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Professor Sir David Todd*



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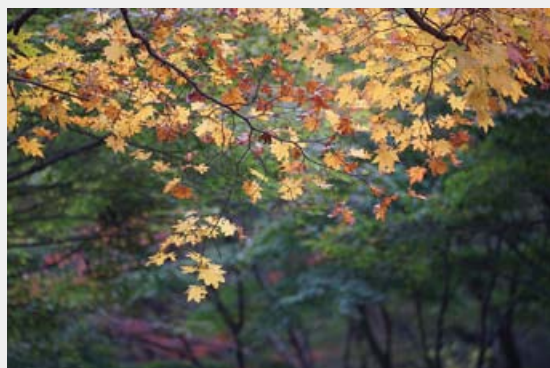
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The Cover Shot



AUTUMN HYMN

By June KY LI

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When the November Sun rises gently from the Sea,
When the November breeze rustles the golden and red leaves,
Fall birds are migrating,
Autumn is here.

Let us inhale the first breath of the Autumn air,
Let us marvel at the emptiness of the crisp blue sky,
And savour the sweet scent of the old pine trees.

Shall we fly a kite, ride a bike or go for a hike?
Let us cherish the wonders of Nature that our Lord provides,
And share our harvests with brothers in plight.



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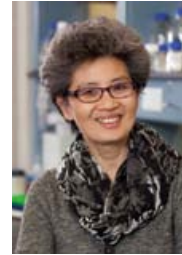
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Diabetes and Obesity in Hong Kong Chinese – Challenges and Opportunities

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Co - Editor

Driven by the rising rate of obesity, the prevalence and incidence of diabetes are increasing globally and locally, particularly in young people. The rising number of young people with diabetes is worrisome due to their long disease duration and high rates of premature cardiovascular-renal complications. Many of these young patients have poor control of blood glucose, blood pressure and blood lipids due to poor drug adherence and self-management. Besides, they are less likely to be treated intensively by their care team who often consider them at low risk for complications given their young age.

Patients with type 2 diabetes and obesity pose particular challenges. The obesogenic environment in modern societies characterised by food abundance, mechanisation and physical inactivity results in continuing weight gain in many people with diabetes despite receiving education from their care team. Traditional anti-diabetic drugs such as sulphonylureas and insulin are associated with weight gain. Although newer drugs such as glucagon-like peptide-1 (GLP-1) agonists and sodium-glucose cotransporter-2 (SGLT-2) inhibitors reduce blood glucose and body weight, empowerment with ongoing support are needed to initiate and sustain behavioural changes. In some individuals with morbid obesity and poor control of cardiometabolic risk factors, metabolic surgery may be an alternative option although this must form part of a multidisciplinary plan with ongoing psychological support, medical review and nutritional replacement. Depression, anxiety and distress frequently coexist in diabetes due to psychosocial stress and multiple demands of diabetes management. This can lead to non-adherence and poor self care which substantially increase the risk of cardiovascular disease and use of hospital resources by 2-3 fold.

Every person with diabetes has a unique profile which calls for individualised care to improve outcomes. Here, team-based integrated diabetes care involving seamless collaboration amongst care professionals including but not limited to primary care doctors, endocrinologists, other specialists, diabetes nurses, community nurses, dietitians, podiatrists, pharmacists, psychologists and medical social workers, is needed to address their pluralistic needs. This team-based approach is particularly important to those with unmet clinical needs.

In this issue of Hong Kong Medical Diary dedicated to the late Sir David Todd, we have invited endocrinologists and metabolic surgeons working in public and private sectors to share their experiences in managing these difficult-to-treat patients with young-onset diabetes, depression and severe obesity as well as their perspectives in integrated diabetes care.

Finally, we wish to take this opportunity to pay our tributes to this iconic figure of Hong Kong for awarding a Croucher Fellowship which was advanced to a research grant to the Chinese University of Hong Kong for studying the epidemiology of diabetes in Hong Kong Chinese in 1989. Together with 14th November designated as the Diabetes Day, which was the birthday of Sir Frederick Banting, a medical scientist who co-discovered insulin for human use, we hope you will find special meaning in this issue in our common pursuit of improving diabetes care in Hong Kong.

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Metabolic Surgery in Hong Kong

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Type 2 diabetes (T2D) – a threat to Asia

Type 2 diabetes (T2D) is a global epidemic.¹ Obesity and T2D are two closely related conditions and often collectively named as “diabesity”. The health burden of T2D in Asia is alarmingly higher than the West with more than 60% of the diabetic population coming from Asia.²⁻³ The incidence of T2D in Asia is also cumulating rapidly compared to the rest of the world.¹ In a large-scale study evaluating more than 98,000 subjects in 2010, the estimated prevalence of T2D in Chinese adults was 11.6%.⁴ This epidemic puts the Chinese population (including Hong Kong) at high risk of T2D-related microvascular and macrovascular complications.

Optimal long-term glycaemic control is the primary goal in alleviating the progression of T2D and preventing devastating complications. However, current medical treatment for T2D often fails to achieve adequate glycaemic control. Based on the data from the China Mainland and Hong Kong SAR, only 39.7% of the treated patients with T2D achieved a glycosylated haemoglobin (HbA1c) level of <7.0%.⁵ Contrarily, bariatric surgery offers a potential cure for T2D. Comparing to intensive medical therapy, bariatric surgery is significantly more effective in achieving adequate glycaemic control (HbA1c ≤6.0%).⁶⁻⁷

What is metabolic surgery?

Bariatric surgery is any surgical procedure that produces weight loss in patients with obesity. To treat morbid obesity, bariatric surgery is proven to be highly efficacious in achieving substantial and durable weight loss. Remarkable improvement and remissions of T2D, metabolic syndrome and different obesity-related comorbidities could also be achieved by bariatric interventions⁶⁻⁸. Because of the efficacy of bariatric surgery in treating T2D, the nomenclature of “metabolic surgery” has been developed to describe the bariatric interventions to improve T2D and metabolic syndrome.⁹ The success of metabolic surgery in managing obese T2D patients has convincingly led to a paradigm shift in the contemporary treatment of T2D. In 2016, bariatric/metabolic surgery has been formally endorsed by 44 international diabetes organisations as a treatment for adults with T2D whose body-mass-index (BMI) is >35kg/m², particularly for people with comorbidities who cannot be controlled by lifestyle modifications and pharmacologic therapy.¹⁰ Metabolic surgery has also been defined in the same consensus statement as “the use of gastrointestinal surgery with the intent to treat T2DM and obesity”.¹⁰

Overview of metabolic surgery in Hong Kong

Bariatric/metabolic surgery has been evolving over the past 50 years with dynamic changes in the diversity of operative choices and indications.⁹ In Hong Kong, bariatric surgery was first contemplated at the Prince of Wales Hospital (PWH) affiliated to the Chinese University of Hong Kong in 2002.¹¹ Encouraged by the success and safety of obesity surgery service in PWH, more and more public and private hospitals are joining the workforce to provide the state-of-the-art bariatric surgical interventions to patients in Hong Kong. According to the latest Surgical Outcomes Monitoring and Improvement Programme (SOMIP) report of the Hospital Authority in 2016, 8 public hospitals offered bariatric surgery and the number is increasing. (Fig. 1)

Over the last 15 years, the total number of bariatric surgeries performed in Hong Kong had increased exponentially from fewer than 10 cases per year in 2002 to more than 200 cases in 2016. According to a survey on bariatric surgery in 6 public and 2 private hospitals in 2016, 1,448 bariatric operations had been conducted. Based on the data from the PWH, the caseloads of bariatric surgery for T2D patients had increased sharply over the last 15 years. (Fig. 2) Right now, up to 70% and 15% of bariatric operations were dedicated to T2D and pre-diabetic patients respectively. These trends support the growing need of metabolic surgery in Hong Kong, particularly for the obese T2D patients.

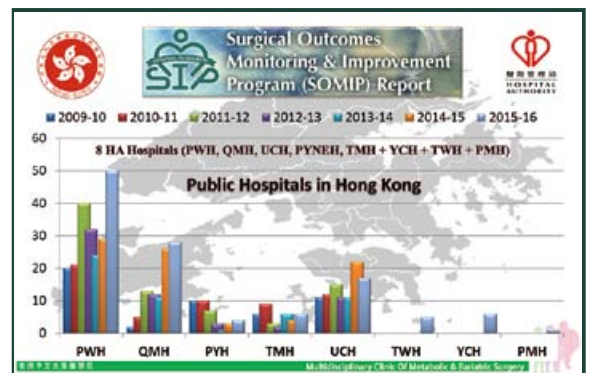


Fig. 1. The number of metabolic and bariatric operations within the Hospital Authority between 2009 and 2016.

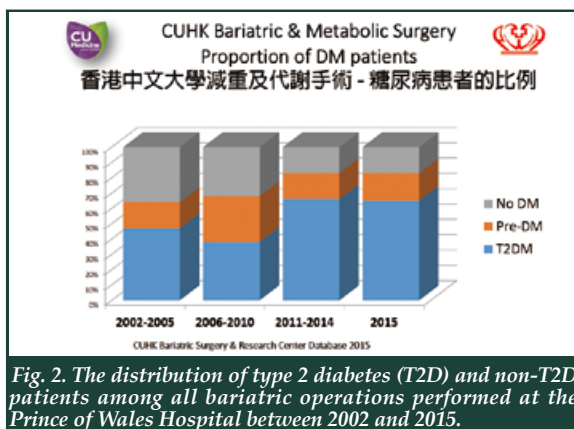


Fig. 2. The distribution of type 2 diabetes (T2D) and non-T2D patients among all bariatric operations performed at the Prince of Wales Hospital between 2002 and 2015.

Choice of metabolic surgery

Different bariatric and metabolic surgical procedures are characterised by distinct anatomical alterations with different technical complexity, mechanism of effects, clinical efficacies and safety profiles. To date, there are six dominant bariatric procedures with each having a variety of technical modifications. Based on their chronological emergence, they are the jejunio-ileal bypass (JIB), biliopancreatic diversion (BPD) and duodenal switch (DS), Roux-en-Y gastric bypass (RYGB), vertical banded gastroplasty (VBG), Laparoscopic adjustable gastric banding (LAGB) and Laparoscopic sleeve gastrectomy (LSG). In Hong Kong, LSG, RYGB and LAGB are the three commonest metabolic surgical procedures adopted for patients with T2D.

Laparoscopic Sleeve Gastrectomy is currently the commonest metabolic and bariatric surgery performed in Hong Kong and worldwide due to its balanced operative risks and weight loss benefits.¹² It removes over 75% of the stomach from the greater curvature and leaves a long narrow tube-like gastric remnant. It restricts calorie intake by reducing the gastric volume and produces hormonal modulations by reducing ghrelin production and stimulating incretin hormone production at the hindgut.

Laparoscopic Roux-en-Y Gastric Bypass is the conventional metabolic procedure of choice for almost 5 decades. While RYGB is considered the most effective metabolic surgery among the three choices¹³, its surgical risks and long-term negative nutritional impact are also the highest. It isolates a small proximal gastric pouch from the rest of the stomach and reconnects the gastric pouch to the distal small bowel in a Roux-en-Y fashion. It works by restricting calorie intake from a small gastric pouch, bypassing the duodenum and proximal jejunum for gut hormone stimulation and expediting the nutrient transit to the hindgut for stimulating incretin hormone release.

Laparoscopic Adjustable Gastric Banding is the safest surgical procedure of choice.¹¹ During LAGB, a silicone band is inserted to wrap around the proximal stomach to restrict food intake. However, LAGB is now rarely performed in Asia including Hong Kong because of its high re-operation rate and inferior outcomes in achieving T2D remissions.^{11,14}

How can metabolic surgery treat T2D?

The pathophysiological mechanisms that account for the metabolic effects of bariatric surgery are complex and beyond weight reduction alone. There are four classical hypotheses that explain the mechanism of effects of metabolic surgery.¹⁵ First, the weight-loss hypothesis is the conventional orthodox in explaining the metabolic effects. Restriction in calorie intake after all forms of bariatric surgery or even medical interventions can induce weight loss and result in improved hepatic insulin sensitivity and reduced hepatic gluconeogenesis.¹⁶ However, remarkable improvement in peripheral insulin resistance can only be observed with significant weight loss after bariatric surgery.¹⁷⁻²⁰ Secondly, the ghrelin hypothesis entails the dramatic reduction of ghrelin after removal or disconnection of the gastric fundus in LSG and RYGB. Ghrelin is an orexigenic hormone produced in the gastric fundus that has been shown to have diabetogenic effects.²¹ The reduced ghrelin levels after bariatric surgery can decrease the desire for calorie intake and secondarily lead to weight reduction.²¹⁻²³

The foregut and hindgut hypothesis are the two most important theories that account for the mechanisms of effects in metabolic surgery. The foregut hypothesis proposes that the exclusion of the duodenum and proximal jejunum from nutrient flow can prevent the release of a putative signal to promote insulin resistance and T2D.²⁴ This hypothesis was based on a landmark study in non-obese T2D rat models by Rubino et al.²⁴ Their study showed that exclusion of the proximal intestine from nutrient passage by gastrojejunostomy and duodenal exclusion (duodeno-jejunal bypass, DJB) could improve glucose tolerance and T2D. When the duodenal continuity was restored in spite of the diversion by gastrojejunostomy, the glycaemic improvement was lost. This hypothesis was also supported by the superiority of gastric bypass (with duodenal exclusion) over LSG (without duodenal exclusion) in improving glycaemia and causing T2D remissions in almost all randomised comparisons.^{13,25-27}

In the hindgut hypothesis, an expedited passage of nutrients to the distal intestine after metabolic surgery can produce a physiological signal to improve glucose homeostasis by several potential hormone mediators including glucagon-like peptide-1 (GLP-1) and peptide YY. After metabolic surgery, the rapid transit of nutrients to the distal intestine can stimulate the L-cells in the hindgut to secrete GLP-1 and peptide YY to enhance insulin secretion and insulin sensitivity.²⁸⁻³² GLP-1 is an incretin hormone that promotes postprandial insulin secretion and pancreatic beta cell function.²⁹⁻³⁰ It can also increase the beta cell mass by exerting proliferative and anti-apoptotic effects on beta cells.³¹ Peptide YY is an anorexigenic hormone that can suppress appetite, reduce calorie intake, inhibit gastric motility and improve insulin sensitivity.³² Such expedited delivery of nutrients to the distal intestine in the hindgut hypothesis can be achieved through intestinal diversion in any form of gastric bypass, DJB or BPD. The accelerated gastric emptying in LSG can also result in the hindgut effects.

Apart from the above-established hypotheses, newer pathophysiological theories have emerged to account for the metabolic effects of bariatric surgery. While most of

these emerging mechanisms remain to be proven, the bile acid theory is one of interest. After gastric bypass, the enterohepatic recirculation of bile acids is perturbed due to the alteration in anatomy. A postoperative increase in circulating bile acids has been suggested to contribute to the metabolic effects of surgery. Although the underlying mechanisms are still under investigations, bile acids are believed to affect hepatic metabolism and may promote the release of incretin.³³⁻³⁴

Who are indicated for metabolic surgery?

The indications for bariatric and metabolic surgery in Asians are different from those for the West because Asians tend to have a higher percentage of body fat at a given body weight and the onset of T2D occurring at lower levels of BMI.³⁵⁻³⁷ For Asians, the eligibility for bariatric surgery has been defined by the Asian Pacific Chapter Consensus Statement of the International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) in 2011.³⁸ Patients with BMI $\geq 35\text{kg/m}^2$ regardless of the existence of comorbidities or BMI $\geq 30\text{kg/m}^2$ having inadequately controlled T2D or metabolic syndrome by lifestyle alterations and medical treatment are indicated for bariatric surgery.

In 2016, the indications of metabolic surgery have been formally reconciled and endorsed in the Second Diabetes Surgery Summit followed by the publication of a joint statement by different international diabetes organisations including the American Diabetes Association, the International Diabetes Federation and 42 other worldwide organisations.¹⁰ It stated that metabolic surgery should be a “recommended” option to treat T2D in appropriate surgical candidates with BMI $\geq 40\text{kg/m}^2$ regardless of the level of glycaemic control or complexity of glucose-lowering regimens, as well as in patients with BMI 35.0–39.9 kg/m^2 with inadequately controlled hyperglycaemia despite lifestyle and optimal medical therapy. Metabolic surgery should also be “considered” to be an option to treat T2D in patients with BMI 30.0–34.9 kg/m^2 and inadequately controlled hyperglycaemia despite optimal medical treatment by either oral or injectable medications. For Asians, all BMI thresholds should be reduced by 2.5 kg/m^2 . (Fig. 3)

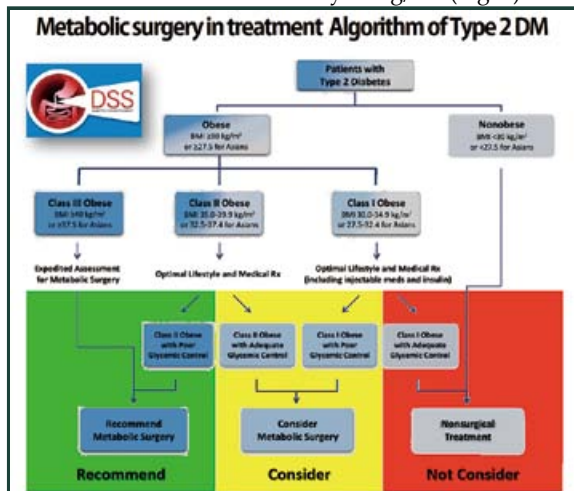


Fig. 3. Indications of metabolic surgery in the treatment algorithm for type 2 diabetes: A joint statement by The Second Diabetes Surgery Summit (DSS II).

Efficacy of metabolic surgery

Since the introduction of metabolic surgery in the bariatric discipline, seven randomised controlled trials had been published comparing the efficacy of metabolic surgery and intensive medical therapy on T2D remission.^{13, 39-44} Although these studies involved patients with different BMI ranging from 27 to $>40\text{kg/m}^2$, the results were consistent with metabolic surgery having greater effects than intensive medical therapy in causing T2D remissions (Table 1). Two of the available studies had evaluated the long-term durability of metabolic surgery versus intensive medical therapy to induce T2D remissions.^{13, 39} Mingrone et al evaluated the differences in 5-years T2D remission rates of RYGB (n=20) versus BPD (n=20) versus medical therapy (n=20) in patients with BMI $\geq 35\text{kg/m}^2$. The rates were 63% for BPD, 37% for RYGB and 0% for medical therapy. Similarly, Schauer et al compared the 5-years T2D remission rates of 150 patients with BMI 27–43 kg/m^2 receiving RYGB, LSG and intensive medical therapy with 50 patients in each group.¹³ The T2D remission rates were 30.6%, 23.4% and 0% for gastric bypass, LSG and intensive medical therapy respectively. Both short-term and long-term data convincingly suggested that metabolic surgery was better than intensive medical therapy in achieving T2D improvement and remissions.

For the efficacy of metabolic surgery on weight loss and T2D remission in general, RYGB ranks the top, LSG is the second and LAGB is the least effective. The opposite gradient exists for the comparative safety of these operations.¹⁰ Comparing RYGB to LAGB, RYGB achieves greater T2D remissions but is associated with higher risks of early postoperative complications and lower risks of long-term reoperations.¹⁰ Compared with LSG, RYGB produces higher T2D remission rates, better lipid control, similar risk of reoperations, better quality of life and a higher incidence of postoperative complications.¹⁰

Table 1. Randomised controlled trials on obese patients with type 2 diabetes (T2D) comparing the effects of metabolic surgery versus intensive medical therapy for T2D remission.

Author (country) / year	Patients	Interventions	Follow-up duration	T2DM remission rates
Mingrone et al (Italy) / 2015 ³⁹	BMI $\geq 35\text{kg/m}^2$	Medical (n=20) vs RYGB (n=20) vs BPD (n=20)	5 years	Medical 0% vs RYGB 37% vs BPD 60%
Schauer et al (USA) / 2017 ¹³	BMI 27 – 43 kg/m^2	Medical (n=50) vs LSG (n=50) vs Gastric bypass (n=50)	5 years	Medical 0% vs LSG 23.4% vs Gastric bypass 30.6%
Dixon et al (Australia) / 2008 ⁴⁰	BMI 30 – 40 kg/m^2	Medical (n=30) vs LAGB (n=30)	2 years	Medical 13% vs LAGB 73%
Liang et al (China) / 2013 ⁴¹	BMI $>28\text{kg/m}^2$	Medical (n=36) vs Exenatide (n=34) vs RYGB (n=31)	1 year	Medical 0% vs Exenatide 0% vs RYGB 57%
Palikhe et al (India) / 2014 ⁴²	BMI $\geq 27.5\text{kg/m}^2$	Medical (n=17) vs LSG (n=14)	1 year	Medical 0% vs LSG 39%
Ikramuddin et al (Taiwan & USA) / 2016 ⁴³	BMI 30-35 kg/m^2	Medical (n=16) vs RYGB (n=14)	2 years	Medical 0% vs RYGB 90%
Cummings et al (USA) / 2016 ⁴⁴	BMI $<35\text{kg/m}^2$	Medical (n=20) vs RYGB (n=23)	1 year	Medical 5.9% vs RYGB 60%

BMI, body-mass-index; RYGB, Roux-en-Y gastric bypass; BPD, biliopancreatic diversion; LSG, laparoscopic sleeve gastrectomy; LAGB, laparoscopic adjustable gastric banding.

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Results of metabolic surgery in Prince of Wales Hospital

There are no published data regarding the territory-wide outcomes of metabolic surgery in Hong Kong. Using data from PWH as an example, the short-term and long-term results of bariatric/metabolic surgery on morbidly obese and T2D patients in Hong Kong are comparable to results from other Asian and Western countries. The weight loss effects of the three commonest bariatric surgical procedures exhibited a descending efficacy order of RYGB, LSG and LAGB (Fig. 4). At early follow-ups at 1 year, LSG and RYGB achieved a similar percentage of total weight loss (%TWL) at about 25–26%. Predictably, the early result of LAGB was inferior to the other procedures. The %TWL at 1 year was only 13% after LAGB. The weight loss effects of all bariatric procedures were sustainable over 5 years. Amongst all, RYGB achieved a sustained 27.5%TWL at 5 years compared to 22.5% for LSG and 10% for LAGB.

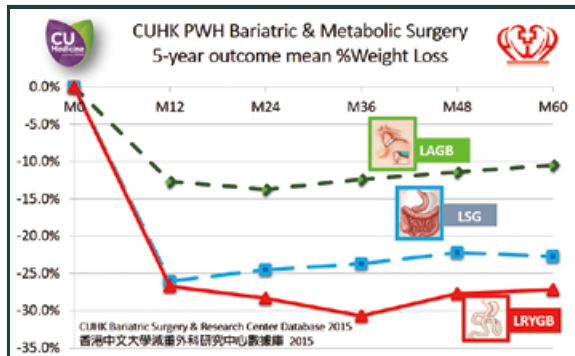


Fig. 4. The 5-years outcomes of the percentage of total weight loss of bariatric and metabolic surgeries at the Prince of Wales Hospital. (LAGB, laparoscopic adjustable gastric banding; LSG, laparoscopic sleeve gastrectomy; RYGB, Roux-en-Y gastric bypass)

LSG was the commonest metabolic surgery performed at PWH. According to a study published in 2015 involving 65 T2D patients, LSG achieved a long-term T2D complete remission rate of 64.7% at 5 years.⁴⁵ The proportions of patients having optimal glycaemic control (HbA1c <7%) were maintained at 80.9% at 1 year and 78.6% at 5 years. The rate of relapse of T2D at 5 years after the initial remission was 5.9% in the same cohort. This study suggested that LSG was effective in achieving T2D remissions and glycaemic improvement in the Hong Kong Chinese population.

Conclusion

The success of metabolic surgery in achieving T2D remissions has led to a paradigm shift in the recommended treatment for obese T2D patients. Published data from international research and local studies supported the role of metabolic surgery as a suitable treatment option for patients with BMI 27.5kg/m² or above in Hong Kong Chinese. The eligibility of patients for metabolic surgery should be assessed by a multidisciplinary team including bariatric surgeons, endocrinologists, anaesthetists, dietitians, clinical psychologists and specialty nurses with expertise in T2D

care. Such surgery should also be performed in high-volume centres that are experienced in the management of T2D and bariatric surgery.

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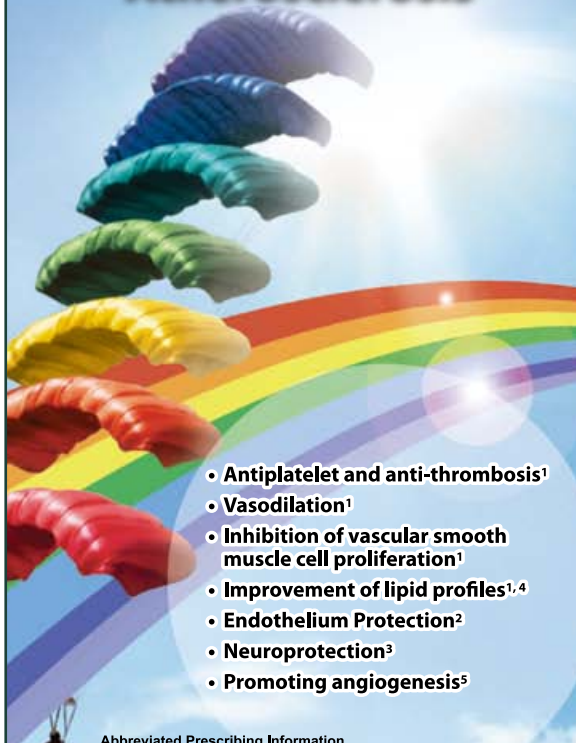


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1. Weintraub WS. *Can J Cardiol*. 2006 Feb;22 Suppl 8:568-608
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Young-Onset Diabetes in Hong Kong Chinese: An Overview

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This article has been selected by the Editorial Board of the Hong Kong Medical Diary for participants in the CME programme of the Medical Council of Hong Kong (MCHK) to complete the following self-assessment questions in order to be awarded 1 CME credit under the programme upon returning the completed answer sheet to the Federation Secretariat on or before 30 November 2017.

Introduction

Young-onset diabetes (YOD), defined arbitrarily as age of diagnosis below 40 years, is a growing problem locally and worldwide. In Asia, it is estimated that 1 in 5 individuals will have YOD¹, a large proportion of whom are sub-optimally controlled, have earlier progression to insulin use and have high rates of cardiovascular-renal complications¹. In this article, we will discuss the epidemiology of YOD, the unique challenges of differentiating diabetes subtypes, and therapeutic management in this patient group.

Epidemiology

From the Joint Asia Diabetes Evaluation (JADE) programme, a large contemporary multi-national study conducted in Asia including Hong Kong, around 20% of people with diabetes were diagnosed under the age of 40 years¹. In the China Mainland, there has been a 10-fold rise in the prevalence of diabetes in the 25 to 34 year-old age group over a 10-years period between 1986 and 1996². Locally in Hong Kong, the crude prevalence of diabetes in young people aged 20 to 29 years has increased from 0.9% in 1990 to 1.7% in 1995³. Among Japanese youths aged 15 years or below, there was a two-fold increase in the annual incidence of type 2 diabetes over a 15-years period from 1975 to 1990, whereas that of type 1 diabetes remained static⁴. More recently, the SEARCH for Diabetes in Youth Study, a population-based study that examined the prevalence and incidence of diabetes in youths aged 20 years or below in the U.S., recently reported a 30% and 20% increase in the prevalence of type 2 and type 1 diabetes respectively⁵. The proportion of type 1 and type 2 diabetes in YOD varies significantly between ethnicities⁶. In Caucasians, type 1 diabetes account for up to 95% of YOD, whereas in Asians only 26% to 42% of Asian youths had type 1 presentation⁷.

Classification and Diagnosis

Young-onset diabetes represents a heterogeneous group with overlapping presentations and aetiologies. Classically, a distinction is made between those with type 1 diabetes characterised by insulin deficiency and autoimmunity versus type 2 diabetes characterised by insulin resistance with varying degree of insulin insufficiency. The third subgroup is monogenic diabetes

of which maturity-onset diabetes of the young (MODY) is the most frequently encountered and is inherited in an autosomal dominant fashion.

Type 1 versus type 2 diabetes cannot be reliably distinguished based on the presence of diabetic ketoacidosis. As has been reported in ketosis-prone diabetes in African-American adults, a subset of Asians may present with ketoacidosis but subsequently revert to a clinical course that resembles type 2 diabetes. Similarly, autoimmunity is not a reliable marker of type 1 diabetes in Asians. Autoantibodies to glutamic acid decarboxylase and islet cell antigens are present in 63% to 84% of Caucasians with type 1 diabetes, whereas only 5% to 51% of Asians with type 1 diabetes had autoimmune markers^{7,8}. Furthermore, 30% to 50% of young Chinese individuals with type 2 presentation were insulin deficient based on low C-peptide levels despite having low prevalence of autoimmunity^{8,9}.

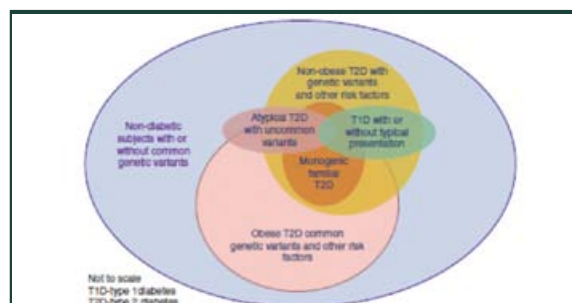


Fig. 1. A schematic diagram showing the phenotypic and genotypic heterogeneity of diabetes in Asian patients with complex interactions between genetic, autoimmune and external risk factors (adapted from Chan JCN, Chow EYK and Luk AO. Diabetes in China and the Western Pacific Region. In: S. Dagogo-Jack, ed. Diabetes Mellitus in Developing Countries and Underserved Communities, Switzerland Springer International Publishing 2016).

Maturity-onset diabetes of the young arises from mutations primarily in genes that regulate beta-cell function. Over 80% of Caucasians with MODY had mutations in either glucokinase, hepatocyte nuclear factor (HNF) or insulin promoter factor-1 genes¹⁰. In Chinese, mutations in the classical MODY genes were present in around 10% of people with YOD with positive family history of diabetes^{9,11,12}. Other genetic variants that have been reported in Chinese include mitochondrial DNA A3243G mutations¹³ and amylin S20G mutations¹⁴. It may be difficult to differentiate

between lean YOD versus MODY in Chinese where there is often strong familial inheritance and absence of insulin resistance in both groups (Fig. 1). However, universal screening for MODY genes among people with YOD remains difficult to implement and costly in most countries. Risk calculator for MODY and biomarker-based algorithms have been developed in Caucasians but these have not been validated in populations of other ethnic groups^{15,16}.

Pathogenesis of Young-Onset Diabetes

It remains unclear whether the pathogenesis of young-onset type 2 diabetes differs from those with adult late-onset type 2 diabetes. In type 2 diabetes, the fundamental defect is a deficiency of insulin secretion relative to insulin resistance. Obesity is a major contributor to young-onset type 2 diabetes. Evidence from a Japanese population study has shown that the rise in young-onset type 2 diabetes parallels the rise in obesity among school children⁴. In Chinese with young-onset type 2 diabetes, over half were obese with features of the metabolic syndrome^{9,17}. The importance of insulin resistance may also be inferred from the fact that the majority of young-onset type 2 diabetes occur at the onset of puberty when insulin sensitivity declines⁶.

On the other hand, beta-cell function has been shown to fall more rapidly by 20% to 35% per year among those with YOD compared with 7% per year in those with late-onset disease^{18,19}. In the Treatment Options for type 2 Diabetes in Adolescents and Youth (TODAY) study which compared metformin alone, metformin plus thiazolidinedione or metformin plus lifestyle interventions in adolescents with type 2 diabetes, there was a continual loss of beta-cell secretory function as demonstrated by a decline in the insulinogenic index and disposition index whereas insulin sensitivity was stable over the 3-years intervention period irrespective of treatment assignment¹⁸. It thus appears that insulin resistance identifies individuals at risk of onset of YOD but progression of disease is determined primarily by the rate of beta-cell failure.

A family history of diabetes is a stronger risk factor for young-onset as compared with late-onset diabetes. Based on a study in Hong Kong, individuals with YOD were more likely to have a father (39% vs 22%) or mother (63% vs 41%) with diabetes as compared with those with late-onset disease⁹. Moreover, there is a progressive decline in age of onset of disease over successive generations^{20,21}. Hyperglycaemia in the intrauterine environment may play a role as demonstrated by greater risks of obesity and diabetes in Pima Indian offsprings whose mothers had developed diabetes at the time of gestation compared with mothers who developed diabetes after pregnancy²². However, there is also a large genetic component to predisposition to YOD. Classical MODY mutations are relatively uncommon and are likely to constitute only a minority of cases⁹. It is not clear if individuals with YOD have a greater loading of common type 2 diabetes genetic variants as compared with those with late-onset diabetes. Certain genetic variants have been associated with earlier onset of type 2 diabetes. In Chinese, a genetic variant of DACH1, implicated in islet development and insulin secretion, was associated with elevated risks of familial YOD and

prediabetes²³. In other ethnic populations, mutations such as in CHRM3 linked to acute insulin response, has been associated with young-onset type 2 diabetes in Pima Indians²⁴. The reality is likely to be more complex as both common and rare genetic variants may coexist within the same individual.

Long-Term Complications

People with YOD are at a higher lifetime risk of developing diabetes-related complications compared with their older counterparts, in part due to longer periods of exposure to the injurious effects of hyperglycaemia^{25,26} (Fig. 2). Based on the Hong Kong Diabetes Registry, among people with YOD at an average disease duration of 6 years, over one-third had evidence of diabetic kidney disease and one fifth had retinopathy²⁶. By 60 years of age, between 8% and 15% of patients with YOD had developed cardiovascular disease (CVD), end-stage renal disease (ESRD) or had died²⁶. When adjusted for differences in age, people with YOD were 48% more likely to experience a cardiovascular event and 35% more likely to have renal complications relative to late-onset diabetes²⁶. The excess risks of significant clinical events over that of the general population were greater in people with YOD than late-onset disease. For instance, the hazards for acute myocardial infarction were raised 14-fold in people with YOD and 3-fold in those with late-onset diabetes compared with age-matched individuals without diabetes²⁷. The standardised mortality ratio, which relates deaths in the disease population to deaths in the non-disease population, also declines with age. It is of interest to note from a Sweden-based study that the all-cause mortality remained twice higher in people with diabetes of age below 55 years who had good glycaemic control with HbA1c less than 7.0% and did not have microvascular complications when compared with non-diabetic individuals, whereas mortality was not increased in older people with diabetes²⁸.

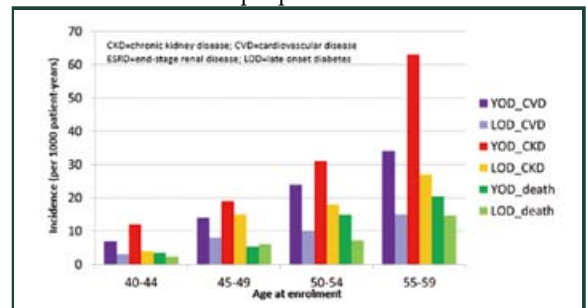


Fig. 2. The interactive effects between age and disease duration on the incidence of complications in Hong Kong Chinese patients with young or late-onset of diabetes defined arbitrarily by the age of 40. Despite having the same age, patients with young onset of diabetes had longer exposure to hyperglycaemia which increases their risk of complications which can be markedly amplified by ageing (adapted from Chan JC, Lau ES, Luk AO, Cheung KK, Kong AP, Yu LW, Choi KC, Chow FC, Ozaki R, Brown N, Yang X, Bennett PH, Ma RC and So WY. *Premature Mortality and Co-morbidities in Young-onset Diabetes - A 7 year Prospective Analysis. The American journal of medicine.* 2014;127:616-24.

Prognosis differs between people with young-onset type 1 and type 2 diabetes. Studies consistently reported higher rates of all complications in people with type 2 compared with type 1 diabetes^{17,29}. From our local registry, the overweight group with young-onset type



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2 diabetes were at 15-fold higher risk for CVD and 5-fold higher risk for ESRD compared with counterparts with type 1 diabetes¹⁷. Similarly, the SEARCH study identified higher prevalence of retinopathy, diabetic kidney disease and sensory neuropathy in youths with type 2 diabetes than those with type 1 diabetes²⁹.

Glycaemic Control

Glycaemic control and the disease duration are major determinants for development of complications. International authorities advocate personalisation of glycaemic target and therapy, according to age, diabetes duration and co-morbidities. The United Kingdom Prospective Diabetes Study (UKPDS) which examined the long term effects of intensive glycaemic control versus standard control in a group of young-to-middle aged people with newly diagnosed type 2 diabetes showed that the risk of microvascular complications including albuminuria was reduced by 30 % for every 1 % reduction in HbA1c³⁰. Importantly, the levels of glycaemia achieved early on in the disease trajectory have durable impact on complication risks. At 10 years post-intervention, the incidence of microvascular complications, coronary heart disease and all-cause mortality remained lower among participants initially assigned intensive control despite subsequent loss of intra-trial difference in HbA1c³¹. Conversely, older individuals with long standing diabetes and established atherosclerotic diseases are less likely to derive long term benefits from tight glycaemic control³². Balancing benefits and risks, prevailing evidence provides strong argument for aggressive glucose lowering in young affected people in whom an HbA1c target closer to 6.0-6.5% should be aimed.

Unfortunately, many people with YOD do not reach goal. Based on analysis of the JADE database, HbA1c was above 7.0% in 73% and above 9.0% in 43% of people with YOD, compared with 58% and 35% in the older age group respectively. In the U.S., improvements in glycaemic control were seen across all subgroups except younger people with complications³³, which correlate with the observation that secular decline in rates of complications and mortality was confined to older population³⁴. The poor rates of target attainment in younger people as witnessed in all regions and socioeconomic classes are multi-factorial, including but not limited to suboptimal adherence to medication and self-care, frequent defaults and clinical inertia. Younger people are often preoccupied with work, social relationships and raising family and are less reactive to changes in health status.

The selection of anti-diabetic drugs should take into consideration the underlying aetiology and metabolic phenotype. For instance, low dose sulphonylureas are highly effective in the rare individuals who carry an HNF mutation as they have heightened sensitivity to the glucose-lowering effects of sulphonylureas³⁵. Low or normal body weight, as opposed to overweight, is associated with lower C-peptide, a surrogate marker of beta-cell reserve. These individuals, who make up one third of the young disease population in Chinese³⁷, will require early insulin therapy to maintain glycaemic control and prevent decompensation³⁶. Of the remainder who are over-weight and have features

of the metabolic syndrome, insulin sensitisers such as metformin and thiazolidinediones, in combination with newer agents such as glucagon-like peptide-1 (GLP-1) receptor agonists and sodium-glucose co-transporter-2 (SGLT-2) inhibitors with weight-reducing effects are particularly effective. Newer drug classes target unique pathways in the pathophysiology of type 2 diabetes and are complementary to one another when used concurrently. For instance, metformin increases beta-cell response to GLP-1 and potentiates the action of incretin-based therapy. GLP-1 receptor agonists and dipeptidyl-peptidase 4-inhibitors curb glucagon release and counteract the paradoxical rise in glucagon with the use of SGLT-2 inhibitors. SGLT-2 inhibitors are associated with increased appetite, an undesirable response which can be offset by concomitant administration of metformin, DPP4 inhibitors and GLP-1 receptor agonists. Besides beneficial effects on body weight and blood pressures, empagliflozin and canagliflozin of the SGLT-2 inhibitor class were recently shown to lower the risks of fatal and non-fatal myocardial infarctions and strokes as well as renal complications^{38,39}. Likewise, liraglutide was associated with reduced incidence of major cardiovascular events in a large cardiovascular outcome study⁴⁰. It should be pointed out that these trials were conducted in predominantly middle-aged to elderly high risk patients over relatively short intervention periods. The extent to which these benefits can be extrapolated to younger patients with fewer risk factors or complications for use over a long term remains undetermined. On the other hand, the absence of major risks is reassuring, and together with favourable metabolic actions, place these drug classes high in the anti-diabetic treatment ladder.

Global Risk Factor Control

Whilst hyperglycaemia is quintessential for the development of vascular complications from diabetes, other metabolic conditions including high blood pressure, abnormal lipid levels and obesity are important in adding to the risk of these complications. The STENO-2 study which randomised high risk patients with type 2 diabetes and diabetic kidney disease to multifactorial intervention or conventional care showed that vigorous control of modifiable risk factors together with other secondary preventive measures lower cardiovascular-renal event rates by half⁴¹. Unfortunately, younger people are less able to optimise metabolic targets. From the JADE programme, less than half of people with YOD with hypertension or raised low density-lipoprotein (LDL)-cholesterol were prescribed anti-hypertensive drugs or statins respectively¹. Guidelines on management of dyslipidaemia in young people are not well established, mostly due to lack of evidence regarding the benefit of lipid lowering in this patient subgroup, since the majority of clinical trials were conducted in older people with comorbidities. There are also valid concerns on the use of potentially teratogenic drugs such as statins and angiotensin-converting enzyme inhibitors in women of reproductive age. The most recent American Diabetes Association guideline recommends initiation of statins in young people who have established cardiovascular disease or risk factors such as LDL-cholesterol > 2.6 mmol/L, hypertension, tobacco use, diabetic kidney disease, and family history of premature cardiovascular diseases.



Conclusion

There is a global epidemic of diabetes with Asia at the forefront. Due to rapid lifestyle transition and other environmental factors, people with underlying genetic predisposition are presenting at a younger age. Diversity in clinical phenotype and aetiology among young people with diabetes is well noted, although strategies to fully characterise these individuals for estimation of risk and personalisation of treatment are yet to be established. Given disease exposure from an earlier age, people with YOD will have an exceedingly high lifetime risk of complications from diabetes, as have been shown in a number of longitudinal studies. There is a strong argument for stringent glycaemic control as well as control of other modifiable metabolic risk factors to prevent or delay the onset of irreversible complications and improve quality of life in this high risk group.

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MCHK CME Programme Self-assessment Questions

Please read the article entitled "Young-Onset Diabetes in Hong Kong Chinese: An Overview" by Dr Elaine Yee-kwan CHOW and Dr Andrea On-yan LUK and complete the following self-assessment questions. Participants in the MCHK CME Programme will be awarded CME credit under the Programme for returning completed answer sheets via fax (2865 0345) or by mail to the Federation Secretariat on or before 30 November 2017. Answers to questions will be provided in the next issue of The Hong Kong Medical Diary.

Questions 1-10: Please answer T (true) or F (false)

- In Asia, the rate of young onset diabetes is estimated to be 1 in 5.
- Young onset diabetes has lower rate of cardiovascular-renal complications than old onset counterparts.
- Young onset diabetes has earlier use of insulin compared to their old onset diabetes.
- Metabolic surgery describes bariatric interventions which help patients with type 2 diabetes and metabolic syndrome.
- Laparoscopic sleeve gastrectomy is the commonest metabolic surgery performed in Hong Kong.
- Patients with body mass index ≥ 35 kg/m² regardless of co-morbidities are indicated for metabolic surgery.
- Patients with body mass index ≥ 30 kg/m² and suboptimally controlled diabetes or components of metabolic syndrome are indicated for metabolic surgery.
- Integrated diabetes care does not improve glycemic control, modifies cardiovascular risk factors and reduces associated complications.
- The prevalence of depression in people with type 2 diabetes doubles that of the non-diabetic individuals according to different epidemiological data.
- The co-occurrence of diabetes and depression is associated with good glycaemic control

ANSWER SHEET FOR NOVEMBER 2017

Please return the completed answer sheet to the Federation Secretariat on or before 30 November 2017 for documentation. 1 CME point will be awarded for answering the MCHK CME programme (for non-specialists) self-assessment questions.

Young-Onset Diabetes in Hong Kong Chinese: An Overview

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1 2 3 4 5 6 7 8 9 10

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Answers to October 2017 Issue

"The argument for treat-to-target in gout" 2017

1. T 2. F 3. F 4. F 5. F 6. F 7. T 8. T 9. T 10. T

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Integrated Diabetes Care: What, Why and How

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Dr Ka-fai LEE

Why?

Despite advances in treatment options, devices and techniques, management of diabetes remains suboptimal in the real-world practice¹. This widespread phenomenon of suboptimal diabetes care has resulted in high levels of morbidity and mortality and ever-increasing health care expenditure. Applying evidence from clinical trials to the real-world practice is pivotal in successful diabetes management. Management of diabetes and the associated comorbidities could be very complex. Apart from providing personalised medical therapy, ongoing support to motivate regular self monitoring of blood glucose, lifestyle and behavioural changes, medication adherence and psychosocial stress management poses extra challenges to health care professionals.

From the time of diagnosis to the time of developing severe complications (in some patients), patients with diabetes may receive various forms of care from different health and social care professionals across the primary, community and specialist care sectors. When such care is poorly coordinated and delivered in a non-integrated manner, it can result in treatment duplication and inefficiency. In spite of receiving care within the same institution, patients could still end up ricocheting between different specialties in the same hospital, let alone patients who attend different health care institutions.

By focusing on the needs, choices and convenience of patients, Integrated Diabetes Care allows health care professionals to provide comprehensive care to patients. It emphasizes coordination between specialties and organisations during the entire journey of a patient with diabetes. This care model not only improves the patient's quality of life and reduces hospital admissions, it also improves glycaemic control, modifies cardiovascular risk factors and reduces associated complications such as cardiovascular events^{2,4}, amputation⁵, end-stage renal disease⁶ and premature mortality³.

What?

Integrated Diabetes Care provides a platform for seamless collaboration between different diabetes care professionals. It ensures a smooth transition of health care services. This model could be viewed in the vertical or horizontal axes (Fig. 1). Vertically, it integrates primary, community and specialist care. Horizontally, it integrates different specialists' care, particularly when diabetes complications arise.

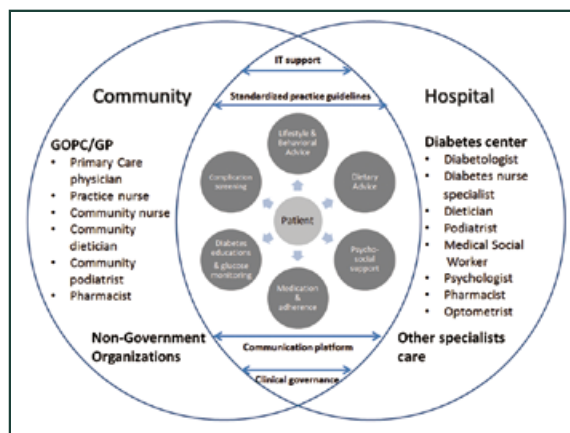


Fig. 1. A conceptual schema showing the multidisciplinary nature of Integrated Diabetes Care supporting the multiple medical and psychosocial needs of a person during his/her journey with diabetes.

The team

A diverse team of professionals with complementary expertise is recommended in providing Integrated Diabetes Care. This includes diabetologists, primary care physicians (PCP), diabetes nurse specialists, community nurses, dietitians, pharmacists, medical social workers and podiatrists. Nevertheless, the team composition should always be tailored to local needs, available resources and clinical settings. For example, in the PCP setting, such a team usually only involves the patient, PCP, practice nurse, community nurse and/or community podiatrist. Another example would be the horizontal integration with orthopaedic surgeons, vascular surgeons and orthotists in the diabetes foot clinic, in addition to the original diabetes care team.

Diabetes care pathway

When formulating the integrated diabetes pathway, agreements should be made between team members. Clearly written protocols allow each member to understand their roles in the pathway, including when, how and where to provide services. In this way, diabetes care could be delivered "with the right care, in the right place and at the right time." The role and responsibility of different team members should be well aligned. For example, diabetologists may choose not only to focus on specialised diabetes care in hospitals, but they may also be involved in supporting primary care physicians in the community through telephone or email consultations, regular case conferences and training programmes.

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Hong Kong Society for Emergency Medicine and Surgery

Date	Topics	Speakers
3 Nov	A hiker bitten by deathful venomous creature. (Poisonous stings and bites in wilderness) 一個被致命毒物咬傷的徒步旅行者 (野外被毒物蜇咬)	Dr. Ng Wah Shan 伍華山醫生 香港急症科醫學院院士
10 Nov	A hiking trip to Everest Basecamp (High altitude related wilderness problems) 前往珠峰大本營的徒步行程 (野外高海拔的相關問題)	Dr. Ho Man Kam 何文鎮醫生 香港急症科醫學院院士
17 Nov	A hiker facing thunderstorm in wilderness (Wilderness survival and lightning related injuries) 徒步旅行者在荒野面對雷雨 (野外生存及雷擊相關的傷害)	Dr. Chee Pay Yun, Peter 池丕恩醫生 香港急症科醫學院院士
24 Nov	A hiking trip to extreme climate zone (Heat and cold related problem in wilderness) 一個前往極端氣候區的徒步行程 (野外高溫及低溫所引致的問題)	Dr. Law Kam Leung 羅金亮醫生 香港急症科醫學院院士
1 Dec	A hiker fall from cliff with multiple injuries (Trauma and wound management in wilderness) 從懸崖墮下而多處受傷的徒步旅行者 (野外意外創傷及傷口的處理)	Dr. Siu Yuet Chung, Axel 蕭粵中醫生 香港急症科醫學院院士
8 Dec	A hiker fall into a stream in Sai Kung (Helicopter Search And Rescue in HK) 一個在西貢墮落山澗的徒步旅行者 (香港的直升機搜尋及救援)	Mr. Kwok Shing Lam 郭成霖先生 政府飛行服務隊 航空醫療護士/急症室護士長

Dates : 3, 10, 17, 24 November & 1, 8 December, 2017 (Every Friday)

Time : 7:00 pm – 8:30 pm

Venue : Lecture Hall, 4/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong

Course Fee : HK\$750 (6 sessions)

Enquiry : The Secretariat of The Federation of Medical Societies of Hong Kong

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Applications of Mindfulness - Theory, Evidence and Practice

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The Federation of Medical Societies of Hong Kong



Hong Kong Clinical Psychologists Association

Date	Topics	Speakers
14 Nov	Mindfulness and Depression	Ms. Sharon Kwok Clinical Psychologist
21 Nov	Mindfulness Practices	Ms. Sharon Kwok Clinical Psychologist
28 Nov	Mindfulness and Buddhist Psychology	Dr. Chloe Chin Clinical Psychologist
5 Dec	Mindfulness and Stress Reduction	Dr. Chloe Chin Clinical Psychologist
12 Dec	Mindful Parenting and Application in Local Settings	Ms. Venus Yiu Clinical Psychologist
19 Dec	Mindfulness for Children, Games and Creativity	Ms. Venus Yiu Clinical Psychologist

Date : 14, 21, 28 November 2017 & 5, 12, 19 December 2017 (Every Tuesday)

Time : 7:00 p.m. – 8:30 p.m.

Venue : Lecture Hall, 4/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong

Course Fee : HK\$750 (6 sessions)

Enquiry : The Secretariat of The Federation of Medical Societies of Hong Kong

Tel.: 2527 8898

Fax: 2865 0345

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Protocol-based care and Information Technology (IT) support

By using the same protocol and portal for data entry, it facilitates information sharing and reduces regional variations in diabetes management. This is best achieved by using the same computer system that allows communication between private and public sectors across different health care levels. With predefined algorithms incorporated in the computer system, patients are stratified according to their risk profiles automatically. Proper triage according to the diabetes care pathway can be ensured and "at-risk" patients can be identified for early referrals and therefore reducing unnecessary hospital admissions. Moreover, clinical practice guidelines regularly uploaded to the electronic patient record system would inform practice and promote adherence to latest treatment regimens. Lastly, diabetes specific outcome data can be captured through the system for regular audit and quality improvement purposes.

Communication

Having a shared goal and approach within the team is critical. Embedding communication strategies into the team (e.g. regular reviews, audit meetings, case conferences) is important in developing coordinated management plans focusing on patients' needs and preferences. Timely communication amongst team members for patients' care can be facilitated by good IT infrastructure.

Clinical governance and quality assurance

In the context of Integrated Diabetes Care, clinical governance refers to the whole diabetes team being responsible for the outcomes. Regular audit meetings enable good communication and reporting so that appropriate resources can be used effectively to reduce variations in processes and outcomes. Regular meetings with patient support groups may also contribute to service improvement. It is important to pre-define and measure care processes, secular changes and clinical outcomes. These key performance indexes may include the patients' experience of their care, attendances of annual assessment, treatment targets achievement, admissions, use of inpatient services and diabetic complications. Quality of care can be improved by incentivising PCP in private settings to attend training courses, regular audit meetings and adherence to standards of practice.

How?

Joint Asia Diabetes Evaluation (JADE) Programme and Multi-disciplinary Risk Assessment and Management Programme for diabetes (RAMP-DM)

This territory-wide quality improvement programme implemented in public general outpatient clinics (GOPCs) in Hong Kong is a typical Integrated Diabetes Care model that successfully applies the above principles into clinical practice. The care team comprises mainly PCPs and diabetes nurse specialists, with support from diabetologists, podiatrists, dieticians and optometrists. All patients undergo a standardised protocol-driven comprehensive risk assessment and education programme in a nurse-led clinic. Standardised patients' records will then be entered into the portal system with features similar to the web-based Joint Asia Diabetes Evaluation (JADE) programme, which

is used in all GOPCs as well as hospital-based diabetes centres. In the JADE Programme, validated risk equations are used to stratify patients into different diabetes care pathways with different management options^{7,8} (Fig. 2). At the same time, local clinical practice guidelines have also been developed to standardise treatments for diabetes⁹. Diabetes self-management is enhanced by patient empowerment programmes delivered by trained health care workers in community centres run by non-government organisations. Vertical integration with specialists involves regular case conferences, training programmes and audit meetings. Clinical outcomes are regularly captured and shared amongst team members for quality assurance purpose. Deficient areas and underlying causes are identified for service improvement.

The impact of the RAMP-DM on diabetes outcome has been encouraging. There was a significant decrease in HbA1c (-0.2%, $p < 0.01$), systolic blood pressure (-3.62mmHg, $p < 0.01$), 10-years estimated risks of cardiovascular disease (CVD) risks (total CVD risk, -2.06%, $p < 0.01$; coronary heart disease risk, -1.43%, $p < 0.01$; stroke risk, -0.71%, $p < 0.01$) and incidence of cardiovascular events (1.21% vs 2.89%, $p = 0.003$) at 12 months in a prospective cohort of 1,248 patients enrolled to the programme compared with an age-, sex- and baseline HbA1c-matched group of 1,248 patients under usual primary care². More significantly, two subsequent 3-years prospective cohort studies showed that patients enrolled into this programme, when compared with those under usual care, had a lower incidence of cardiovascular complications, microvascular complications and all-cause mortality³⁻⁴. To date, there are 17 hospital-based diabetes centres in the public sector which also offer regular comprehensive assessments and Integrated Diabetes Care in hospital settings. Together with the RAMP-DM Programme, over 330,000 patients with diabetes had undergone comprehensive assessments with significant improvement in risk factor control and reductions in clinical events between 2002 and 2012¹⁰.

Multidisciplinary diabetic foot team

About 10% of patients with diabetes may develop foot ulcers at some point in their lives. These ulcers precede 80% of foot amputations. Foot amputations are associated with reduced quality of life, high mortality rate and health care cost. However, 80% of these amputations are potentially preventable with good clinical care. Setting up a multidisciplinary foot care team consisting of diabetologists, podiatrists and diabetes nurse educators, supported by orthopaedic surgeons, vascular surgeons and orthotists, has been found to reduce the incidence of major amputations by 62%⁵. According to the United Kingdom National Institute of Clinical Excellence (NICE) guidelines¹¹, integrated foot care pathways should be developed to stratify patients based on their risk levels followed by appropriate management plans. These pathways ensure that acutely-ill patients with active foot ulcers receive urgent care while ambulatory patients who are at high risk of foot problems can be identified and monitored regularly by podiatrists. In this context, all patients should receive good quality annual foot checks and education of foot care. Referral and communication across the team is facilitated by using the same computer system and care protocol.



Fig. 2. A sample of the personalised Joint Asia Diabetes Evaluation (JADE) Report showing the risk stratification, trends of risk factor control, 5-years probabilities of future events with decision support targeted to the health care providers and patients.

Figure S1: Sample JADE Patient Report

JOINT ASIA DIABETES EVALUATION (JADE) PROGRAM

HK-M-1954-10-01-2212

Patient Report

Care Level: **3** Recommendations: Overall risk for diabetic complications: High. High risk for future vascular complications. Low eGFR (<60) and/or having ≥ 3 risk factors.

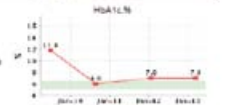
as of 06-Mar-2013
this report is specially prepared for you by your doctor using the JADE program. Please make every effort to understand and act on the recommendations.

Date of most recent contact: 06-Mar-2013	Disease Duration: 4 years
Gender: Male Age: 58 Ethnicity: Chinese	Occupation: Full time

Recommendations

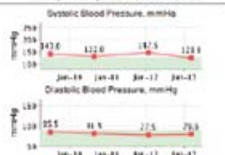
HbA_{1c}

- Suboptimal control for BG control. Review compliance with healthy lifestyle.



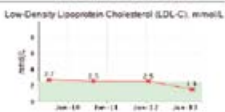
BP

- BP on target.



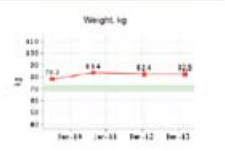
LDL-C (Low-Density Lipoprotein Cholesterol)

- Optimal blood cholesterol control.



Weight

- Obese. Centrally obese. Significant weight gain.
- Aim to accumulate at least 150 minutes of brisk walking a week, increase level of activities at home and form of transportation to work.
- Avoid energy dense food e.g. those high sugar and fat content, increase intake of vegetables and fibre, reduce salt intake. May need to see dietitian for meal profile of risk factors, avoid fluctuating changes in BW, aim at losing 0.5-1 kg weight loss per week.
- Beware of obesity related complications e.g. joint pain, snoring and poor sleep, cut napping in daytime. Report to attending doctor if suspicious.



Cardiovascular-Renal Complications

- Patient does not have any cardiovascular-renal complications.

Stratification Parameters

- Obesity
- Hypertension
- Albuminuria
- Poor Glycaemic Control
- Current or Ex-Smoker

5 Year Probability (%)

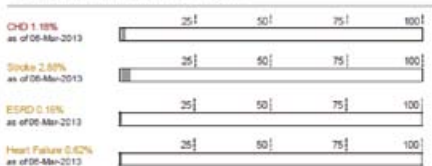
The 5 year probability of complications is based on published results derived from the Hong Kong Diabetes Registry and may not be applicable to all ethnic groups or patients living outside Hong Kong.

The primary aim of listing these probabilities based on the annual comprehensive assessment is to enable doctors and patients to make informed decisions and choices regarding their diabetes management.

The listed treatment targets and testing procedures are for recommendations only and should be individually tailored. Both doctors and patients are recommended to set and work towards a realistic goal to improve risk factor control and reduce risk for complications.

For more information, please visit the following websites: www.hkdm.org, www.diabetes.org

The ESRD risk equation was revised on 18th May 2008.



Note: Different risk parameters may have different weightings, thus within the same risk level, there can be a wide range of 5 year probability risks of events.

Prescription Details

Generic drug name	Dosage	Frequency	Route	Status
lisdexamfetamine	150 mg	(pre breakfast)	Oral	Changed
Aspirin	100 mg	(at daily)	Oral	Renewed
Metformin XR	1000 mg	(bd (twice a day))	Oral	Renewed
Detrol ZOR CR tab 25 mg	25 mg	(pre breakfast)	Oral	New
Januvia tab 50 mg	50 mg	(pre breakfast)	Oral	New

Next Visit

Agreed Date for Next Contact: _____

Doctor / Clinic

Name: _____

Signature/Stamp: _____

Figure S2: Sample JADE Health Care Professional Report

JOINT ASIA DIABETES EVALUATION (JADE) PROGRAM

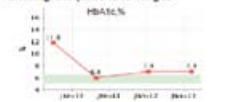
HK-M-1954-10-01-2212

Doctor's Summary

Care Level as of 06-Mar-2013: **3** For details of care level, please refer to [Risk Stratification](#). High risk for future vascular complications. Low eGFR (<60) and/or having ≥ 3 risk factors.

Date of most recent contact: 06-Mar-2013	Disease Duration: 4 years
Gender: Male Age: 58 Ethnicity: Chinese	Occupation: Full time

Getting the patient to target



- Recommendations:
- Suboptimal glycaemic control. Need to review the adequacy of anti-diabetic drugs.
 - Check HbA_{1c} once every 3 months.

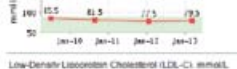
Systolic Blood Pressure, mmHg



BP

- BP on target.

Diastolic Blood Pressure, mmHg



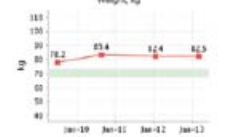
Low-Density Lipoprotein Cholesterol (LDL-C), mmol/L



Low-Density Lipoprotein Cholesterol (LDL-C)

- Recommendations:
- Optimal LDL-C control.
 - Check LDL-C at least once every year.

Weight, kg



Body Weight

- Recommendations:
- Obese. Centrally obese. Significant weight gain.
 - Reinforce exercise target and diet compliance.
 - Reinforce importance of normal body weight.
 - Consider referring patient to dietitian for meal plan.
 - Look out for obesity related complications e.g. obstructive sleep apnoea (OSA).
 - Exclude other causes for weight gain such as fluid retention and secondary causes of obesity e.g. Cushing's syndrome or hypothyroidism. Expect weight gain with improved BG control, e.g. start of insulin, SU or glitazones.

Cardiovascular-Renal Complications

- Patient does not have any cardiovascular-renal complications.

Stratification Parameters

- Current or Ex-Smoker
- Hypertension
- Obesity
- Poor Glycaemic Control

5 Year Probability (%)

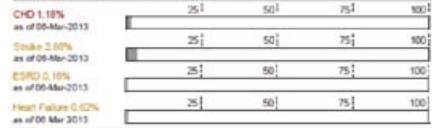
The 5 year probability of complications is based on published results derived from the Hong Kong Diabetes Registry and may not be applicable to all ethnic groups or patients living outside Hong Kong.

The primary aim of listing these probabilities based on the annual comprehensive assessment is to enable doctors and patients to make informed decisions and choices regarding their diabetes management.

The listed treatment targets and testing procedures are for recommendations only and should be individually tailored. Both doctors and patients are recommended to set and work towards a realistic goal to improve risk factor control and reduce risk for complications.

For more information, please visit: www.hkdm.org, www.diabetes.org, www.ckdhr.hk, www.ckd.org.hk, www.adf.org.hk

The ESRD risk equation was revised on 18th May 2008.



Doctor's and Nurse's Comments:

Central obesity with acceptable glycaemic control, BP and lipid profile. Smoker. No microvascular complication. Recent onset of T2DM on ECG. Suggest ions: to review diet/ exercise, stop smoking, and see cardiologist for further assessment.

Risk category	4	3	2	1
Cardiovascular disease and/or renal failure	Yes	No	No	No
Renal impairment (eGFR, reduced < 75ml ³ /min)	Severe (<15)	Moderate (15-60)	Mild (60-90)	Normal (>90)
Risk factors	NA	At least 3	2	0-1
Future risk for complications based on risk scores	Very High	High	Moderate	Low

Doctors and patients are encouraged to discuss and formulate a mutually agreeable management plan. Frequent contacts with doctors or other care professionals are often needed at diagnosis for education and treatment adjustment or if control worsens. Once stable, most patients can be reviewed every 2-4 months. At least 6-12 monthly medical review are recommended for low risk patients due to possible silent deterioration.

Recommended interval for comprehensive assessments: Every 12-24 months especially for patients with irregular contacts with health care professionals.

Prescription Details

Generic drug name	Dosage	Frequency	Route	Start Date	Status
lisdexamfetamine	150 mg	(pre breakfast)	Oral	17-May-2012	Changed
Metformin XR	1000 mg	(bd (twice a day))	Oral	03-Jul-2009	Renewed

Next Visit

Agreed Date for Next Contact: _____

Doctor / Clinic

Name: _____



Conclusion

Diabetes is a major public health and personal medical challenge. During the last 3 decades, there are growing evidences in support of the preventable and treatable nature of type 2 diabetes¹². The challenge now lies in developing the appropriate systems and policies to increase the accessibility and affordability of Integrated Diabetes Care in both the private and public care systems in order to make our health care sustainable¹³.

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Dermatological Quiz

Dr Chi-keung KWAN

MBBS(HK), MRCP(UK), Dip Derm(Glasgow), PDipID (HK),
MFM (Monash) FHKCP, FHKAM(Medicine)

Specialist in Dermatology and Venereology



Dr Chi-keung KWAN



Fig.1: Whitish circle around the pigmented mole

This 25-year-old lady complained of a whitish patch surrounding a pigmented mole at the back. The patient knew the presence of the mole for many years but it was surrounded by a whitish patch for the recent few months. The lesion was asymptomatic and did not bother her. Physical examination reviewed a brownish pigmented naevus which was surrounded by a whitish depigmented patch. (Fig. 1). There were no ulcers or erosions on the lesion.

Questions

1. What is the diagnosis of the skin lesion?
2. What is the underlying pathology?
3. How do you manage this lady?

(See P.40 for answers)

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Depression, distress and anxiety in patients with type 2 diabetes

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Dr Rose Zhao-wei TING

Patients with type 2 diabetes face lots of challenges in daily life and have much psychological burden. However mental health had been neglected in clinical and research settings until the past decade. With advances in diabetes care, mental health care is recognised as an important aspect of diabetes management. Some international professional guidelines have recently recommended periodic assessments of psychological symptoms^{1,2}, including at the initial clinic visit, at the onset of complications, during significant changes in treatment and life circumstances^{1,3}.

TYPE 2 DIABETES AND DEPRESSION: THE DOUBLE BURDEN

It is now increasingly accepted that depression is a serious and common complication related to type 2 diabetes. Its prevalence in people with type 2 diabetes doubles that of the non-diabetic individuals according to different epidemiological data. In Hong Kong, we have estimated that up to 18% of patients with type 2 diabetes have depressive symptoms by self-administered questionnaires⁴.

Pathophysiology of depression in diabetes

A simple intuitive mechanism for the link between depression and type 2 diabetes is the long-standing psychological burden from diabetes itself, which ultimately predisposes patients with diabetes to depression. However, nowadays it is believed that diabetes and depression share some common biological determinants. In people with genetic predisposition, foetal stress, low socioeconomic status, poor health behaviours and other factors can lead to circadian rhythm disturbance and innate inflammatory responses. These biological changes can promote insulin resistance (and subsequent type 2 diabetes) and reduce serotonin concentration in the brain (and subsequent depression)⁵. This is one of the theories which may account for the high prevalence of coexisting depression in patients with type 2 diabetes.

Impacts of depression on type 2 diabetes

The co-occurrence of these two conditions is associated with poor glycaemic control⁶, low adherence to medications⁷, suboptimal self-care⁸, decreased quality of life and societal productivity⁹. Glycaemic control is more difficult to attain as depression is associated with higher HbA1c and at the same time, linked to more frequent episodes of hypoglycaemia⁷. Even after controlling for cardio-metabolic risk factors, depression was shown to be an independent risk factor for diabetes-related

complications¹⁰. For example, according to our local data, patients with concomitant diabetes and depression have a 3-fold higher risk of developing strokes than their non-depressed peers¹¹. In sum, depression also has great negative impacts on patients' physical health.

Diagnosis

The diagnosis of depression in patients with diabetes is similar to that for the general population. However, somatic symptoms of depression (e.g. malaise, lack of energy, appetite change) are not uncommon in patients with diabetes⁴ and may mask the diagnosis.

Self-administered questionnaires such as the 9-items Patient Health Questionnaire can be useful as brief assessment tools. Alternatively, the following two simple questions are useful to rapidly screen for depression: (1) During the last month, have you often been bothered by feeling down/ hopeless? (2) Recently, have you often been bothered by having little interest/ pleasure in doing things? Either one affirmative answer raises the suspicion of depression. Referrals to mental health professionals (e.g. psychiatrists or family physicians with training on mood disorder diagnosis and treatment) is recommended if screening is positive or the diagnosis of depression is not certain.

Treatment

Treatment of depression aims to improve depressive symptoms and glycaemic control. The following treatment strategies were found effective in patients with concomitant type 2 diabetes and depression: use of anti-depressants especially the serotonin receptor reuptake inhibitors, psychological approaches (with integration of diabetes education), or a combination of both. Possible side effects and drug-drug interaction of anti-depressants need to be carefully balanced against their effectiveness in improving depressive symptoms.

While studies showed anti-depressant and psychological treatments are effective in improving depressive symptoms, the effectiveness of psychological treatment in improving glycaemic control is less conclusive¹². One meta-analysis found psychological treatment was beneficial in improving HbA1c in short to medium terms but not in the long-term¹³. The researchers proposed that continuous psychological management (which could be challenging in real-world practice) was necessary to stabilise patients' behaviours, which, in turn, would improve glycaemic control.

DIABETES DISTRESS: A COMMON EMOTIONAL CONSTRUCT

Definition

Living with diabetes can be demanding and stressful to patients. To maintain reasonable disease control, patients need to put considerable efforts on diet restriction, physical exercise, self-monitoring of blood glucose and other clinical parameters. Moreover, the diagnosis of diabetes itself and the threat of having diabetic complications are distressing to patients too. The entity “diabetes stress” refers to any emotional distress directly related to living with diabetes, for example, the distress from diabetes self-care and mental pressure from health care professionals.

Diabetes distress simulates much to depression in type 2 diabetes but it is distinct from depression. Similar to depression, it correlates with a higher HbA1c, lower self-efficacy and poor self-care. It is an even more common condition, with overall prevalence of 36% in type 2 diabetes, especially in women and in those with co-morbid depressive symptoms¹⁴.

Diagnosis and management

A few self-administered questionnaires^{15,16} were designed for assessing diabetes distress in research settings. However, their effective use requires time and efforts which might be challenging in the real-world setting. Personally, I suggest clinicians to spend part of their consultation time on “chit-chat” to learn more about patients’ feelings about the diagnosis of diabetes, especially when patients decline to improve self-care and when there is a major change in the treatment regimen. Once diabetes distress is found, the patient can be referred for diabetes education to address the area relevant to the distress. In more refractory cases, referrals to mental health professionals for evaluation are appropriate³.

ANXIETY

Anxiety is another commonly encountered mental issue in patients with type 2 diabetes. The lifetime prevalence of generalised anxiety disorder is estimated to be 19.5%¹⁷. Patients with anxiety are more reluctant to initiate insulin as they are more prone to injection-related anxiety and fear of hypoglycaemia¹⁸. Severe hypoglycaemia is linked to post-traumatic stress disorder and panic disorder. On the other hand, some patients have over-stringent diabetes self-care due to repetitive negative thoughts about diabetes. Diabetes re-education can help reducing diabetes-related anxiety thoughts and proper mental health professional follow-ups are necessary in severe cases³.

CONCLUDING REMARKS

Mental health has been a long-neglected co-morbidity in patients with type 2 diabetes, despite the high prevalence of depression, distress and anxiety in these patients. These emotions can exert negative impacts on patients’ metabolic outcomes and quality of life. Therefore, clinicians need to integrate regular mental health care assessments and offer timely treatment for these emotional issues.

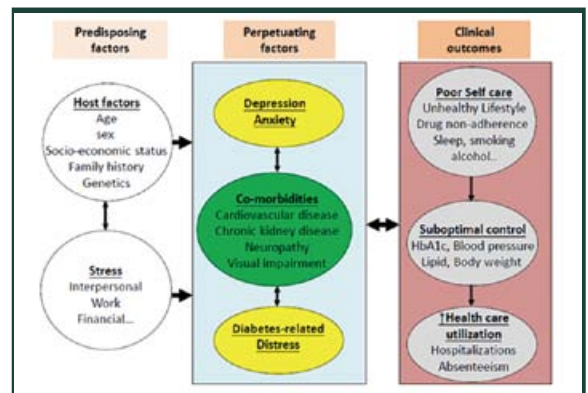


Fig. 1. A schematic diagram showing the predisposing, precipitating and perpetuating factors in the co-occurrence of negative emotions in people with diabetes and their impacts on clinical outcomes.

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A trip to the Canadian Rockies

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Dr June KY LI

I remember my son was still an infant when we first visited the Canadian Rockies years ago. How time flies! This summer, after attending his high school graduation, we took the occasion to visit again. We decided to go to the national parks of Yoho, Banff and the Columbia Icefield. Fortunately, Icefield Parkway, the scenic route leading from Banff to the Columbia Icefield, reopened after closing down earlier on due to the risk of avalanches.

We drove to Banff after leaving the Calgary Airport. The route was fabulous. The air was so fresh! The mountains on both sides were so amazing. Only when exposed to the greatness of Mother Nature can a person realise how insignificant he is. We stopped at Mount Norquay to have a bird's eye view of Banff, the famous town amidst the mountains, before we had dinner in a Sushi restaurant. We used an extremely useful smartphone APP on the Rocky Mountains. It was incredibly informative, helpful and humorous. When we were near the attractions, this guide automatically notified us of any relevant interesting story and also led us to additional scenic spots.

We visited Yoho National Park and Lake Louise on the second day. We witnessed two ends of a train at the tunnel entrance and exit simultaneously at the Lower Spiral Tunnel viewpoint. We marveled at the turquoise water of Emerald Lake and enjoyed a tranquil lunch by the lakeside. We visited the Kicking Horse and Natural Bridge where we were thrilled by the freezing water flowing from the glaciers. Lake Louise was shimmering in silver and gold. The sublime picture took our breath away. We took a kilometre trek to the Fairview Lookout which gave us an aerial view of Lake Louise lying serenely besides the historic Fairmont Chateau. A leisurely return walk along the lakeshore warranted magnificent and dramatic landscapes of the lake from midday to sunset.

The next day we explored the Sulphur Mountains, Johnston Canyon, Cave and Basin and Moraine Lake. Two waterfalls, the upper and lower falls, highlighted the Johnston Canyon. Reckless water splashed our eagerly blushed faces to relieve the excessive warmth caused by the hikes. The Cave and Basin Museum heralded the history of national parks in Canada. It is remarkable that the Canadians had started preserving Nature more than one and a half century ago. Surrounded by Ten Peaks, the adorable Princess, Moraine Lake, has been cared for, protected and loved by ten strong and brave Generals for an eternity. We

hiked three kilometres from Moraine Lake through the forest to Consolation Lake, where we were rewarded as it opened up into high alpine meadows and the Quadra Glacier. We were stunned and believed this was heaven on earth!

The drive to the Columbia Icefield through Icefield Parkway was the highlight of our tour. It was a cool sunny day. The reflection of the picturesque mountains on Bow Lake was gorgeous. The lookout of Peyto Lake was very crowded because nobody wanted to miss its splendid grandeur. The colour of the water is due to the rock flour carried by the glacier water, reflecting the white light into a shimmering turquoise. Mistaya Canyon enlightened us on the power of Nature, with the land itself giving way to rushing currents. People came worldwide to the largest icefield in North America, the Columbia Icefield, to step on the glacier, caress its ground and rejoice at the mountains. The icefield feeds eight major glaciers, but it is receding because of global warming. Moreover, the number of wildlife is decreasing because of traffic accidents. Grizzly bears grow fearless to cars as people stop their cars to feed them. As a method to protect the wildlife, people who feed animals in the Rockies are heavily penalised.

We are tremendously grateful to Lord who gives us Nature. It is what we enjoy, appreciate and must preserve!





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
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5	6	7	8	9	10	11
		<ul style="list-style-type: none"> HKMA CME - Certificate Course in Psychiatry for Community Primary Care Doctors HKMA Tai Po Community Network - Iron Deficiency Anaemia: A Common and Curable Disease MPS Workshop - Mastering Adverse Outcomes 		<ul style="list-style-type: none"> Certificate Course for GPs 2017 - Insulin and Insulin Analogs HKMA Hong Kong East Community Network & Primary Care Office of Department of Health - Assessment and Management of Older Adults' Cognitive Impairment in Primary Care Setting 		<ul style="list-style-type: none"> Refresher Course for Health Care Providers 2017/2018
12	13	14	15	16	17	18
<ul style="list-style-type: none"> HKMA Family Sports Day 		<ul style="list-style-type: none"> HKMA KLN West Community Network - The Antimetabolic Treatment for Chemotherapy Induced and Post-operative Nausea and Vomiting HKMA CME - Certificate Course in Psychiatry for Community Primary Care Doctors HKMA Tai Po Community Network - Clinical Update: Audiology & Speech Therapy for Older Adults Topic 1: Audiology Service for Older Adults Topic 2: Speech & Swallowing Therapy for Older Adults 	<ul style="list-style-type: none"> HKMA Central, Western & Southern Community Network - Updates on LUTS and Neurological Diseases 	<ul style="list-style-type: none"> HKMA NT West Community Network - Management of Allergic Rhinitis and its Complications FMSHK Executive Committee Meeting FMSHK Council Meeting FMSHK 32nd Annual General Meeting HKFMS Foundation 18th Annual General Meeting 	<ul style="list-style-type: none"> 24th Annual Scientific Meeting - Hong Kong Neurosurgical Society, Theme: Neurosurgery in Octogenarians HKMA Yau Tsim Mong Community Network - Rashes Dr., Are the Dermatitis? 	
19	20	21	22	23	24	25
		<ul style="list-style-type: none"> HKMA CME - Certificate Course in Psychiatry for Community Primary Care Doctors 		<ul style="list-style-type: none"> HKMA Hong Kong East Community Network - Management of Insomnia: Update and New Approaches 		
26	27	28	29	30		



Date / Time	Function	Enquiry / Remarks
3 FRI 8:00 - 9:00 AM	Joint Surgical Symposium – Complications of Laparoscopic Surgery Organizers: Department of Surgery, The University of Hong Kong & Hong Kong Sanatorium & Hospital; Chairman: Professor LAW Wai-Lun; Speakers: Dr. SIU Wing-Tai, Dr. Jeremy YIP; Venue: Hong Kong Sanatorium & Hospital	Department of Surgery, Hong Kong Sanatorium & Hospital Tel: 2835 8698 Fax: 2892 7511 1 CME Point (Active)
4 SAT (5-6) 2:30 PM	Annual Scientific Meeting 2017 on Paediatric Autoimmune CNS Disorders Organizer: The Hong Kong Society of Child Neurology and Developmental Paediatrics; Speakers: Prof Ming LIM, Dr Alvin HO, Dr Winnie WONG, Dr Carmen CHAN; Venue: Queen Elizabeth Hospital & The Cityview Hotel MPS Workshop - Mastering Your Risk Workshop Organiser: The Hong Kong Medical Association & Medical Protection Society; Speaker: Dr. Cheng Ngai Shing, Justin; Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong GHM Sports Meet Organiser: The Hong Kong Medical Association; Chairman: Dr. CHAN Hau Ngai, Kingsley & Dr. IP Wing Yuk; Venue: Shek Kep Mei Sports Ground, 290 Nam Cheong Street, Sham Shui Po, Kowloon	Ms Cordelia Wu Tel: 2527 8898 www.hkcndp.org HKMA CME Dept. Tel: 2527 8452 2.5 CME Point Ms. Kayin LEE/Ms. Sinn TANG/Ms. Ellie FU Tel: 2527 8285
7 TUE 1:00 PM	HKMA CME - Certificate Course in Psychiatry for Community Primary Care Doctors Organiser: The Hong Kong Medical Association & The Hong Kong Society of Biological Psychiatry; Chairman: Prof. TANG Siu Wa; Speaker: Dr. Lo Chun Wai; Venue: World Trade Centre Club Hong Kong, 38/F, World Trade Centre, 280 Gloucester Road, Causeway Bay	HKMA CME Dept. Tel: 2527 8452 1.5 CME Point
1:00 PM	HKMA KLN West Community Network - Asthma: When, Whom and Why to Treat? Organiser: HKMA KLN West Community Network; Chairman: Dr. LAM Ngam, Raymond; Speaker: Dr. Chan Chung Yan, Anthony; Venue: Crystal Room IV-V, 3/F, Panda Hotel, 3 Tsuen Wah Street, Tsuen Wan, NT	Mr. Ziv WONG Tel: 2527 8285 1 CME Point
1:00 PM	HKMA Yau Tsim Mong Community Network & Primary Care Office of Department of Health - Assessment and Management of Older Adults' Cognitive Impairment in Primary Care Setting Organiser: HKMA Yau Tsim Mong Community Network & Primary Care Office of Department of Health; Chairman: Dr. HO Fung; Speaker: Dr. WONG Wai Ming, Kenny; Venue: Crystal Ballroom, 2/F, The Cityview Hong Kong, 23 Waterloo Road, Kln	Ms. Candice TONG Tel: 2527 8285 1 CME Point
1:45 PM	HKMA Tai Po Community Network - Childhood Atopic Eczema: What Disease is that? Organiser: HKMA Tai Po Community Network; Chairman: Dr. CHOW Chun Kwan, John; Speaker: Prof. Hon Kam Lun, Ellis; Venue: Chiuchow Garden Restaurant (潮江春), Shop 001-003, 1/F, Uptown Plaza, No. 9 Nam Wan Road, Tai Po	Ms. Joyce HO Tel: 3595 3815 1 CME Point
6:30 PM	MPS Workshop - Mastering Adverse Outcomes Organiser: The Hong Kong Medical Association & Medical Protection Society; Speaker: Dr. Hung Chi Wan, Emily; Venue: The Cityview, Kowloon	HKMA CME Dept. Tel: 2527 8285 2.5 CME Point
7:30 PM	HKMA Council Meeting Organiser: The Hong Kong Medical Association; Chairman: Dr. CHOI Kin; Venue: HKMA Wanchai Premises, 5/F, Duke of Windsor Social Service Building, 15 Hennessy Road, HK	Ms. Christine WONG Tel: 2527 8285
8:00PM	FMSHK Officers' Meeting Organiser: The Federation of Medical Societies of Hong Kong; Venue: Gallop, 2/F, Hong Kong Jockey Club Club House, Shan Kwong Road, Happy Valley, Hong Kong	Ms. Nancy CHAN Tel: 2527 8898
8 WED 7:30AM	Hong Kong Neurosurgical Society Monthly Academic Meeting –The Glymphatics and Lymphatics of the Brain Organizer: Hong Kong Neurosurgical Society; Chairman: Dr CHU Sai Lok; Speaker: Dr ZHUANG Tin Fong; Venue: Seminar Room, G/F, Block A, Queen Elizabeth Hospital	Dr. LEE Wing Yan, Michael Tel: 2595 6456 Fax. No.: 2965 4061 1.5 points College of Surgeons of Hong Kong
1:00 PM	HKMA Central, Western & Southern Community Network - Hyperuricemia and CV Risk Organiser: HKMA Central, Western & Southern Community Network; Chairman: Dr. TSANG Kin Lun; Speaker: Dr. CHAN Pak Hei, Michael; Venue: Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road Central, HK	Mr. Ziv WONG Tel: 2527 8285 1 CME Point
9 THU 1:00 PM	HKMA HKS&H CME Programme 2017-2018 –“Update in Medical Practice” Organiser: The Hong Kong Medical Association & Hong Kong Sanatorium & Hospital; Speaker: Dr. CHAN See Ching; Venue: Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road Central, HK	HKMA CME Dept. Tel: 2527 8285 1 CME Point
1:00 PM	HKMA KLN East Community Network - Management on Insomnia: Update and New Approaches Organiser: HKMA KLN East Community Network; Chairman: Dr. MA Ping Kwan, Danny; Speaker: Dr. Mak Wing Chit; Venue: Lei Garden Restaurant, Shop no. L5-8, apm, Kwun Tong, No. 418 Kwun Tong Road, Kowloon	Mr. Ziv WONG Tel: 2527 8285 1 CME Point
1:00 PM	MPS Workshop - Achieving Safer and Reliable Practice Organiser: The Hong Kong Medical Association & Medical Protection Society; Speaker: Dr. Cheng Ngai Shing, Justin; Venue: The Cityview, Kowloon	HKMA CME Dept. Tel: 2527 8285 2.5 CME Point
10 FRI 1:00 PM	HKMA Kowloon City Community Network - Management Update on Allergic Rhinitis and Asthma Organiser: HKMA Kowloon City Community Network; Chairman: Dr. CHIN Chu Wah; Speaker: Dr. LO Chi Wai; Venue: Queen's Ballroom 1, Spotlight Recreation Club, 4/F., Screen World, Site 8, Whampoa Garden, Hungghom, Kln	Ms. Candice TONG Tel: 2527 8285 1 CME Point
11 SAT 2:15 PM	Refresher Course for Health Care Providers 2017/2018 Organiser: Hong Kong Medical Association; HK College of Family; Physicians; HA-Our Lady of Maryknoll Hospital; Speaker: Dr. Kam Hung Wong; Venue: Training Room II, 1/F, OPD Block, Our Lady of Maryknoll Hospital, 118 Shatin Pass Road, Wong Tai Sin, Kln	Ms. Clara TSANG Tel: 2354 2440 2 CME Point
14 TUE 1:00 PM	HKMA CME - Certificate Course in Psychiatry for Community Primary Care Doctors Organiser: The Hong Kong Medical Association & The Hong Kong Society of Biological Psychiatry; Speaker: Prof. Tang Siu Wa; Venue: World Trade Centre Club Hong Kong, 38/F, World Trade Centre, 280 Gloucester Road, Causeway Bay	HKMA CME Dept. Tel: 2527 8452 1.5 CME Point



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14 TUE 1:45 PM	HKMA Tai Po Community Network - Iron Deficiency Anaemia: A Common and Curable Disease Organiser: HKMA Tai Po Community Network; Chairman: Dr. CHOW Chun Kwun, John; Dr. LEE Cheuk Kwong; Speaker: Dr. LAU Ching Wa; Venue: Chiuchow Garden Restaurant (潮江春), Shop 001-003, 1/F, Uptown Plaza, No. 9 Nam Wan Road, Tai Po	Ms. Candice TONG Tel: 2527 8285 1 CME Point
6:30 PM	MPS Workshop - Mastering Adverse Outcomes Organiser: The Hong Kong Medical Association & Medical Protection Society; Speaker: Dr. Hung Chi Wan, Emily; Venue: The Cityview, Kowloon	HKMA CME Dept. Tel: 2527 8285 2.5 CME Point
16 THU 1:00 PM	Certificate Course for GPs 2017 - Insulin and Insulin Analogs Organiser: HA-United Christian Hospital; HK College of Family Physicians; HKMA-KLN East Community Network; Speaker: Dr. Grace KAM Yee Wai; Venue: Lecture Theatre, G/F, Block K, United Christian Hospital	Ms. Polly Tai Tel: 3513 3430 1 CME Point
1:00 PM	HKMA Hong Kong East Community Network & Primary Care Office of Department of Health - Assessment and Management of Older Adults' Cognitive Impairment in Primary Care Setting Organiser: HKMA Hong Kong East Community Network & Primary Care Office of Department of Health; Chairman: Dr. WONG Chun Por; Speaker: Prof. WONG Yeung Shan, Samuel; Venue: The HKMA Wanchai Premises, 5/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai	Ms. Candice TONG Tel: 2527 8285 1 CME Point
19 SUN 2:00 PM	HKMA Family Sports Day Organiser: The Hong Kong Medical Association; Venue: Stanley Ho Sports Centre, 10 Sha Wan Drive, Sandy Bay, HK	Ms. Kayin LEE/Ms. Sinn TANG/Ms. Ellie FU Tel: 2527 8285
21 TUE 1:00 PM	HKMA KLN West Community Network - The Antiemetic Treatment for Chemotherapy Induced and Post-operative Nausea and Vomiting Organiser: HKMA KLN West Community Network; Chairman: Dr. CHAN Siu Man, Bernard; Speaker: Dr. AU Siu Kie; Venue: Crystal Room IV-V, 3/F, Panda Hotel, 3 Tsuen Wah Street, Tsuen Wan, NT	Mr. Ziv WONG Tel: 2527 8285 1 CME Point
1:00 PM	HKMA CME - Certificate Course in Psychiatry for Community Primary Care Doctors Organiser: The Hong Kong Medical Association & The Hong Kong Society of Biological Psychiatry; Speaker: Prof. TANG Siu Wa; Venue: World Trade Centre Club Hong Kong, 38/F, World Trade Centre, 280 Gloucester Road, Causeway Bay	HKMA CME Dept. Tel: 2527 8452 1.5 CME Point
1:45 PM	HKMA Tai Po Community Network - Clinical Update: Audiology & Speech Therapy for Older Adults Topic 1: Audiology Service for Older Adults Topic 2: Speech & Swallowing Therapy for Older Adults Organiser: HKMA Tai Po Community Network; Chairman: Dr. CHOW Chun Kwan, John; Speaker: Mr. KEUNG Kon Him, Saga; Mr. CHAN Sik, Conroy; Venue: Chiuchow Garden Restaurant (潮江春), Shop 001-003, 1/F, Uptown Plaza, No. 9 Nam Wan Road, Tai Po	Ms. Candice TONG Tel: 2527 8285 1 CME Point
22 WED 1:00 PM	HKMA Central, Western & Southern Community Network - Updates on LUTS and Neurological Diseases Organiser: HKMA Central, Western & Southern Community Network; Chairman: Dr. POON Man Kay; Speaker: Prof. WONG Ka Sing, Lawrence; Venue: Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road Central, HK	Mr. Ziv WONG Tel: 2527 8285 1 CME Point
23 THU 1:00 PM	HKMA NT West Community Network - Management of Allergic Rhinitis and its Complications Organiser: HKMA New Territories West Community Network; Chairman: Dr. TSANG Yat Fai; Speaker: Dr. LAM Wai Hung, Eddy; Venue: Atrium Function Rooms, Lobby Floor, Hong Kong Gold Coast Hotel, 1 Castle Peak Road, Gold Coast, Hong Kong	Mr. Ziv WONG Tel: 2527 8285 1 CME Point
7:00 PM	FMSHK Executive Committee Meeting Organiser: The Federation of Medical Societies of Hong Kong; Venue: Council Chamber, 4/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms. Nancy CHAN Tel: 2527 8898
7:00 PM	FMSHK Council Meeting Organiser: The Federation of Medical Societies of Hong Kong; Venue: Council Chamber, 4/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms. Nancy CHAN Tel: 2527 8898
8:00 PM	FMSHK 32nd Annual General Meeting Organiser: The Federation of Medical Societies of Hong Kong; Venue: Council Chamber, 4/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms. Nancy CHAN Tel: 2527 8898
8:30 PM	HKFMS Foundation 18th Annual General Meeting Organiser: The Federation of Medical Societies of Hong Kong; Venue: Council Chamber, 4/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms. Nancy CHAN Tel: 2527 8898
24 FRI 9AM - 5PM (25)	24th Annual Scientific Meeting – Hong Kong Neurosurgical Society, Theme: Neurosurgery in Octogenarians Organizer: Hong Kong Neurosurgical Society; Chairman: Dr Y C PO; Speaker: Dr Salvatore Chibbaro, MD, PhD & Prof Masatune Ishikawa, MD, PhD; Venue: Cordis Hong Kong at Langham Place, Mongkok, Kowloon	Dr. LEE Wing Yan, Michael Tel: 2595 6456 Fax. No.: 2965 4061 CME Accreditation: Pending
1:00 PM	HKMA Yau Tsim Mong Community Network - Dr., Are the Rashes Dermatitis? Organiser: HKMA Yau Tsim Mong Community Network; Chairman: Dr. CHAN Wai Keung, Ricky; Speaker: Dr. LEE Tze Yuen; Venue: Crystal Ballroom, 2/F, The Cityview Hong Kong, 23 Waterloo Road, Kowloon	Ms. Candice TONG Tel: 2527 8285 1 CME Point
28 TUE 1:00 PM	HKMA CME - Certificate Course in Psychiatry for Community Primary Care Doctors Organiser: The Hong Kong Medical Association & The Hong Kong Society of Biological Psychiatry; Speaker: Dr. Lo Tak Lam; Venue: World Trade Centre Club Hong Kong, 38/F, World Trade Centre, 280 Gloucester Road, Causeway Bay	HKMA CME Dept. Tel: 2527 8452 1.5 CME Point
30 THU 1:00 PM	HKMA Hong Kong East Community Network - Management on Insomnia: Update and New Approaches Organiser: HKMA Hong Kong East Community Network; Chairman: Dr. LEUNG Kwan Kui, Terence; Speaker: Dr. CHAN Fong Yeung, Gloria; Venue: The HKMA Wanchai Premises, 5/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai	Ms. Candice TONG Tel: 2527 8285 1 CME Point

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References: 1. Victoza® Summary of Product Characteristics, January 2016. 2. Internal calculations based on IMS Health MIDAS database, September 2015.
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The passing of an icon

Dr Jane CK CHAN

Vice President, The Federation of Medical Societies of Hong Kong



**Professor Sir David Todd
(1928-2017)**

To the extreme sadness of the medical community in Hong Kong (HK), Emeritus Professor Sir David Todd passed away at Queen Mary Hospital on 16 August 2017. To pay tribute to the magnanimity of Sir David's life and his vast contribution and relentless dedication to the medical profession in HK, the Federation has commissioned me to write a message here in the HK Medical Diary in remembrance of Sir David.

Sir David likely possesses the most distinguished list of titles that can be held by any local medical graduate, and that reads:

CBE; MBBS HK; MD HK; FRCP(Edin, Lond, Glasg); FRACP; FRCPATH; FHKAM(Hon); FHKCP(Hon); FAMS(Hon); HonDSc CUHK; HonDSc HKU; HonLLD Lingnan

To highlight Sir David's key milestones in life, a time line of his life is shown below. This is followed by a description of who and what he was like in the eyes of medical colleagues who have had the privilege of working closely with him during his half a century's association with the University of HK (HKU) and the medical community.

Timeline of Sir David's life¹⁻²

- 1928 Born in Guangzhou
Adopted by American Presbyterian missionary parents Dr. & Mrs. Paul Jerome & Margaret Todd (a medical doctor and a nurse)³
- 1937 Went to HK to escape the Japanese invasion
Studied at Diocesan Boys' School
- 1942 Returned to Mainland China once again to escape Japanese invasion into HK
- 1945 Joined the Lingnan University Medical School as medical student
- 1947 Transferred to HKU Medical Faculty as a second year student
- 1952 Graduated with M.B.B.S., being first in all subjects
- 1953 Joined the HKU Faculty of Medicine as teacher
- 1958 Completed M.D. thesis entitled "Anemia of cryptogenic splenomegaly"
- 1974 Succeeded Professor AJS McFadzean as Head of the Department of Medicine at HKU till 1989
- 1986-92 Founding President of HK College of Physicians
- 1990 Member of the first Hospital Authority Board
- 1990 Awarded Honorary Doctor of Science, CUHK
- 1991 Founding President of the Research Grants Council
- 1992-96 Founding President of the Hong Kong Academy of Medicine
- 1992 Awarded Honorary Doctor of Science, HKU
- 1995 Awarded knighthood
- 1997 Retired to Cambridge, U.K.
- 2008 Returned to Hong Kong
- 2017 Passed away peacefully at QMH, surrounded by his family, and those dearest to him

Tributes to Sir David

A major part of the writing below are quotations (with permission) from the memorial service organized by HKU held in Loke Yew Hall on 2 October 2017.⁴

Tribute from Dr Chan Chok-wan

Former President of the Federation of Medical Societies of HK (1991-2003) (personal communication with the FMSHK, 10 October 2017)

"Professor David was an active leader of the medical profession in Hong Kong in the 1960's and he together with Professor GB Ong, Sir Harry Fang, Professor C Elaine Field, Dr. Rudy Khoo and others formed the Federation of Medical Societies of Hong Kong in 1967 with Hong Kong Medical Association and British Medical Association (Hong Kong Branch) as Founder Members. He is also instrumental in the inauguration of our Federation Medical Diary and the First Edition of



the Medical Directory of the Federation. His patronage over the Federation is always ready, appropriate and available whenever necessity arises throughout the years. To the Federation he is always a respected icon of a good teacher, a competent clinician, a resourceful scholar, a potent leader and a perfect gentleman with all the noble attributes that all his students and followers admired!"

In Memoriam message by Professor Gabriel Leung
Dean of the Faculty of Medicine, HKU³

"... Sir David was the noblest of role models: a true gentleman, scholar, clinician-scientist and above all a kind teacher and friend to those who had the good fortune of knowing him and whose lives had been immeasurably enriched by his being. He was a healer of diseases, patients and society writ large. ...

... when the Japanese invaded here, he returned to the mainland and travelled by himself – aged only 14 years – through northern Guangdong to safety with missionary friends. He witnessed atrocities and loss by the Japanese and both parties in the civil war. There can be little doubt that these experiences endowed him with his characteristic resilience and deeply affected his sense of compassion and justice. ..."

Eulogy by Professor Rosie Young, Former Pro-Vice Chancellor of HKU, at the HKU Memorial, 2 October 2017

"... Professor AJS McFadzean, the first Professor of Medicine after the Second World War had the wisdom and foresight to recognize David's remarkable potential as a leader in the medical profession, a dedicated teacher, and a promising researcher.

... Professor David Todd stands out as the doyen of medicine in Hong Kong. Perhaps more than anyone else to-date his vision and tireless efforts in teaching and research as well as his clinical acumen have inspired generations of doctors and shaped the practice of medicine in Hong Kong, which is now widely acclaimed as being world class. Despite all his achievements he remained a modest person, though others saw him as one of the best teachers in the Medical Faculty, a trusted friend of his students, and a physician who was always dedicated to the service of patients. ..."

Tribute by Professor T. K. Chan, former Head, Department of Medicine, HKU, at the HKU Memorial, 2 October 2017

"... I have known Sir David for 58 years. He was my teacher, trainer and mentor, colleague and close friend in that succession.

He was first and foremost a superb clinician. The patient's health and welfare was his main concern. When he was in charge of briefing new staff to the Department (of Medicine, HKU), his first words were "there is no fixed working hours in this Department." That meant no one left until one's patients had all been attended to and investigations or treatment planned. All staff were required to closely supervise their respective juniors, which made for an excellent mentoring system.

Meticulous history, including past health, family and social histories, and a complete physical examination were compulsory, as were investigations of blood, urine, and stool! This information needed to be clearly documented and David would check them in the patient's record during service round. Continued update of medical knowledge was encouraged and David kept up with all new medical publications regularly. He was in fact the "store house for all new knowledge". Indeed, we used to ask him where to find new syndromes or new treatments as the Index Medicus available then was 6 months to one year late! He was the "Google" of the time. ..."

Tribute by Professor Richard Yu, former President of the Hong Kong College of Physicians, at the HKU Memorial, 2 October 2017

"... After signing the Sino-British Joint Declaration in December 1984, David proposed that a professional body for physicians be formed before the change of sovereignty in 1997. A preparatory committee was formed in March 1986 to draft the institution's Memorandum and Articles of Association and Byelaw. He would meticulously scrutinize every sentence and every word of the draft and in December 1986 the Hong Kong College of Physicians was formally inaugurated. ... David was elected the Founding President.

As the President he formulated 4 important mandatory principles.

1. International links with Colleges in the U.K., Australia and Singapore must be maintained.
2. Composition of the Council must have representations from the two Universities, the Hospital Authority and the private sector.
3. Major development, expansion and training of all specialties in Internal Medicine
4. To promulgate Medical Professionalism, Continuous Professional Development, Continuous Medical Education and ethics.

For the 30 years of development of the College along with rapid changing scenarios of health demographics, David's 4 foundation principles not only have not changed but have further expanded and consolidated. The College is the largest in the Academy with 17 Specialty Boards and 1700 fellows. ...

... Under Sir David's leadership, in 1981, as an agreement with the Royal College of U.K., the entire MRCP examination for the first time was held in Hong Kong. ... This attests to the trust, respect and confidence in the profession and training Sir David had been able to develop and uphold. ..."

Tribute by Professor Raymond Liang, Former President of the Academy of Medicine, at the HKU Memorial, 2 October 2017

"... His research team on Thalassemia has prominently put Hong Kong onto the world map of medicine. ...

Under Sir David's leadership, QMH has become an internationally renowned centre for treating patients with lymphoma.



Despite his highly recognized clinical expertise in treating blood diseases, Sir David is always proud of calling himself a general physician with an interest in haematology, rather than a specialist haematologist.

... We were constantly reminded by Sir David that a good physician should be like a pyramid, emphasizing the importance of a solid foundation in general medicine for all medical specialists. ..."

Tribute by Professor Mary Ip, Head of Department of Medicine, HKU at the HKU Memorial, 2 October 2017

"... In the 1970s, Professor Todd set up the McFadzean Library within the Department, and vigilantly updated its collection of books and journals to engage senior and junior staff alike in continuing self-education. This modest departmental establishment denoted his commitment to life-long professional training. ..."

Tribute by Professor Philip K T Li, President of the Hong Kong College of Physicians, at the HKU Memorial, 2 October 2017

"... To many of us, Sir David was a very powerful man in the field of medicine; but he never acted like one. He was a gentleman, a pioneer, a legend, a great human, and a great humanitarian act with humbleness and humility. His unsurpassed intellect, passion and courage has changed the landscapes of Medicine in Hong Kong ..."

Tribute by UMU mentees

Professor T. K. Chan in his tribute to Sir David stated that "As a protégé of AJS McFadzean, Sir David encouraged staff to undertake both clinical and laboratory research. Contributing to new knowledge was one of the goals of the practising clinician trained by the Department. No wonder, during David's era, that the UMU acquired the nickname of "The Shaolin Temple for Clinical Medicine".

Those of us having been trained under him in the UMU highly value this training and feel honoured and privileged to have been part of this UMU family. We will always remember him as a kind caring boss. Despite the coming and going of registrars rotating among a few hospitals, he never failed to remember our names, and he would always make a few remarks about the person to make sure he had remembered earlier conversations with that person. He is that kind of person who puts people at ease, disarms their fear of seniors, and treats his juniors as friends.

"In our days as registrars he had a nickname amongst us called the "Black Face", 阿黑, reflecting partly his complexion and partly our trepidation. One Sunday morning after ward round, I went back to the staff Common Room on the 4th floor in the Professorial Block with Joseph Tsui, and bumped into Professor coming out of his office at the far end of the corridor. Before we could slip quickly into the Common Room, he said something really surprising: "Are you people free to go on a boat trip to Lamma Island today?" So we had a really nice walk that afternoon on Lamma! Thereafter, we started asking him to take us out on his yacht on some not-so-busy Sundays. He was really a very kind-hearted person and was full of fun underneath his "Black

Face". (recalled by Dr Philip Wong, cardiologist in private practice)

Sir David's retirement years can roughly be divided into two phases. The first phase consists of those years in Cambridge catching up with his second love (medicine being his first love): love of music, with regular travels to music festivals in Continental Europe, while staying connected to medical reading and peer education in the nearby hospital. In Dr Betty Young's tribute at the HKU Memorial Service, she stated:

... The musical selections being performed at this service are from a list of his favourite pieces he earmarked for his funeral and memorial service, thus allowing us to share his musical will and testament, and his legacy as a connoisseur of music.

Sir David was raised in a family with strong musical inclinations – his father played the cello and his elder sister a gifted pianist. At home they sometimes made music together in the evenings.

In fostering his lifelong enjoyment of live performances, David made pilgrimages to the finest music centres around the world.

... Operas were David's greatest love. He had a special predilection for the German repertoire, and was unquestionably a faithful Wagnerian. However, much as he was a deeply perceptive appreciator of Wagnerian music, David was first and foremost a humanist of the most benevolent kind. He held Arturo Toscanini in the highest esteem, not only for his iconic performances, but, much more importantly, for his courageous stance against fascism. ...

... As flights of angels sing him to his rest, let us remember Sir David, among his many merits, as a great lover of music, and a great lover of mankind. I like to end with the last verse of one of David's favourite lieder, "I am lost to the world" by Gustav Mahler.
I am dead to the world's tumult,
And I rest in a quiet realm!
I live alone in my heaven,
In my love and in my song."

The second phase of Sir David's retirement consists of the subsequent years after his return back to Hong Kong. His homecoming represented the completion of a full circle of his life, settling back in Hong Kong his motherland. During this phase, he remained a loyal advocate of HKU and of undergraduate and post-graduate medical education, being readily involved as honorable guest in the Faculty of Medicine-wide events and in the annual scientific meetings of the HK College of Physicians. I once jokingly called him a social butterfly as I bumped into him in many university and medical functions. But quite the opposite of a social butterfly, who is present in social events for self-promoting causes, Sir David was there selflessly to show his support to and dedication for HKU Medicine and the College. He kept his presence unremittingly and tirelessly although physically he was getting weaker and weaker. To stay physically strong so as to meet the demands of his social commitments, he made regular visits to the pool with discipline.



Residing in the HKU quarters, his heart once again became intimately entwined with the pulse of the university and the Faculty of Medicine. He was always mentally toiling over the future of the university, especially when the university suffered setbacks or major adverse events. He showed encouragement and gave much treasured advice to medical leaders, who were his mentees, so that these leaders could continue to strive for the good of the university and community. He is the man behind many great leaders of current era.

In his private life, he continued to demonstrate zest for life despite faltering health from aging and from ailments. One would visit him at his home and the first thing one would be met with upon door opening would be the tunes of classical music infusing his home. He has a heart for beauty and for China, choosing to visit the most scenic places of Mainland China, including Jiuzhaigou, Huang Shan and Guilin, where his interest in photography would drive him to “jump” up and down for scenic capture. He never missed the Hong Kong Arts Festival, especially its operas, even when it means taking a seat high up in the balcony.

He was also a collector of Chinese antique, but his purpose of collection was not so much in the monetary value of antique items, but to “show off” the items as a stern reminder of our painful Chinese history (and reminder of not treading back to that painful past), such as his collection of an opium-smoking pipe from the Opium War times.

In the face of his fragile health during this phase of his life, he insisted on being dignified and self-contained, refusing to take any offer of help for granted, and always being mindful of not imposing burdens or inconveniences on others. Despite his ongoing struggle with illnesses one after another, he seldom complained about them openly, keeping the discomfort and worries of the illnesses all to himself rather than pouring any untoward feelings to his friends.

All in all, Sir David is an icon not just in medicine but in all aspects of his life. He is the embodiment of multi-cultural heritage: his love and compassion for humankind, for medicine and for music took after his western missionary foster parents, his mastery of and leadership in clinical and academic medicine took after his British mentor cum giant in medicine (hence giant breeding giant), and his 憂國憂民 came from his deep Chinese roots and wartime tribulations. His life history is utterly unique, reflecting the tumultuous modern Chinese history and bearing personal witness to and being an amazing amalgamation of the East meeting the West. His vast professional achievements are the pride of Hong Kong. More importantly, his gentlemanly demeanor and his multi-faceted human and humanistic touch has touched many hearts and impacted thousands who had crossed path with him. He will always be sorely missed and fondly remembered by us all.

References

1. https://www.med.hku.hk/f/deans/2337/Dean%27s%20message_20170817.pdf
2. http://www4.hku.hk/honggrads/index.php/archive/graduate_detail/214
3. http://www.scholarships.hku.hk/files/Bio_of_Dr_&_Mrs_Todd.pdf
4. The booklet for “A Memorial for Professor Sir David Todd”





Answers to Dermatological Quiz

Answer:

1. Halo Naevus

The diagnosis is halo naevus and is often made by its characteristic clinical presentation. It appears as one or more uniformly coloured, round or oval naevi centrally with an even peripheral hypopigmented margin – a halo. The central naevus may be tan, pink or black and the width of the halo is variable. It can occur at any site and equally in both males and females. The differential diagnoses include dysplastic naevus, basal cell carcinoma, cutaneous melanoma, lichen sclerosus et atrophicus, spitz naevus and vitiligo.

2. Halo naevus is a benign skin lesion that represents a melanocytic naevus in which an inflammatory process develops resulting in a depigmentation zone surrounding the naevus. The inflammatory cells are predominantly T-lymphocytes with scattered macrophages. Similar in vitiligo, melanocytes in the epidermis in the halo component of the naevus are completely absent suggesting both are sharing a similar aetiologic mechanism. However, the exact role of lymphocytes in the regression of halo naevus has not been fully understood.

3. Most halo naevi are benign in nature and so no treatments are required. Periodic examinations for atypical or malignant changes are warranted. Usually, a halo naevus may go through 4 stages. Stage 1 is a halo developed around the central naevus. Stage 2 is the central naevus becoming pink and then regresses. Stage 3 is the remaining of the hypopigmented patch. Stage 4 is the repigmentation of the remaining patch. However, some central naevi do not regress and the halo becomes repigmented. In case of development of atypical or malignant changes in the central naevus, a biopsy or surgical excision may be indicated.

Dr Chi-keung KWAN

MBBS(HK), MRCP(UK), Dip Derm(Glasgow), PDipID (HK), MFM (Monash) FHKCP, FHKAM(Medicine)
Specialist in Dermatology and Venereology

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*OAB: Overactive Bladder + LUTS: Lower Urinary Tract Symptoms

Reference: **1.** Chapple C.R. et al. NeuroUrol Urodynam 2013 [doi 10.1002/nau.22505] **2.** Chapple C.R. et al. Eur Urol Supp. 2005; 4:33-44 **3.** Guidelines on the Management of Non-Neurogenic Male LUTS. European Association of Urology. 2015. **4.** DIAGNOSIS AND TREATMENT OF OVERACTIVE BLADDER (Non-Neurogenic) IN ADULTS: AUA/SUFU GUIDELINE. American Urological Association. 2014.

HARNAL OCAS[®] Abridged Prescribing Information It Lower urinary tract symptoms (LUTS) associated w/ benign prostatic hyperplasia (BPH). **D:** 0.4mg once daily. **A:** Can be taken with or without food. Swallow whole, do not chew/divide/crush. **C:** Hypersensitivity. **AR:** Common: Dizziness (1.3%), ejaculation disorder. **Full prescribing information is available upon request.**

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- Flexibility in day-to-day dosing time when needed^{3*} ...delivered in a once-daily dose.

Abbreviated prescribing information

Tresiba® (insulin degludec) 100U (100 units/mL insulin solution for injection) in a pre-filled pen (FlexTouch®) Consult Summary of Product Characteristics before prescribing. **Presentation:** Tresiba® FlexTouch®. All presentations contain insulin degludec. Tresiba® 100 units/mL – 1 mL of solution contains 100 units insulin degludec (equivalent to 3.66 mg). One pre-filled device contains 300 units of insulin degludec in 3 mL solution. **Indications:** Treatment of diabetes mellitus in adults. **Posology and administration:** Tresiba® is a basal insulin for once-daily subcutaneous administration at any time of the day, preferably at the same time of day. On occasions when administration at the same time of the day is not possible, Tresiba® allows for flexibility in the timing of insulin administration. A minimum of 8 hours between injections should be ensured. In patients with type 2 diabetes mellitus, Tresiba® can be administered alone, in combination with oral anti-diabetic medicinal products as well as in combination with bolus insulin. In type 1 diabetes mellitus, Tresiba® is to be used with short/rapid acting insulin. Administration by subcutaneous injection only. Tresiba® is available in 100 units/mL. For Tresiba® 100 units/mL a dose of 1–80 units per injection, in steps of 1 unit, can be administered. When initiating patients with type 2 diabetes mellitus the recommended daily starting dose is 10 units. Transferring from other insulins; in type 2 diabetes changing the basal insulin to Tresiba® can be done unit-to-unit, based on the previous basal insulin component; in type 1 diabetes the same applies apart from where transferring from twice-daily basal insulin or patients with an HbA_{1c} <8.0%, the Tresiba® dose needs to be determined on an individual basis with a dose reduction considered. Doses and timing of concomitant treatment may require adjustment. In all cases doses should be adjusted based on individual patients' needs; fasting plasma glucose is recommended

to be used for optimising glycaemic control. In elderly patients and patients with renal/hepatic impairment glucose monitoring should be intensified and the dose adjusted on an individual basis. Tresiba® comes in a pre-filled pen, FlexTouch®, designed to be used with NovoFine®/NovoTwist® needles. **Contraindications:** Hypersensitivity to the active substance or any of the excipients. **Special warnings and precautions:** Too high insulin dose, omission of a meal or unplanned strenuous physical exercise may lead to hypoglycaemia. Reduction of warning symptoms of hypoglycaemia may be seen upon tightening control and also in patients with long-standing diabetes. Administration of rapid-acting insulin recommended in situations with severe hyperglycaemia. Inadequate dosing and/or discontinuation of treatment in patients requiring insulin may lead to hyperglycaemia and potentially to diabetic ketoacidosis. Concomitant illness, especially infections, may lead to hyperglycaemia and thereby cause an increased insulin requirement. Transferring to a new type, brand or manufacturer of insulin should be done under strict medical supervision. When using insulin in combination with pioglitazone, patients should be observed for signs and symptoms of heart failure, weight gain and oedema. Pioglitazone should be discontinued if any deterioration in cardiac symptoms occurs. Patients must be instructed to always check the insulin label before each injection to avoid accidental mix-ups between the two strengths of Tresiba® and other insulins. Hypoglycaemia may constitute a risk when driving or operating machinery. **Pregnancy and lactation:** There is no clinical experience with use of Tresiba® in pregnant women and during breastfeeding. Animal reproduction studies with insulin degludec have not revealed any adverse effects on fertility. **Undesirable effects:** Refer to SmPC for complete information on side effects. Very common (≥1/10); common (≥1/100 to <1/10); uncommon (≥1/1,000 to

* Applies to the adult population only

<1/100); rare (≥1/10,000 to <1/1,000); very rare (<1/10,000); not known (cannot be estimated from the available data). Very common: Hypoglycaemia. Common: Injection site reactions. Uncommon: Lipodystrophy and peripheral oedema. Rare: Hypersensitivity and urticaria. With insulin preparations, allergic reaction may occur; immediate-type allergic reactions may potentially be life threatening. Injection site reactions are usually mild, transitory and normally disappear during continued treatment.

References: 1. Rodbard HW, et al. on behalf of the BEGIN Once Long Trial Investigators. Comparison of insulin degludec with insulin glargine in insulin-naïve subjects with Type 2 diabetes: 2-year randomized, treat-to-target trial. *DIABETIC Medicine* 2013;30(11):1298–304. 2. Bode BW, et al. on behalf of the BEGIN Basal-Bolus Type 1 Trial Investigators. Insulin degludec improves glycaemic control with lower nocturnal hypoglycaemia risk than insulin glargine in basal-bolus treatment with mealtime insulin in part in Type 1 diabetes (BEGIN Basal-Bolus Type 1): 2-year results of a randomized clinical trial. *DIABETIC Medicine* 2013;30(11):1293–297. 3. Tresiba® Packing Insert. 4. Jonassen, et al. Design of the novel protraction mechanism of insulin degludec, an ultra-long-acting basal insulin. *Pharmaceutical Research*. 2012;29(8):2104-2114.

FlexTouch®, NovoFine®, NovoTwist®, and Tresiba® are registered trademarks of Novo Nordisk A/S.



changing diabetes

At Novo Nordisk, we are changing diabetes. In our approach to developing treatments, in our commitment to operate profitably and ethically and in our search for a cure.

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TRESIBA[®]
 insulin degludec [rDNA origin] injection