic accreditations

Name of Institutions	22 May 2016	Remarks
Hong Kong College of Community Medicine	Pending	N/A
Hong Kong College of Emergency Medicine	6 Cat. PP CME points	N/A
Hong Kong College of Paediatricians	6 Cat. A passive CME points	N/A
Hong Kong College of Physicians	6 passive CME points	N/A
Hong Kong Dietitians Association	5 core CDE points	N/A
Hong Kong Physiotherapy Association Limited	5 CPD points	N/A
International Podiatrists Association of Hong Kong	10 CPD points	N/A
MCHK CME Programme	5 passive points	N/A
Medical Laboratory Technologists Board	6 CPD points	N/A
Occupational Therapists Board	3 CPD points	N/A
The College of Surgeons of Hong Kong	6 passive points	N/A
The Hong Kong College of Anaesthesiologists	6 non-anaesthetic/ passive points	N/A
The Hong Kong College of Family Physicians	5 Cat. 5.2 CME points	N/A
The Hong Kong College of Obstetricians and Gynaecologists	2 CME points	For General O&G and Maternal and Fetal Medicine
The Hong Kong College of Orthopaedic Surgeons	5 Cat. C CME/CPD points	N/A
The Hong Kong College of Otorhinolaryngologist	3.5 Cat 2.2 CME points	N/A
The Hong Kong College of Pathologists	3 Cat. PP CME points	N/A
The Hong Kong College of Psychiatrists	Pending	N/A
The Nethersole School of Nursing	6 CNE points	N/A

PLENARY SYMPOSIUM 1

09:10 - 09:55

The legacy of UKPDS Outcome Model

Philip Clarke
Professor of Health Economics, Centre for Health Policy, School of Population and Global Health, The University of Melbourne, Australia

The purpose of this lecture will to provide an overview of development of the UKPDS Outcomes Model which was developed in 2004, as the first diabetes computer simulation model based entirely on individual level data from a large clinical study involve people with type 2 diabetes.

The lecture will first review the results and impact of United Kingdom Prospective Diabetes Study (UKPDS), focusing on economic evaluation conducted alongside the clinical trial. Including, assessing the cost-effectiveness of tight blood pressure control and intensive blood glucose control. The lecture will review construction and use of computer simulation models to predict the probability of longer-term complications from patient-specific risk factors. As well as how complication impact on quality of life and how this can be measured using Quality Adjusted Life Years (QALYs).

The second part of the lecture will review how the UKPDS Outcome model and simulation models that have used elements of this model can inform economic evaluations of new therapies. Such economic analyses provided new evidence to clinicians, policymakers and researchers on the cost-effectiveness of interventions, thereby assisting the development of treatment guidelines and improved standards of care. Ways of meta-analysing the outcomes of models will be examined.

The third part will look at the influence of the UKPDS Outcomes Model on other simulation models, including the recent development of Type 1 diabetes model and plans for the development of a contemporary cardiovascular simulation model.

The final section will also explore ways of examining validating model outcomes on different population with an emphasis on Asian populations. The case will be made for a regional level collaboration to develop a diabetes simulation model using available data across and how this could be used to improve allocation of resources for people with diabetes.

09:55 - 10:40

The changing character of diabetes and its complications

Edward Gregg
Chief of Epidemiology and Statistics Branch, Division of Diabetes Translation,
National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, USA

Diabetes has distinguished itself as one of the most rapidly increasing chronic conditions in the world. The prevalence increases observed in all regions of the world are most concerning because of the traditionally-observed 10 to 20 fold excess risk of microvascular complications and 2-3 times excess risk of macrovascular complications that follow. However, amidst the increase in prevalence, important transitions in the rates and types of morbidity are occurring that could have implications for future prevention, care, and epidemiologic research. In the U.S., rates of major complications have declined over the past 15 years, with the greatest absolute reductions greatest for myocardial infarction, followed by mortality, stroke, amputation, and the smallest improvements in end stage renal disease. However, these encouraging reductions may be dampened by two concurrent aspects of these trends. First, improvements in care and outcomes have been dominated by older adults, and the outlook for the new generation of young adults with diabetes is less clear; Second, the combination of increasing incidence and mortality has affected lifetime risk dramatically in the last decade, roughly doubling the number of years spent with diabetes per thousand persons in the population. The increase in the number of years spent with the condition means that persons with diagnosed diabetes will have more years of exposure and cumulative risk of diabetes complications. For older adults, these extra years may give way to a diversification of morbidity, including aging-related physical and cognitive decline, manifestations of chronic kidney disease, diabetic cardiovascular disease, and cancer. Similar patterns appear underway in other western countries of the world – increasing incidence and prevalence along with declining complications and mortality. However, a worse scenario, in which diabetes complications and mortality compound increasing diabetes incidence, is also conceivable in some regions. Ulimately, the magnitude of the diabetes problem calls for multi-tiered interventions tailored to different levels of risk. Epidemiologic efforts will be essential to improve international surveillance, refine risk stratification methods, and prioritize interventions.

SYMPOSIUM 1

10:55 - 11:25

Prevention of gestational diabetes in China: a case of translational studies in Tianjin

Xilin Yang

Professor and Head, Department of Epidemiology and Biostatistics, Tianjin Medical University, China

Xilin Yang[1], Junhong Leng[1,2], Cuiping Zhang[2], Gongshu Liu[2], Huikun Liu[2], Shuang Zhang[2], Zhijie Yu[3], Juliana CN Chan[4], Gang Hu[5]

[1] Department of Epidemiology and Biostatistics, School of Public Health, Tianjin Medical University, Tianjin, China;
[2] Tianjin Women and Children's Health Centre, Tianjin, China;
[3] Population Cancer Research Program and Department of Pediatrics, Dalhousie University, Halifax, Canada;
[4] Department of Medicine and Therapeutics, Prince of Wales Hospital, The Chinese University of Hong Kong, Hong Kong, China;
[5] Chronic Disease Epidemiology Laboratory, Pennington Biomedical Research Center, Baton Rouge, Louisiana, USA

We established a universal screening system for detecting gestational diabetes mellitus (GDM) in Tianjin, China, in 1999. Over a 12-year span, risk factors for GDM increased rapidly, e.g., age at pregnancy increased from 26.3 to 28.3 years; prepregnancy body mass index (BMI) increased from 21.2 to 22.3 kg/m^2; prevalence of overweight/obesity increased from 14.8% to 26.4%, and systolic blood pressure increased from 103 to 106 mmHg (Ps<0.001). Using the 1999 World Health Organization's (WHO's) criteria, the prevalence of GDM increased from 2.3% in 1999 to 8.1% in 2010-2012, which increased further to 9.3% using the International Association of Diabetes and Pregnancy Study Group's (IADPSG) criteria.

The Hyperglycaemia and Adverse Pregnancy Outcomes Survey confirmed a linear trend of glucose levels with adverse pregnancy outcomes and recommended the IADPSG criteria. In our population, a shift from the 1999 WHO's to IADPSG's criteria in Tianjin diagnosed more GDM cases. Women diagnosed to have GDM using the IADPSG's had higher risks for having offsprings with large for gestational age (LGA) (adjusted OR: 2.23, 95% CI: 1.36-3.64) and macrosomia (2.65, 95% CI: 1.50–4.66) than GDM cases missed by the shift. In a randomized translational trial using the IADPSG's criteria to define GDM and implemented in a 3-tier shared care system in Tianjin, we confirmed the effectiveness of lifestyle modification on improving pregnancy outcomes in Chinese women with GDM with 34% (95% CI: 7-56%) risk reduction for macrosomia and LGA compared to usual care.

GDM increased the risk of diabetes in the women and childhood obesity in their offspring. In another randomised controlled trial, we examined the effects of lifestyle intervention on the risk of diabetes in 1108 women with prior GDM. In our interim analysis at one year, the intervention group lost 1.40 kg (2.1%) in body weight compared to 0.21 kg (0.3%) in the control group (P=0.001) with improved plasma insulin levels and health behaviors in the intervention group.

In conclusion, our series of studies detected an increasing prevalence of GDM and its risk factors in Tianjin, China. While we have confirmed the benefits of lifestyle intervention during pregnancy and postpartum, further studies are needed to answer whether lifestyle intervention before or during early pregnancy can prevent GDM.

11:25 - 11:55

Diabetes Education: evidences of its key role in diabetes treatment and prevention

Juan José Gagliardino

Consultant Professor, Facultad de Ciencias Médicas, National University of La Plata, Argentina
Director of Postgraduate Course, Prevention and Treatment of Diabetes and Other Cardiovascular Risk Factors (DIFAR), Facultad de Ciencias Médicas, National University of La Plata, Argentina and Indiana University, USA

Diabetes is a chronic disease and as such, requires active participation of people with diabetes in the control and treatment of the disease to attain appropriate control. This active participation needs that people with diabetes accept their disease, incorporate knowledge, develop special habilities and manifest a positive attitude related to adoption of healthy life style habits. Data from studies implemented in Latin America (PEDNID-LA and PROCAMEG), have demonstrated that implementation of structured small group education courses for people with type 2 diabetes improved quality of care and optimizes economic resources usage. These outcomes are enhanced and sustained for long periods (three years), when education includes not only people with diabetes but also primary care physicians (PRODIACOR). Results from the IDMPS study confirm these results but at worldwide level. Based on these results, we assume that wide implementation of education at every level could attenuate the heavy load of diabetes everywhere, but such initiative must start at the primary care level improving early diagnosis of the disease and its appropriate treatment. In this regard, we have implemented an initiative (DIAPREM) in Argentina, in one of the most challenging regions of the country. The data recorded lend support to our assumption that education implemented at the primary care level and effective interaction among different complexity levels, primary care physicians and specialist, have the chances to overcome the heavy socioeconomic burden of diabetes.

11:55 - 12:25

Holistic diabetes management in primary care

Cindy Lam

Danny D. B. Ho Professor in Family Medicine, Department of Family Medicine and Primary Care, The University of Hong Kong, Hong Kong

Background: The prevalence of diabetes mellitus (DM) is increasing worldwide and at the fastest rate in Asia. It is estimated that about 10% of the adult population in Hong Kong have DM and many people have to live with their DM for decades. The majority of DM patients are managed in primary care for most of their care. Holistic DM management needs to go beyond the control of the disease to include the management of other risk factors to prevent complications and to enable the patient to live the longest possible quality life. To serve the purpose, we need a systematic and multi-disciplinary approach to DM care.

Methods: Two structured multidisciplinary programmes to enhance DM management in primary care have been established in the Hospital Authority in Hong Kong. Both of them are additional to the usual care provided by the doctor. The first is the Risk Assessment and Management Programme for DM (RAMP-DM) and the second is the Patient Empowerment Programme (PEP). RAMP-DM is nurse-led and protocol driven to assess risk factors and screen for complications. It stratifies DM patients into low, medium, high and very high risk groups based on the JADE classification, and then provides the appropriate follow up management including risk factor modification. The programme is supported by a wide range of medical and other health professional services. The PEP is provided by NGO that aims at promoting self-care through the enhancement of disease specific knowledge and life style modification skills. The core programme consists of four 2-hour sessions with two on DM knowledge, and two on generic self-management skills. Two propensity score matched cohort studies were carried out to evaluate the effectiveness of the RAMP-DM and PEP in reducing CVD and microvascular complications, and all-cause mortality over three years.

Results: 18188 (9094 in RAMP-DM, and 9094 in usual care only) adult DM patients without any known complication on enrollment were included in the evaluation of RAMP-DM. 19864 (9932 in PEP and 9932 not in PEP) subjects who had enrolled in RAMP-DM were included in the evaluation of PEP. RAMP-DM was associated with an absolute reduction of 2.30% CVD, 1.37% microvascular complications and 3.85% deaths over 3 years. PEP was associated with an additional absolute reduction of 0.13% CVD, 1.11% microvascular complications and 0.81% deaths over 3 years. Adjusted 3-year survival analyses showed that RAMP-DM was associated with a HR of 0.63, 0.71 and 0.36 for CVD, microvascular complications and deaths, respectively, and PEP was associated with a HR of 0.71 and 0.69 for microvascular complications and deaths, respectively.

Conclusion: Systematic risk assessment and management and patient empowerment programmes are effective in enhancing holistic DM management in primary care with significant reduction in complications and mortality.

PLENARY SYMPOSIUM 2

13:25 - 14:10

Diabetes and Cancer – insights from a 1 million person registry

Jonathan Shaw

Domain Head - Population Health Research, Baker IDI Heart and Diabetes Institute, Australia

Over more than a decade, data have been accumulating on the association of cancer with diabetes. Several cancers have now been shown to occur more frequently in those with than without diabetes. A key issue in understanding the extent to which diabetes is actually causative of cancer is to separate causality from reverse-causality. Indeed, in large observational studies, it can be very difficult to know that cancer genuinely developed after diabetes, even when it is known to be diagnosed later. Our recent analyses have shown that even though reverse-causality and detection bias may contribute to the association, a potentially causal effect of diabetes on cancer remains.

Most of the work has focused mainly on type 2 diabetes, but our own recent data show that type 1 diabetes is also a risk factor for cancer. This is an important insight, not only for people with type 1 diabetes, whose life expectancy is still more than a decade shorter than the general population, but also for understanding the mechanisms linking diabetes with cancer. Pre-clinical studies suggest a potential role for both insulin resistance and hyperglycaemia in leading to cancer development, and both are prominent in type 2 diabetes. However, showing that type 1 diabetes is also a risk factor for cancer provides evidence to support the hyperglycaemia theory.

14:10 - 14:55

Diabetes and Cancer – from screening to prevention

Nick Wareham

Director of the MRC Epidemiology Unit and co-Director of the Institute of Metabolic Science, The University of Cambridge School of Clinical Medicine, UK

Type 2 diabetes, obesity and cancer are closely linked. This lecture will summarise the epidemiological associations between these disorders and their treatments. It will discuss the challenges of investigating whether such associations arise through chance, bias or confounding, the likelihood that associations are causal and the direction of causality. The rise of knowledge about the genetic determinants of metabolic pathways has led to the possibility of using genetic risk scores as instrumental variables to investigate causal inference. Using examples from obesity and insulin resistance, this talk will illustrate the potential and limitations of such Mendelian Randomisation approaches.

The probability of a common soil for type 2 diabetes and some cancers raises questions about the most appropriate approaches to maximise public health benefits. This talk will illustrate the value of moving away from specific disease prevention programmes to an approach to improving population health through upstream health promotion action.

SYMPOSIUM 2

14:55 - 15:25

Diabetic Kidney Disease in Asia - where are the gaps?

Andrea Luk

Associate Professor, Division of Endocrinology, Department of Medicine and Therapeutics, The Chinese University of Hong Kong, Hong Kong

Type 2 diabetes mellitus is an emerging pandemic driven by obesity, aging population, and improved survival in those affected. Over half of the world diabetic population is coming from Asia notably China and India. The increasing number of people developing diabetes has parallel impact on the incidence and prevalence of diabetic kidney disease (DKD), which is the most common cause of renal replacement therapy globally. Besides advancement to end-stage renal disease, patients with DKD are at greater likelihood to have cardiovascular disease and to die prematurely when compared to their diabetic counterparts without DKD.

Ethnicity influences the probability of progressing to DKD, and the predilection of Asian diabetic population to acquire kidney complications is well recognized. Ethnic disparity in risks of DKD is multifactorial, with genetic diversity as well as differences in medical care, access and delivery, risk factor control and responses to treatment being major contributors.

The Joint Asia Diabetes Evaluation (JADE) program is an electronic disease management program that facilitates structured assessment of metabolic control and diabetes complications. Since 2007, nine regions in Asia participated in JADE program in a quality improvement initiative and for the establishment of the Asia Diabetes Database. Among 28,000 patients enrolled, 15% had stage 3 or above chronic kidney disease (CKD) and 40% had albuminuria. Compared to non-CKD population, fewer patients with CKD were able to meet glycaemic, blood pressure and LDL-cholesterol targets, who were also more likely to report symptomatic hypoglycaemia. Only 60% of patients with CKD identified to have hypertension were on anti-hypertensive drugs and a similar proportion of those with dyslipidaemia were prescribed statins. Importantly, just half of the patients with CKD were using renin-angiotensin system inhibitors, despite established reno-protective action of these agents.

Previous studies have illustrated that global risk factor management by means of pharmacotherapy and behavioural modification is effective in preventing adverse outcomes and premature death in individuals with DKD. The multinational survey presented herein documented poor metabolic control, under-use of life-saving drugs, and frequent hypoglycaemia in this high risk group. Efforts to improve quality of care through reduction of clinical inertia and patient empowerment are urgently needed to narrow the existing treatment gap, in order to minimize the burden of downstream co-morbidities.

15:40 - 16:10

Use of biosimilar insulin in Asia

Linsey Utami Gani

Associate Consultant, Department of Endocrinology, Department of Medicine, Changi General Hospital, Singapore

Background: Although biosimilar insulins may reduce treatment costs, their safety and efficacy remained uncertain. We examined usage of biosimilar insulin in clinical practice from Asia using data from the web-based JADE (Joint Asia Diabetes Evaluation) Program.

Methods: We conducted a multinational cross-sectional cohort study between 2007 and 2014. 81,531 patients with type 1 and type 2 diabetes were enrolled into JADE from 281 clinics in 11 countries/areas (Hong Kong, India, China, Philippines, Indonesia, Korea, Malaysia, Singapore, Taiwan, Vietnam and Thailand). We extracted all insulin-related search terms from the JADE portal and analysed clinical differences between biosimilar and originator insulin users. Multivariate analysis was performed to assess the independent effect of biosimilar insulin on dosage, HbA_{1c} and hypoglycaemia events.

Results: Amongst 81,531 patients, 20.5% (n=16,738) were insulin-treated, 4.3% (n=721) were on biosimilar insulins, mainly from India (n=507, 70.3%), Philippines (n=90, 12.5%), China (n=62, 8.6%) and Vietnam (n=60, 8.3%). Compared to originator insulin users, biosimilar insulin users were younger, more obese, had higher HbA_{1c} and were less likely to reach HbA_{1c} target of <7.0%, despite a higher dose requirement of insulin (0.52 units/kg versus 0.47 units/kg, p=0.007). In a multivariate regression model, biosimilar insulin use was independently associated with higher insulin dose but not HbA_{1c} or hypoglycaemia, after adjusting for confounders.

Conclusion: Biosimilar insulin use is prevalent in certain areas in Asia and may be associated with higher HbA_{1c} and higher insulin dose accompanied by higher body mass index and larger waist circumference. Pharmacological vigilance studies are needed to evaluate their long term effects on clinical outcomes.

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16:10 - 16:40

Implementing the JADE Program in China – challenges and opportunities

Juliana Chan

Chair Professor of Medicine and Therapeutics, Hong Kong Institute of Diabetes and Obesity, The Chinese University of Hong Kong and Chief Executive Officer, Asia Diabetes Foundation, Hong Kong

Care fragmentation and suboptimal self-care are key challenges in diabetes management. We hypothesized that delivery of integrated care augmented by a web-based disease management program and nurse coordinator would improve treatment target attainment and health behaviour. The web-based Joint Asia Diabetes Evaluation (JADE) and Diabetes Monitoring Database (DIAMOND) portals contain identical built-in protocols to integrate structured assessment, risk stratification, personalized reporting and decision support. The JADE portal contains an additional module to facilitate structured follow-up visits. Between January, 2009 and September, 2010, 3586 Chinese patients with type 2 diabetes from 6 sites in China were randomized to DIAMOND (n=1728) or JADE plus nurse-coordinated follow-up visits (n=1858) with comprehensive assessments at baseline and 12 months. The primary outcome was proportion of patients achieving ≥2 treatment targets (HbA_{1c}<7%), blood pressure<130/80 mmHg, LDL-C<2.6 mmol/L). Of 3586 patients enrolled (mean age: 57 years, 54% men, median disease duration: 5 years), 2559 returned for repeat assessment after median follow-up of 12.5 (inter-quartile range: 4.6) months. The proportions of patients attaining ≥2 treatment targets increased by 10% in both groups with similar reductions by in HbA_{1c} (0.6%) and LDL-C (0.3%). The JADE group was more likely to have better BP control, self-monitor blood glucose and had fewer defaulters. Integrated care augmented by information technology improved cardio-metabolic control with additional nurse contacts reducing default rate and enhancing self-care.

NOTES

NOTES

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References:

1. Weintraub WS. Can J Cardiol. 2006 Feb;22 Suppl B:56B-60B
2. Aoki M et al. Diabetologia 2001 Aug;44(8):1034-1042
3. Choi JM et al. J. Pharmacol Exp Ther. 2002 Mar;300(3):787-793
4. Wang T et al. Atherosclerosis 2003 Dec;171(2):337-342
5. Biscetti F et al. Int J Cardiol. 2013 Aug 10;167(3):910-6

For more information on Pletaal®, please see Full Prescribing Information.
Further information available upon request:

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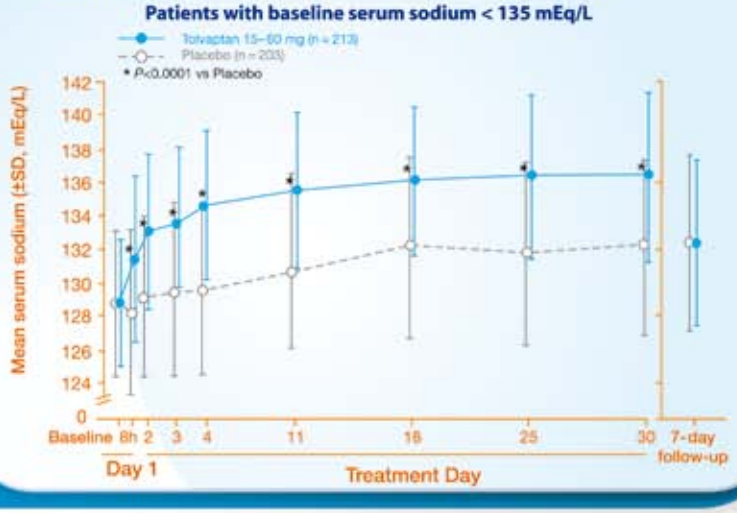

Indication[2]

SAMSCA® is indicated for the treatment of clinically significant hypervolemic and euvolemic hyponatremia (serum sodium <125mEq/L or less marked hyponatremia that is symptomatic and has resisted correction with fluid restriction), including patients with heart failure and Syndrome of Inappropriate Antidiuretic Hormone (SIADH).

Abbreviated Prescribing Information

Presentation: Tablets 15mg or 30mg of tolvaptan. **Indication:** SAMSCA is indicated for the treatment of clinically significant hypervolemic and euvolemic hyponatremia (serum sodium <125mEq/L or less marked hyponatremia that is symptomatic and has resisted correction with fluid restriction), including patients with heart failure and Syndrome of Inappropriate Antidiuretic Hormone (SIADH). **Dosage:** To be initiated in hospital due to need for evaluation of therapeutic response. The usual starting dose for SAMSCA is 15mg administered once daily without regard to meals. Increase the dose to 30mg once daily, after at least 24 hours, to a maximum of 60 mg once daily, as needed to achieve the desired level of serum sodium. Limit treatment duration to 30 days. **Contraindications:** Hypersensitivity to any component of Samsca. Urgent need to raise serum sodium acutely. Anuria. Hypovolaemic hyponatremia (worsening). Hypernatremia. Patients who cannot perceive or appropriately respond to thirst. Concomitant use of strong CYP3A inhibitors. Pregnancy. Breastfeeding. **Warnings and precautions:** Tolvaptan should be initiated and re-initiated in patients only in a hospital where serum sodium can be monitored closely. Tolvaptan has not been in a setting of urgent need to raise serum sodium acutely. For such patients, alternate treatment should be considered. Osmotic demyelination syndrome is a risk associated with too rapid correction of hyponatremia (eg., >12mEq/L/24 hours). Osmotic demyelination results in dysarthria, mutism, dysphagia, lethargy, affective changes, spastic quadriparesis, seizures, coma and death. Caution should be exercised to ensure patients have adequate access to water and not become overly dehydrated. Urinary outflow must be secured to avoid risk of developing acute urinary intention. If hepatic injury is suspected, discontinue SAMSCA. Avoid use in patients with underlying liver disease. Concomitant use of SAMSCA with other treatments for hyponatremia or other medicinal products that increase serum sodium concentration may result in a higher risk for developing rapid correction of serum sodium and is therefore not recommended. **Drug interactions:** Caution with: co-administration with CYP3A inhibitors, inducers and substrates. P-gp inhibitors, and digoxin. Concomitant use with hypertonic saline is not recommended. The effect of vasopressin analogues such as desmopressin may be attenuated in patients using such analogues to prevent or control bleeding when co-administered with SAMSCA. **Adverse reactions:** The following adverse reactions were reported (>2%) in clinical trials in hyponatremia: Dry mouth, constipation, thirst, asthenia, pyrexia, hyperglycemia, anorexia, pollakiuria or polyuria. See full package insert for further details and other undesirable effect. **Overdosage:** If overdose occurs, estimation of the severity of poisoning is an important first step. Treatment should involve symptomatic and supportive care, with respiratory, ECG and blood pressure monitoring and water/electrolyte supplements as needed. A profuse and prolonged aquaresis should be anticipated. Please refer to full package insert for further details.

Reference: 1. Schrier RW, et al. Tolvaptan, a selective oral vasopressin V2-receptor antagonist, for hyponatremia. *N Engl J Med.* 2006;355:2099–2112. 2. Samsca package insert

SMC 201601 (approved in JAN 2016)

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References:

1. Jardiance® Hong Kong prescribing information. **2.** Merker L, et al. Poster 1079-P. Presented at the 74th Scientific Session of American Diabetes Association, 13-17 June 2014, San Francisco, CA, USA. **3.** Roden M, et al. Lancet Diabetes Endocrinol. 2013;1:208-219. **4.** Häring HU, et al. Diabetes Care. 2014;37:1650-1659. **5.** Häring HU, et al. Diabetes Care. 2013;36:3396-3404. **6.** Rosenstock J, et al. Diabetes Obes Metab. 2015;17:936-948. **7.** Zinman B, et al. N Engl J Med. 2015 Sep 17. (Epub ahead of print).

JARDIANCE®

Presentation: Empagliflozin. Film-coated tablet 10 mg and 25 mg. **Indications:** Adjunct to diet and exercise to improve glycaemic control in adults with type 2 diabetes mellitus as monotherapy or as combination therapy with other glucose-lowing medicinal products including insulin. **Dosage and administration:** Recommended starting dose is 10 mg once daily. For patients who tolerate 10 mg and need additional glycaemic control, their dose can be increased to 25 mg once daily. Can be taken with or without food. **Contraindication:** Hypersensitivity to empagliflozin or to any of the excipients. **Special warnings and precautions:** Should not be used in patients with type 1 diabetes or diabetic ketoacidosis. In patients tolerating empagliflozin whose eGFR falls persistently below 60 ml/min/1.73 m^2 or CrCl <60 ml/min, the dose of empagliflozin should be adjusted to or maintained at 10 mg once daily. Should be discontinued when eGFR is persistently below 45 ml/min/1.73 m^2 or CrCl persistently below 45 ml/min. Should not be initiated in patients with eGFR below 60 ml/min/1.73 m^2 or CrCl <60 ml/min; ESRD or patients with dialysis; aged 85 years and older; severe hepatic impairment. Caution should be exercised in patients at risk for volume depletion. Temporary interruption of treatment until the fluid loss is corrected or in patients with complicated urinary tract infections. Caution in patients with NYHA III and IV cardiac failure. Avoid use in patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption. A lower dose of the sulphonylurea or insulin may be considered to reduce the risk of hypoglycaemia when used in combination with empagliflozin. Test positive for glucose in urine. Should be avoided during pregnancy; breast-feeding. Caution when driving or operating machines. **Interactions:** Diuretics, insulin & insulin secretagogues. May decrease efficacy with inducers of UGT enzymes. **Adverse reactions: Very common:** hypoglycaemia when used with sulphonylurea or insulin. **Common:** vaginal moniliasis, vulvovaginitis, balanitis and other genital infection, urinary tract infection, pruritus (generalised), increased urination. **Uncommon:** volume depletion, dysuria. **Note:** Before prescribing, please consult full prescribing information.

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References: **1.** Estimated number of patients using FlexPen® based on worldwide sales in number of packs sold, IMS world wide data Q2'10 and Daily Defined Dosage (DDD) for insulin as issued by WHO. **2.** Reimer T et al. Intuitiveness, instruction time, and patient acceptance of a prefilled insulin delivery device and a reusable insulin delivery device in a randomized, open-label, crossover handling study in patients with type 2 diabetes. Clin Ther 2008; 30(12): 2252–2262.

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