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1. 腎石 - 何時才需要開刀？(下)

Surgical Management of Urinary Stones (Part 2)

作者：陳計勤 醫生，泌尿科專家
Dr. Jonathan E. Chan MD, FRCSC
譯者：肖小燕 藥劑師
Ms XiaoYan Xiao BSc Pharm

Abstract

More than a million kidney stones are diagnosed in the United States each year. 1 in 10 Americans will suffer from a kidney stone during their lifetime. This accounts for 7-10 hospital visits per 1,000 admissions. The incidence of stone disease may be increasing because of dietary and climate changes. It is more prevalent in ages 35-45. In issue 38, the symptoms of kidney stones , how kidney stone are diagnosed, what are the compositions of stones were discussed. Base on the stone size, location, composition, and number of stones, the appropriate treatment can be determined.

In general, you will likely need surgery if your stones are large enough to block urine flow, if they are potentially harmful to your kidneys, or if they are causing infection or symptoms not treatable with medication.

The 3 primary surgical treatments include: (1) Shock Wave Lithotripsy (ESWL) (2) Ureteroscopy (URS) and laser lithotripsy and (3) Percutaneous Nephrolithotomy (PCNL). In this issue, these treatment options would be presented. The risks and potential complications are also discussed.

在第38期，腎石 - 何時才需要開刀？(上)一文提到腎石可根據其構造，分為四類：即鈣(calcium)石，鳥糞(struvite) 石，尿酸 (uric acid) 石和胱氨酸 (cystine) 石。其中鈣 石佔 75% - 85%。鈣石可分為草酸鈣 (calcium oxalate) 或磷酸鈣 (calcium phosphate)。一旦結石的大小，位置，構造和結石的數目通過檢查確認後，我們就可以決定合適的治療方法。

有那幾種腎結石手術供我們選擇呢？

做腎結石手術的首要目的是選擇最少傷害，盡量低成本和手術後容易康複的方法把腎石拿出。

通常來說，如果結石很大，造成尿路堵塞，有可能損害你的腎臟；或者已有感染或導致不能用藥物治癒的症狀，你就需要手術治療。

有三種主要的手術方法包括:

1. 衝擊波碎石術(extracorporeal shock wave lithotripsy)(ESWL)
2. 輸尿管鏡(ureteroscopy)(URS)和激光碎石術(laser lithotripsy)
3. 經皮腎鏡取石術 (percutaneous nephrolithotomy)(PCNL)

(1) 衝擊波碎石術 (ESWL)

衝擊波碎石術是用一種叫碎石機的設備在體外通過皮膚和組織發射一種衝擊波。

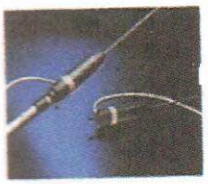
手術是在深度鎮靜和全身麻醉的情況下進行。採用超聲和透視系統定位來發射衝擊波，這些衝擊波對準結石，導致結石粉碎。

我們可能需要多次碎石來排出全部的腎/尿管結石的碎片，同時病人可能需要安置輸尿管支架(一種細小的管子穿過膀胱通入尿道和腎臟)或加上者其他程序處理。

- 孕婦，病人肥胖，結石以下尿路阻塞，腹主動脈腫脹，尿道感染或有無法糾正的血凝結缺陷疾病的患者均不宜採用衝擊波碎石術。
- 對於某些類型的結石，如胱氨酸結石，一水草酸鈣結石，衝擊波碎石術是無效的。
- 衝擊波碎石術對於大的結石 (>2.5 cm) 以及在腎臟下方的結石也不是很有效。
- 併發症包括血尿, 淤青和腰部絞痛。

體外沖擊波碎石術所用的儀器

Instrument for shock wave lithotripsy (ESWL)



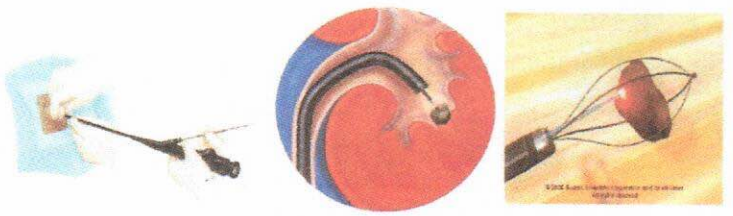
ESWL

EMS Swiss LithoClast® Select

(2) 輸尿管鏡和激光碎石術 (URS)

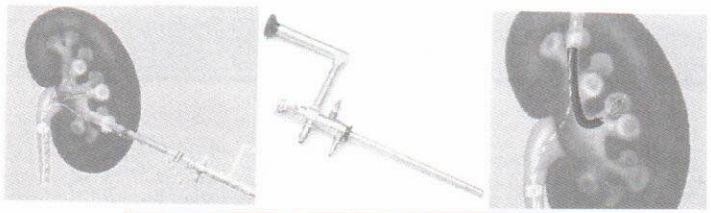
這種治療用一個非常細的光纖設備叫做輸尿管鏡，它可以伸到腎臟或輸尿管中的結石。輸尿管鏡通過膀胱到達輸尿管，讓泌尿科醫師可以直接看到你的結石影像。這種方法不需要在身上做任何切口，但通常需要全身麻醉。

一旦通過輸尿管鏡找到結石，我們可以通過激光把結石粉碎，然後通過一個類似小籃的裝置，抓住更小的結石並完全從患者身體移除。大多數情況下，要放一個支架在輸尿管裏面，來減弱 因為手術後腫脹和其他反應而引起的問題。



輸尿管鏡取石的做法

1. 在輸尿管裡找到腎石 2. 進行碎石手術
3. 把碎石塊取出 4. 留一通管排出液體和愈合

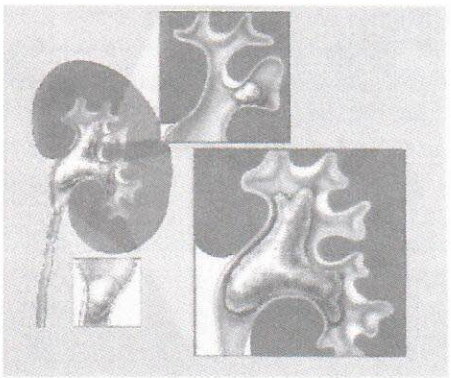


經皮層穿刺至腎取石術(PCNL)的做法

1. 找到腎石 2. 進行碎石手術 3. 用抽氣或籃子把石取出
4. 放置通管和尿導管排出小便和幫助愈合

(3) 經皮腎鏡取石術 (PCNL)

經皮腎鏡取石術適用於：大的結石(>2.5cm)位於腎臟且不能採用衝擊波碎石術和輸尿管鏡碎石術來治療。



在腎盂的巨大腎石(stanghorn calculus)的治療方法多是用經皮層穿刺至腎取石術
Percutaneous Nephrolithotonry (PCNL)

- 需要全身麻醉以及在腰部開一個小的切口(大約1cm)。在X光線的引導下，泌尿科醫師用一根纖細的穿刺針直接從切口進入腎臟到達輸尿管並通過擴張，形成了一個手術通道。
- 置入腎鏡，使用超聲探頭碎石或激光擊碎結石。大的手術通道使得大的手術設備易於放置，從而保證結石碎片高清除率。
- 手術完成後，腰部會留有一個導管用來引流腎臟的積液。這個導管一般會放置過夜或幾天。

手術後需注意什麼呢？

手術後康復的時間是不同的，如果手術介入程度較少，那恢復的時間就會很快。

衝擊波碎石法 (ESWL)

病人通常可以當天出院，同時需要飲用足夠的水來幫助結石碎片通過輸尿管排出，有可能會出現腰部疼痛。如果有大的碎片存在，病人需要重複衝擊波碎石法或其他手術。手術後安放的支架管可能會導致膀胱不適，尿頻，血尿和腰部疼痛。支架通常會在手術後一到三周內移除。

輸尿管鏡下碎石法 (URS)

病人通常可以當天出院。 在2-3天內患者可以恢復正常的日常活動。如果放置了輸尿管支架的話，將會在一到三周內被移除。

經皮腎鏡取石術 (PCNL)

病人通常需要留院觀察一個晚上。患者需要額外的X光檢查來確認是否有結石碎片殘留。如果還有碎片的話，可以通過現有的管道重複手術來移除。一旦所有的結石被清除出來後，放置的導管也會被移出。病人通常會在一到兩周內恢復正常，被放置的輸尿管支架也會在一到三周內移除。

做腎結石清除手術有什麼潛在的風險和併發症？

普通的風險包括可能有感染或流血，對於採用體外衝擊波術和輸尿管鏡碎石術的患者來說，發生的機率比較低。醫生在手術後通常會開抗生素來預防感染。

對於採用**體外衝擊波術**的病人，必須在手術前一周停止服用阿司匹林，非類固醇抗炎藥(如布洛芬ibuprofen)和其他的稀血藥，這樣可防止腎臟周邊的大出血。手術後的長期觀察顯示治療後血壓可能會有輕微升高(1.47倍風險)和可能會增加患糖尿病 風險 (3.75倍風險)。

對於採用**輸尿管鏡碎石術**的患者，有很小的可能性會在手術過程中造成尿道的損害。需要安置支架2-3周才康復。尿道被完全撕裂的可能性則小於1%。

對於採用**經皮腎鏡取石術**的患者，如果通尿管道是放於腎的上半部分，有1%的機會會在肺中形成液體或者氣泡，這情況可用肺部插管來治療。其他比較少的併發症包括損壞腎盂和其他腎臟內的連接組織和血管。

在手術後我會有劇烈的疼痛嗎?

在治療手術後有一些不舒適是肯定難以避免的，手術的不舒適度直接和手術侵入的程度有關，在手術後恢復過程中，你的泌尿科醫生會給你一些處方藥來減輕疼痛和膀胱尿道的不舒適感。

我需要多少次的治療？

重複治療的機率取決於結石的大小，硬度，和它處在腎的下半部分的位置。

陳計勤 醫生
先進腹腔鏡 微創 內鏡 腫瘤 不育 泌尿科（外科）
電話: (647) 776-3383　　傳真: (647) 776-3382

2. 腎結石患者的飲食需知
Diet for Kidney Stone Sufferers

作者： 李美儀 註冊營養師
Louisa Li Registered Dietitian
譯者： 陸汶遜 先生
Mr. Man Shun Luk

引起腎結石的主要腎石種類為草酸鈣(calcium oxalate)結石和尿酸(uric acid)石。

1. 草酸鈣 (calcium oxalate) 結石

草酸鈣腎結石是腎結石的主要類型。這種腎結石是由鈣和草酸形成。

草酸(Oxalate)：是天然存在於許多食物裡的。

包括水果，蔬菜，堅果和籽仁，穀物，豆類；甚至巧克力和茶葉中。一些含高濃度草酸鹽的食物包括：花生，大黃(rhubarb)，菠菜，甜菜頭，巧克力和甜薯。雖然一些研究表示，限制高草酸食物可能有助於降低你形成草酸鈣結石的機會。然而，許多高草酸的食物是非常健康的食物，如果沒有必要不要過分限制自己的飲食。尿液中，當草酸結合鈣，便形成草酸鈣腎結石。

新的研究顯示，飲食和用餐時，同時進食含鈣和草酸豐富的食物，比限制草酸食物，是更好的方法。這樣，鈣和草酸在胃和腸道綁定，使它不能在腎裡形成結石。

鈣 (Calcium)：需要避免進食含鈣高的食物嗎?

研究顯示，飲食內低鈣反而會增加患腎結石的風險。所以你不需要避免含鈣高的食物，重點是要避免在尿液中排出過高的鈣，如你尿中有高鈣排出，會增加腎結石形成。過多的鈉(鹽)攝入量會增加鈣的排出。多餘的鈉會導致你失去更多的鈣在你的尿液，增加你患有腎結石的風險。

要注意的重點：

- 飲食要包含高鈣的食物。
- 努力削減在你的飲食中的鈉。限制鈉的飲食.你的醫生可能會建議你限制鈉的攝入量為每天2000毫克以下。有“隱性”鈉包含在如罐頭或商業加工食品，餐廳準備的食物和快餐食品。營養師可幫你了解標簽和調整納的攝入量。
- 把包含鈣高和包含草酸高的食物，一起進食。

2. 尿酸 (uric acid) 石

腎結石的另一種常見的類型是尿酸石。紅肉，貝殼類食物。含有高濃度的嘌呤(purine)。高嘌呤攝入可導致較高的尿酸，形成尿酸石。

為了防止尿酸結石，減少高嘌呤食物，如紅肉，動物內臟，貝殼類，並跟隨健康的飲食，主要包括蔬菜，水果，全穀類和低脂肪的乳製品。

限制含糖食品和飲料，特別是那些含有高果糖玉米糖漿。因為這些糖會增加血液中的尿酸水平。少吃動物性蛋白質和多吃水果和蔬菜有助於降低尿的酸度，這將有助於減少尿酸石形成。

如何預防或避免腎結石？

- 喝足夠的水是可避免腎結石最好的措施之一為了減少你形成腎結石的危險，你需要喝足夠的水。水是非常重要的。在炎熱的天氣裡，你可能需要喝更多，以彌補出汗流體損失。這將有助於保持你的尿液濃度較低。低濃度尿液減少形成腎結石的風險。

- 增加檸檬酸 (Citrate)

有研究表明，青檸，檸檬汁和其他水果和果汁中的高檸檬酸(Citrate)可以天然地減低腎結石的風險。資料顯示，檸檬酸在尿中可能阻止鈣與其它成分形成腎結石。另外，檸檬酸可以防止已經結合的晶體變得越來越大。請注意，應選擇不含糖或低糖的青檸，檸檬汁和其他果汁，以減少進食過多果糖。

- 減少蛋白質

減少動物蛋白的攝入量也可有所幫助。動物蛋白質的來源包括牛肉，雞肉，豬肉，魚和蛋。請與您的醫生或營養師相量，以確保你的蛋白質攝入量是足夠的，但不要太多。

營養補充劑和患腎結石的風險

研究顯示服用鈣補充劑有增加患腎結石風險的可能性，包括鈣和維生素D補充劑。給取身體需要的鈣質，選擇天然含豐富鈣質的食物應是首選。如果補鈣是必要的，飲食和鈣補充劑的總攝入量，每天應不超過2000 毫克。

Abstract

Diabetes is a complicated disease and if not managed prudently can lead to multi-system complications. In August 2015, the Canadian Diabetes Association (CDA) had issued an interim commentary addressing the approval of a new class of anti-hyperglycemic agents called sodium glucose linked transporter 2 (SGLT2) inhibitors for the management of diabetes.

The CDA also incorporated this new class of drugs in its algorithm of adding anti-hyperglycemic agents in the management of diabetes. After lifestyle intervention, if A1C(glycated hemoglobin that measures the average glucose levels for the past three months) level is > 8.5%, metformin is recommended as a first line treatment. If the blood A1C level is still > 7.0% after 2- 4 months, a second agent should be considered. The anti-hyperglycemic agents can be classified into seven main groups .

1. The biguanides (e.g. metformin) : this class of drugs decreases blood glucose levels by decreasing hepatic glucose production, decreasing intestinal absorption of glucose, and improving insulin sensitivity by increasing peripheral glucose uptake and utilization.

2. Alpha-glucosidase inhibitor (e.g. acarbose) : Alpha-glucosidase inhibitors work by preventing the digestion of carbohydrates (such as starch and table sugar).

3. Incretin agents : the two types of incretin agents are dipeptidyl peptidase 4 (DPP 4) inhibitors (e.g. sitagliptin and saxagliptin) and glucagon like peptide- 1(GLP-1) receptor agonists (e.g. liraglutide)

a. DPP4 inhibitors work by blocking the action of DPP-4, an enzyme which destroys the hormone incretin. Incretins help the body to produce more insulin only when meals are ingested and reduce the amount of glucose being produced by the liver when it is not needed. The net effect is to increase release of insulin from the pancreas after a meal.

b. GLP-1 is produced from the proglucagon gene in L-cells of the small intestine and is secreted in response to nutrients. GLP-1 is one type of incretin hormone. GLP-1 binds to a specific GLP-1 receptor, which is expressed in various tissues including pancreatic beta cells, pancreatic ducts, gastric mucosa, kidney, lung, heart, skin, immune cells, and the hypothalamus. GLP-1 exerts its main effect by stimulating glucose-dependent insulin release from the pancreatic islets. It has also been shown to slow gastric emptying, inhibit inappropriate post-meal glucagon release, and reduce food intake. The GLP-1 receptor agonists is an injected drug. They mimic the action of GLP-1 and increase the incretin effect, stimulating the release of insulin.

4. Insulin: Insulin breaks down glucose for the body to use.

5. Insulin secretagogues : there are two types of insulin secretagogues : meglitinide and sulfonylurea.

a. Examples of meglitinide are. repaglinide and nateglinide. They stimulate the beta cells in the pancreas to produce more insulin.

b. Sulfonylurea (e.g. glyburide and gliclazide) improves insulin secretion from the functioning beta cells of the pancreas. It potentates the insulin release, improves the dynamics of insulin.

6. SGLT2 (sodium glucose linked transporter 2) inhibitors (e.g. canagliflozin (Invokana) and dapagliflozin. SGLT2 is a glucose transporter located in the proximal tubule in the kidneys. It is responsible for 90% of glucose re-absorption. Inhibition of SGLT2 leads to the decrease in blood glucose due to the increase in renal glucose excretion.

In May 2015, the FDA in the States has issued a notice reporting cases of diabetics treated in hospitals for diabetic ketoacidosis (DKA). All had been taking SGLT2 inhibitors. There is no evidence that these cases are directly linked to the SGLT2 inhibitors. It has been noticed dehydration, infection, severe illnesses, not eating, a high-protein and high-fat diet, etc can cause ketoacidosis. DKA is a condition with dangerously high acid levels in the bloodstream. It happens when the body breaks down fat instead of glucose for energy, releasing acidic compounds called ketones. Early symptoms include thirst, frequent urination and sweet, fruity breath. You may feel tired and develop nausea, stomach pain, vomiting and difficulty breathing. If a diabetic on medication notices symptoms such as vomiting, can't catch your breath, one should go to the hospital.

7. Thiazolidinediones (glitazones) : (e.g pioglitazone) Glitazones works by reducing insulin resistance and improving insulin sensitivity, allowing the insulin that the body produces to work more effectively. It also helps to protect the cells in the pancreas, allowing them to carry on producing insulin for longer.

The CDA site also provides information on the efficacy of the drug, the risk of hypoglycemia, their effects on the body weight, their prices and other issues to consider on these classes of drug. For details, please visit **www.cda.ca**

With so many drugs to choose from , how are we going to decide which is the best option for the patients?

Health care providers make decisions base on scientific evidence. In the CDA's recommendation, other factors to consider are the degree of hyperglycemia, risk of hypoglycemia, patients' BMI (body mass index), co-morbid conditions such as patients' renal, cardiac and hepatic status, preference of patients and sometimes drug coverage are all factors that need to be taken into consideration.

Metformin and sulfonylureas are two of the first available anti-hyperglycemic medication and have been most widely used as first and second line anti-hyperglycemic agents until now. DPP4

inhibitors has been available for a few years and SGLT2 inhibitors is the newest agent .

In the 2013 September issue of Diabetes Care published by the American Diabetes Association, an article by Dr.G. Schernthaner entitled **Canagliflozin compared with Sitagliptin for Patients with Type 2 Diabetes Who Do Not Have Adequate Glycemic Control With Metformin Plus Sulfonylurea** to assess the efficacy of a DPP4 inhibitor (sitagliptin)and SGLT2 inhibitor (canagliflozin) was published.

The purpose of the study was to evaluate the efficacy and safety of canagloflozin compared with sitagliptin in subjects with type 2 diabetes inadequately controlled with metformin and sulfonylurea. The study took place from mid 2010 to early 2012 involving 140 centres and 17 countries. 756 patients were selected from a pool of 1672 patients. Equal number of patients were randomized to receive either canagliflozin 300 mg daily or sitagliptin 100 mg daily. Patients were deemed eligible if they were over 18 years old with type 2 diabetes and not adequately controlled on metformin and sulfonylurea with A1C values between 7.0% and 10.5%. Mean age was 56.7 years, mean A1C level was 8.1%, mean fasting plasma glucose (FPG) was 9.3 mmol/L and mean body weight was 88.3 kg. People with poor kidney function indices were excluded from study.

A1C levels, fasting glucose levels, patients' kidney status (measured by creatinine / glumerular filtration rate {GFR} levels), the patients' body weights and their systolic blood pressures were all monitored at 6 weeks increments up till 52 weeks.

The following results were obtained.

	Canagliflozin (Invokana)arm	Sitagliptin arm	conclusion
Mean baseline A1C levels %	8.1 %	8.1%	
Mean baseline Fasting plasma glucose (FPG) level mmol/L	9.4	9.1	
Mean A1C levels at 12 weeks	7.1%	7.1%	
Mean A1C levels at 52 weeks	7.05%	7.45 %	
Mean change in A1C at 52 weeks	-1.03%	-0.66%	A1C reductions were comparable in the two arms at 12 weeks. At 52 weeks, canagliflozin arm resulted in 0.37% more reduction in A1C levels.
Mean % change in body weight at 52 weeks	-2.5%	0.3%	Canagliflozin arm resulted in 2.5 % greater reduction in weight while sitagliptin arm is weight neutral or even resulted in a small weight gain.
Mean change in fasting plasma glucose at 52 weeks	-1.7 mmol/L	-0.3 mmol/L	The canagliflozin arm resulted in 1.4 mmol/L more reduction in FPG level
Change in systolic blood pressure	-5.1 mmHg	0.9 mmHg	Canagliflozin demonstrated greater reduction in systolic blood pressure

After 52 weeks, the reduction in A1C was greater with canagliflozin than with sitagliptin (1.03% - 0.66% = 0.37%). With canagliflozin, A1C levels were consistently lower during the 52 weeks; with sitagliptin, A1C increased after week 12. Using statistical analysis parameters, canagliflozin met both non-inferiority and superiority criteria compared to sitagliptin.

Subjects in the canagliflozin group lost weight, whereas those in the sitagliptin group gained weight (–2.5% vs +0.3%). Fasting plasma glucose decreased more with canagliflozin than with sitagliptin (- 1.7 vs - 0.3 mmol/L). It was also found that systolic blood pressure decreased with canagliflozin, whereas it increased with sitagliptin.

The canagliflozin and sitagliptin groups had similar rates of adverse events. Discontinuation rates related to adverse events were slightly higher in the canagliflozin group (5.3% vs 2.9%). There was a higher percentage of adverse events consistent with superficial genital fungal infections with canagliflozin in women (15.3% vs 4.3%) and in men (9.2% vs 0.5%). Both groups had similar rates of urinary tract infections. The proportion of subjects having hypoglycemia episodes were similar in both groups.

Another observation was subjects on canagliflozin experienced an increase in low-density lipoprotein (LDL) cholesterol (11.7% vs 5.2%). However, it was accompanied by an increase in high-density lipoprotein (HDL) cholesterol (7.6% vs 0.6%). Schernthaner explained the mechanism behind it is unclear.

From this study, Dr. Schernthaner reported that with canagliflozin, the patients achieved greater reduction in A1C, greater reduction in body weight, a decline in blood pressure than sitagliptin with similar adverse effects of hypoglycemia. For diabetic patients that needed combination therapies addition of canagliflozin (Invokana) presents as a new therapeutic option to consider in assisting to achieve A1C target.

The important advance in the management of diabetes as a consequence of introduction of this new class of SGLT2 inhibitors such as canagliflozin (Invokana) and dapagliflozin have prompted the Canadian Diabetes Association to issue the interim update to the clinical guideline in diabetes management in 2015 ahead of the regularly scheduled update in 2018. In late July 2015, canagliflozin (Invokana) has been included in the Ontario Drug Benefit Formulary as a general listing product. This means patients over 65 years of age as well as those patients that are covered under the Trillium Drug Program are also eligible if needed. This is good news to diabetics as a new oral medication is available for consideration before the insulin injection option. For readers that are diabetic, please consult your own physician to discuss whether this new medication is the best option for you.

糖尿病是一複雜的疾病，如果不謹慎處理，可導致多系統併發症。

在2015年8月加拿大糖尿病協會 Canadian Diabetes Association(CDA)發出一中期資訊關於一類新批准售的降血糖藥。這藥屬鈉葡萄糖共用轉運工具2型(SGLT2)抑制劑。SGLT2 的全名為sodium glucose linked transport 2 。CDA把這藥物納入在選用糖尿病藥物時，CDA建議的先後步驟的圖表中。治療糖尿病的步驟，應先從改變生活方式著手，如果糖化血紅蛋白(A1C){A1C(glycated hemoglobin)是一顯示病人前三個月的血糖控制指標}的水平>8.5%，通常服用二甲雙胍(metformin)是作為第一線治

治療糖尿病藥物的類型,英中名稱對照及在本文內的簡稱

		藥類	中文名稱	簡稱	例子
1		biguanide	雙胍類		Metformin 二甲雙胍
2		Alpha-glucosidase inhibitor	α葡萄糖苷酶抑製劑		Acarbose 阿卡波糖
3		Incretin agents	影響腸促胰島素(incretin)作用類藥		
	a	Dipeptidyl peptidase 4 inhibitors	二肽基肽酶-4抑制劑	DPP4 inhibitors (DPP4 抑制劑)	Sitagliptin 西他列汀 Saxagliptin 沙格列汀
	b	Glucagon like peptide -1 Receptor agonists	胰高血糖素樣肽 1受體激動劑	GLP-1 receptor agonists (GLP-1 受體激動劑)	Liraglutide 利拉魯肽
4		insulin	胰島素		
5		Insulin secretagogue	刺激胰島素分泌劑		
	a	meglitinide	格列奈		repaglinide 如 瑞格列奈 nateglinide 和那格列奈
	b	Sulfonylurea	磺酰脲素(磺酰基尿素)		Glyburide 格列本脲 Gliclazide 格列齊特
6		Sodium glucose linked transporter 2 inhibitors	鈉及葡萄糖共用的轉運工具 2 型抑制劑	SGLT2 inhibitors (SGLT2 抑制劑)	Canagliflozin (Invokana) Dapagliflozin
7		Thiazolidinediones (glitazones)	噻唑烷二酮	TZD	Pioglitazone 吡格列酮

療的標準藥物。如果2-4個月後，如血內糖化血紅蛋白水平仍是>7.0%，應考慮添加第二類藥物。降糖藥物主要可分為七類。每一藥物有全名，簡化稱號。有些有中文譯名，有些沒有。有些名稱很長，現先做一對照表，讓各讀者知道文內所提到的名稱，究竟是什麼藥物。再談其作用。

1. 雙胍類 (biguanide)：

如二甲雙胍 (metformin) 這類藥通過減少從肝產生的葡萄糖，降低在腸內吸收糖份，並通過增加外週葡萄糖攝取和運作來提高胰島素的效用達至降低血糖水平。

2. α-葡萄糖苷酶抑制劑(alpha glucosidase inhibitor)：

α-葡糖苷酶抑制劑的作用是通過阻止碳水化合物（例如澱粉和蔗糖）的消化來降低血糖的。

3. 影響腸促胰島素 (incretin) 作用類藥：

兩種靠影響腸促胰島素而起作用的藥類為二肽基肽酶-4 (DPP4) 抑制劑 (DPP-4 Inhibitors) 和胰高血糖素樣肽-1 (GLP-1) 受體激動劑 (GLP-1 receptor agonists)。

當我們進食時，腸促胰島素(incretin)幫助身體產生胰島素來消化糖份。腸促胰島素也可以在我們不需要糖時，降低在肝臟所產生的糖份。DPP-4是一可破壞腸促胰島素的酵素。DPP-4抑制劑則通過阻斷DPP-4的作用，令腸促胰島素能繼續發揮作用，產生胰島素，來消化糖份，達到降低血糖的目的。

另外，當我們進食時，小腸內L細胞所含的原胰高血糖素原基因 (proglucagon gene) 產生胰高血糖素樣肽-1(GLP-1)。GLP-1屬腸促胰島素的一種。GLP-1與GLP-1受體捆綁。捆綁後的主要功效是刺激胰臟細胞，當攝入葡萄糖時，產生胰島素。特定的GLP-1受體位于各樣組織，包括胰腺β細胞，胰管，胃粘膜，腎，肺，心臟，皮膚，免疫細胞等。GLP-1與GLP-1受體捆綁也有緩慢胃排空，抑制不適當餐後高血糖素(glucagon)釋放，並減少胃口。GLP-1受體激動劑是一種注射入皮下的藥物。它模擬GLP-1的運作，與GLP-1受體捆綁，產生胰島素，來降低血糖。

4. 胰島素 (insulin)：

注射胰島素可直接幫助我們進食後，消化血糖。

5. 刺激胰島素分泌劑 (Insulin secretagogue)：

顧名思意，這類藥可刺激胰臟產生胰島素。這類藥有兩類。Meglitinide刺激胰腺β細胞產生更多的胰島素。這類藥現較少用。第二類叫磺酰脲素(sulfonylurea)，這藥可令尚有功能的胰腺β細胞，增加它分泌出來的胰島素。這藥除了加強分泌胰島素，也提高胰島素的功效。例子是格列本脲(Glyburide)和格列齊特好(Gliclazide)。

6. 鈉及葡萄糖共用的轉運工具2型(SGLT2)抑制劑：

SGLT2是一在腎裏的鈉和糖的轉運工具。它負責從腎內細管裏吸回90%的糖份到血液裏。SGLT2抑制劑抑制這轉運工具的吸回糖份的作用，令血糖減少和增加在腎裏排泄出的糖份。這類藥是canagliflozin(Invokana)和dapagliflozin。

2015年5月美國藥物監察局發出一通知提及有些糖尿病患者在醫院治療 diabetic ketoacidosis (DKA)，發覺這些病人有服用過SGLT2抑制劑類藥。目前沒有證明這情況與SGLT2抑制劑有直接關聯。醫護人員觀察到脫水，感染，節食，攝入高蛋白質和高脂肪的飲食習慣等情況與DKA有關。DKA這情況是血內的酸性過高所致。當人體分解脂肪而不是葡萄糖作為攝取能量時，釋放酸性化合物稱為酮。早期症狀包括口渴，尿頻，甜，果香氣息。你可能會覺得累和噁心，胃痛，嘔吐和呼吸困難。如果你注意到有嘔吐，不能喘氣等，便需要去醫院檢查血糖和診斷其他指數。

7.噻唑烷二酮(Thiazolidinediones)(又稱為格列酮)(glitazones)：格列酮類藥的作用是通過降低胰島素拒抗性和提高胰島素的感應性能，從而使體內所產生的胰島素能夠更有效地運作，消化血糖。它也有助於保護胰腺中的細胞，使它們能持久生產胰島素。現在這類型藥因它可能對有心臟有副作用而少用。

CDA的圖表尚有其他的資料，如藥的藥效，低血糖的發生率，各藥對體重的影響，價錢及其他需要注意的事項，則不是本文討論的範圍，請瀏覽CDA網址。**www.cda.ca**

既然有了這麼多的藥物，我們怎麼樣選擇服用哪種藥呢？

醫生通常是基於研究數據，建議病人服用那一類降血糖藥物。加拿大糖尿病協會CDA建議，選擇藥物時，需要考慮的因素包括血糖高到什麼情度，新藥物引起低血糖的機會，病人者的身體質量指數body mass index（BMI），病人其他狀況：腎，心臟和肝臟狀態。及患者有沒有藥物保險也應在考慮的範圍。

二甲雙胍(metformin)和磺酰脲素類(sulfonylurea)是兩類最早期供我們使用的降糖藥物。直至最近，仍被廣泛使用作為第一和第二線的降血糖藥物。DPP4抑抑制劑已經上市了幾年，而SGLT2抑制劑則是最新的降糖藥物。

2013年9月美國糖尿病協會 American Diabetes Association 所刊印的糖尿病護理 Diabetes Care 刊登了一篇 Dr.G. Schernthaner 的研究。這研究名為**在已服用了二甲雙胍加磺酰脲素但血糖尚未受控制的糖尿病患者，比較加服SGLT2抑制劑（canagliflozin）或DPP4抑制劑（sitagliptin）的療效**。

這研究是在2010年中到2012年初做的。在140中心和17個國家進行，從1672名患者中選出756患者。參加者需是18歲以上的2型糖尿病患者。服用了二甲雙胍和磺脲類藥物，血糖尚未受控制。糖化血紅蛋白值A1C仍在7.0%和10.5%。(通常A1C的目標為7.0%以下。)他們的平均年齡為56.7歲，平均血紅蛋白水平為8.1%，平均的空腹血糖為9.3mmol/L。平均體重為88.3公斤。有腎病者不被納入研究。

患者被隨意分配接受每天加服 canagliflozin 300 mg或sitagliptin100mg。參加者的A1C水平，空腹血糖水平，腎臟情況{量度肌酐creatinine/腎絲球過濾水平glumerular filtration rate (GFR)} 和參加者的體重每6 週被監測至52週為止。

52週後，服用canagliflozin那一組的A1C水平下降多了0.37%。(1.03% - 0.66%=0.37%)。雖然在12週時，用canagliflozin和sitagliptin兩者的A1C水平所降低的數量差不多。12週後，服用sitagliptin者的A1C水平開始回升。52週後，服用Canagliflozin那一組的體重減輕，而服用sitagliptin那些患者的體重反有增加(-2.5%對比+0.3%)。在Canagliflozin那一組的空腹血糖指數也比sitagliptin 那一組 多下降了1.4 mmol/L(- 1.7 mmol/L 對比 - 0.3 mmol/L)。另外， 研究人員還發現，Canagliflozin那組的收縮壓，也比sitagliptin那組的收縮壓下降多些。

Dr.G. Schernthaner所提交的結果如下：

	服用 canagliflozin 300 mg 者	服用 sitagliptin 100 mg 者	結論
平均起初基線 A1C 水平%	8.1%	8.1%	
平均起初基線空腹血糖水平 mmol/L	9.4	9.1	
12 週時的平均 A1C 水平	7.1%	7.1%	12 週時的 A1C 的下降度數差不多
52 週時的平均 A1C 水平	7.05%	7.45%	
52 週後的平均 A1C 變化	-1.03%	-0.66%	在 52 週後，服用 canagliflozin 者 A1C 水平下降多了 0.37%。
52 週時的平均體重變化	-2.5%	0.3%	服用 Canagliflozin 導至體重降低 2.5%，而服用 sitagliptin 的體重有降低，反增加了 0.3%。
52 週時空腹血糖的平均變化	-1.7 mmol /L	-0.3 mmol/L	服用 canagliflozin 者的空腹血糖水平多降了 1.4mmol/L
52 週時 的收縮壓的平均改變	-5.1 mmHg	0.9 mmHg	數據顯示 canagliflozin 降收縮壓幅度較多

兩組對藥的副作用的發生率相似。在Canagliflozin那組，因副作用而停藥的比率略高(5.3%對2.9%)。Canagliflozin那組有生殖器真菌感染者與Sitagliptin那一組相比，在女性是15.3%對4.3%；在男性，則是9.2%對0.5%。 兩組的泌尿道感染的發生率相似。兩組所發生的反應性低血糖的發病率相似。

另一觀察是Canagliflozin那一組的低密度膽固醇較sitagliptin那一組增加了(11.7%對5.2%)。然而，隨著增加的高密度膽固醇也增加了(7.6%對0.6%)。Dr. Schernthaner 解釋這現象的背後機制尚未清楚。

從這項研究中，Schernthaner醫生報導，Canagliflozin者的A1C下降較多，體重和血壓也下降些，而且效果持久。低血糖的發生率兩組相似。在要增加降糖藥物的患者，Canagliflozin是一可考慮的選擇。

在2015年七月下旬，Canagliflozin(Invokana)已被列入安大略省藥品福利處方 Ontario Drug Benefit Formulary的一般藥物範圍。這意味著，所有65歲以人仕和有延齡藥物計劃 (Trillium Drug Program) 覆蓋患者可經醫生處方，免費用此藥。這對糖尿病患者是一大喜訊。有多一種口服藥物供選擇，即在血糖未受控制的糖尿病病人，可延遲考慮打胰島素針。於讀者中，如有糖尿病患者，這藥物是否適合閣下用，請與你自己的醫生相量，決定這新藥是否你的佳選擇 。

4. 便秘患者最關注的五個問題
Top 5 Concerns of Patients with Constipation

作者：廖永昌醫生，腸胃科專家
Dr. Louis Wing Cheong Liu MD, MEng, PhD, FRCPC
編譯：蕭景勳 醫生
Dr. King Fun Siu MD

Abstract

Constipation is a very common condition associated with infrequent bowel movements, incomplete evacuation, excessive straining, bloating, or abdominal pain, distention or discomfort. Constipation affects women more than men and often last for 6 months or more. The objective of this article is to help patients better understand constipation and treatment options available to them.

The author of the present article, Dr. Louis Liu, a Gastroenterology Consultant and Director of the GI Clinical Motility Unit at the University Health Network, shares the top 5 concerns raised by patients with constipation.

1. Are there people with constipation like me?

• Yes, chronic idiopathic constipation (CIC) is very common. It affects as many as 9.2 million Canadians.

• Irritable bowel syndrome with constipation as the pre dominant symptoms (IBS-C) affect as many as 2.5 million Canadians. Comparing people with CIC, patients with IBS-C are more bothered by abdominal pain and discomfort. Nevertheless, patients can change between CIC and IBS-C; therefore, these two conditions are a spectrum of illness with various degree of associated abdominal symptoms.

• Only 1-in-3 patients who experience constipation consult a physician. Women are 2 times more likely to seek healthcare attention than men.

2. What are the typical symptoms experienced by patients who suffer from constipation?

• Patients with constipation can experience hard, lumpy stool that is difficult to pass or infrequent bowel movements (less than 3 times per week). Excessive straining, bloating, or abdominal pain, distention, or discomfort are also common symptoms.

• You should see your doctor if you:

- notice blood in your stool,
- are 50 or more years old with a recent onset of symptoms,
- have experienced unexpected weight loss,
- have persistent abdominal pain or vomiting.

The above symptoms may suggest a more severe cause of constipation and abdominal symptoms.

3. What are the traditional treatments available to manage constipation?

• Dietary modification: avoid food that is known to cause abdominal pain and discomfort.

• Fiber supplements are bulking agents, such as soluble fiber (psyllium) and insoluble fiber (bran), which work to increase stool size and weight, reducing the interval for which you have to wait to go to the washroom. Soluble fiber tends to cause less abdominal bloating and distention.

• Stool softeners make stool softer and easier to pass. Stool softeners have negligible effects to improve abdominal discomfort.

• Stimulant Laxatives stimulate the gut muscles to contract and squeeze harder, thereby helping to move stool along the colon and out of the rectum. A common side effect of stimulant laxatives is abdominal cramp.

• Osmotic Laxatives draw fluid into the large bowel to soften the stool, thereby causing distention and muscle contraction to pass stool. Abdominal bloating, abdominal cramp, and electrolyte abnormality are not uncommon.

• Probiotics are live microorganisms that when ingested in adequate amounts may confer a health benefit. Probiotics may help to improve abdominal symptoms in patients with IBS. Probiotics are expected to have a lesser impact on bowel movement frequency.

• Antispasmodics work to relax smooth muscle of the gut to reduce painful cramping. However, this treatment option may worsen constipation.

• Prokinetics work to stimulate the gut muscle and enhance contraction, (e.g. prucalopride, RESOTRAN™, Janssen Inc.). In Canada, RESOTRAN™ is indicated for adult women with CIC. Common side effects of RESOTRAN™ are nausea, abdominal cramp, diarrhea and headache.

• Anti-depressants work to block pain perception pathways and can relieve abdominal pain. However, anti-depressants can worsen constipation

4. What are the limitations of traditional constipation treatment options?

Overall, most of these treatments are not indicated for both IBS-C and CIC patients; even in those that are indicated, they tend to either worsen constipation or worsen associated abdominal symptoms (abdominal pain, discomfort or bloating). Because of these side effects, many patients use a combination of a number of these medications trying to gain relief of the CIC and IBS-C symptoms. However, as many as 3 out of 4 patients still are unable to gain satisfactory relief and as a consequence these patients decide to stop the medications.

5. Is there any new treatment option for constipation available in Canada?

• Yes. linaclotide (CONSTELLA®, Allergan.) is a new class of medication that was approved by Health Canada in December 2013 for the treatment of IBS-C or CIC in both adult men & women.

• Linaclotide is taken orally as either a 145 μg or a 290 μg capsule once daily, preferably on an empty stomach (30 minutes before breakfast).

• This drug not only works to increase fluid secretion into the gut to soften stools and enhance bowel movement frequency, but also decreases abdominal pain.

• Linaclotide acts locally in the gut and is minimally absorbed and therefore is not distributed throughout the body. Because the distribution of CONSTELLA® in the blood stream is negligible, the risk of drug-to-drug interaction and other systemic side effects, such as cardiovascular concerns, is very low.

• CONSTELLA® is a safe and effective treatment for both IBS-C and CIC, with the main adverse event being diarrhea.

便秘是一非常普遍的問題。癥狀包括不經常大便，大便時沒有排乾淨，排便超困難，肚脹及肚痛等等。廖醫生是大學健康網絡西方醫院的腸胃移動障礙單位的主任，與讀者分享便秘患者最關注的五個問題。

1. 有沒有其他人跟我一樣患有便秘呢？

• 有。慢性自發性便秘(Chronic Idiopathic Constipation) (CIC)非常普遍。約有九百二十萬加拿大人受此病症影響。

• 過敏性腸綜合徵 (Irritable Bowel Syndrome) (IBS) 患者中主要癥狀是便秘 (constipation) (C)者 (IBS -C) 也影響二百五十萬加拿大人。跟慢性自發性便秘患者相比，(IBS-C)患者有較多腹痛和不適。不過，病人可以由慢性自發性便秘轉變為過敏性腸綜合徵便秘；所以此兩種情況，其實是同一疾病表現着不同程度的腹部症狀。

• 患便秘的病人，每三個病人中，只有一個會向醫師求診。而女性求診的比率則是男性的兩倍。

2. 什麼是便秘患者的典型症狀？

• 便秘患者會有難以排出的硬塊狀大便，或大便次數減少(每星期少於三次)。腹痛、腹脹及需要非常用力排大便等是很常見的症狀。

• 如果發現有以下情形，都應該約見醫生求診：

- 發現大便帶血。
- 年齡超過五十歲而新近發現便秘的症狀。
- 體重無故減輕。
- 持續性的腹痛或嘔吐。

以上的微狀可能不單是便秘那麼簡單，而是其他較嚴重的病因做成便秘。

3. 什麼是便秘的傳統處理方法？

• 改善飲食習慣：避免進食已知道會做成腹痛和不適的食物。

• 附加纖維：這些是可以增加糞便體積的物質。例如可溶性纖維(車前子Psyllium)和不溶性纖維(麩Bran)。它們的作用為增加糞便的體積和重量。因而減少了每次大便相隔的時間。而可溶性纖維比較少引起腹脹。

• 大便軟化劑：使大便鬆軟，容易排出，但對腹部不適症狀沒有太大幫助。

• 刺激性瀉藥：刺激腸內肌肉收縮以增加擠壓力，因而幫助推動大便從大腸到直腸，然後排出體外。但這些刺激性瀉藥可以引起腹部抽筋的副作用。

• 滲透性瀉藥：藉著滲透作用把水份吸入腸道內使大便鬆軟，同時刺激大腸壁之肌肉收縮，幫助排便。但腹漲和抽筋及電解質不平衡等，卻很常見。

• 益生菌：這是一種活性微生物，當服食足夠的份量便可能對健康有幫助。益生菌可減輕患者的腹部不適症狀，但對腸狀的收縮頻率卻影響不大。

• 解痙劑：能幫助放鬆腸內肌肉，以感輕抽筋的痛楚，但卻可以加重便秘。

• 促動劑：能刺激腸內肌肉增強收縮(例如：prucalopride, RESOTRAN, Janssen Inc.)。在加拿大，RESOTRAN已被承認為治療成年婦女慢性自發性便秘患者的藥物。但副作用有作嘔、腹部抽筋，腹瀉和頭痛。

• 抗抑鬱劑：可以堵截痛感的傳導以減輕腹痛，但卻可以增加便秘。

4. 用傳統療法治療便秘有什麼限制?

• 總括來說，以上各種療法很多都不適用於慢性自發性便秘 (CIC) 或過敏性腸綜合徵便秘(IBS-C)的患者。就算有時用上了，它們會做成便秘惡化或使腹部不適症狀加劇。因為有這些副作用，很多患者都同時服用不同的混合療法，希望能臨時舒緩症狀。可惜每四人中會有三人仍然不能得到滿意的後果，因而決定完全停止服藥。

5. 在加拿大有什麼最新的治療便秘方法？

• 有。Linaclotide(CONSTELLA®Allergan)是一類全新的藥物。它在2013年12月經加拿大健康部門Health Canada批准使用，以治療成年男女的慢性自發性便秘(CIC)或過敏性腸綜合徵便秘 (IBS-C)。

• Linaclotide是一種145微克(μg)或290微克(μg)，每日服用一次的膠囊，最好在早餐前30分鍾，空腹食用。

• 這藥的作用不但能增加腸內液體的分泌，以軟化大便。同時亦增強腸臟的活動，也能減輕腹痛。

• Linaclotide的作用只在腸內發揮，藥物極少被吸收。所以不會分佈全身。因其極小分佈於血液內，所以藥與藥之間的相互作用，及對全身的副作用，如對心血管的影響，都非常低微。

• CONSTELLA是一有效及安全的治療慢性自發性便秘(CIC)或過敏性腸綜合徵便秘(IBS-C)的藥物，其最大的副作用是腹瀉。

5. Gardasil 9 :改進了新的預防子宮頸癌疫苗

Gardasil 9 : New and Improved Vaccine to Prevent Cervical Cancer

資料提供：Merck 教育網址
編譯：馮根英 醫生
Dr. Kan Ying Fung MD

Abstract

In Ontario, Cancer Care Ontario (CCO) issues guidelines on screening for cervical cancer, colon cancer and breast cancer. Ontarians are informed which cancer are to be screened, at what age and at what intervals. They are encouraged to contact their own physician to order these tests.

In this article, we will attempt to introduce new progress pertaining to cervical cancer. CCO recommends that sexually active females be screened for cervical cancer starting from age 21 to 70 years of age. The test is called pap test or pap smear. For clients with normal results, the screening can be repeated every three years. For patients with abnormal pap test results, physicians might recommend patients to have a test called HPV DNA to check for the presence of high risk HPV types in the cervix. HPV stands for human papillomavirus. HPV DNA testing is not publicly funded and it costs $90. Ninety percent of cervical cancers are caused by high risk human papillomavirus. There is no definitive treatment for high risk HPV DNA. Presence of high risk HPV DNA carries a higher risk for developing cervical cancer. Colposcopy is another test to be considered for further investigation of abnormal pap smear results. Further treatments such as cryotherapy, laser vaporization or loop electrosurgical excision procedure (LEEP) might be indicated.

In addition to doing pap test to screen for cervical cancer, vaccination with HPV vaccine is also an effective way to prevent cervical caner. HPV vaccine was introduced around 2007. The bivalent HPV vaccine protects against high-risk HPV types 16 and 18. The quadrivalent HPV vaccine (Gardasil) protects against high-risk types 16 and 18 and the low-risk types 6 and 11. In Ontario, the quadrivalent HPV vaccine has been available to grade 8 girls at school for a few years. In 2015, a 9-valent HPV vaccine (Gardasil 9) became available. In addition to protect against the same four HPV types as the quadrivalent vaccine, it also protects against high–risk HPV types 31, 33, 45, 52 and 58. Approximately 20% of cervical cancer is related to these five types.

Studies have shown that being vaccinated against additional HPV types 31, 33, 45, 52 and 58 can prevent more types of cervical, vulva, vaginal and anal cancers that are related to these five types of HPV. For example, the quadrivalent (protects against types 6, 11, 16 and 18) HPV vaccine can protect against 30-35% of abnormal low grade squamous intraepithelial lesions (LSIL) in the cervix while the 9-valent HPV (protects against 5 additional HPV types 31, 33, 45, 52 and 58) vaccine can protect against 50-60% of LSIL in the cervix. The 9-valent HPV vaccine also protects against higher proportion of lesions in the vulva, vagina and the anus than the 4-valent HPV vaccine.

Studies have shown that the prevalence of individual HPV types among females 14-19 years of age in the pre-vaccine and post-vaccine era decreased from 11.5% in 2003-2006 to 5.1% in 2007-2010, a decline of 56%. A reduction of HPV prevalence can lead to possibly a reduction of incidence of lesions related to HPV infection.

Between 2007 and 2010, Kang and colleagues conducted a study to determine whether vaccination with the HPV vaccine after LEEP treatment was effective in preventing recurrence of disease. In 737 patients aged 20-45 who had received LEEP treatment, 360 patients were vaccinated and 377 patients were followed without vaccination. Post-LEEP follow-up was performed at 3, 6, 9, 12, 18 and 24 months. Irrespective of causal HPV types, in the vaccinated group, 9 patients (2.5%) developed recurrence; whereas 27 patients (7.2%) in the non-vaccination group developed recurrence. Multivariate analysis showed that no vaccination after LEEP was an independent risk factor for recurrence. The study suggests that vaccination with the 4-valent HPV vaccine after treatment may be considered in preventing recurrence of disease.

The V503-001 study team randomized 14, 204 healthy 16-26-year-old women to receive the 9v HPV vaccine or the control, quadricvalent (4v) HPV vaccine. Serum was taken from participants at 4 weeks after the final dose. Anti-HPV 6, 11, 16, 18 responses generated by the 9v vaccine were non-inferior to the 4v HPV vaccine group. There was one case of HPV 31/33/45/52/58-related high-grade cervical/vulvar/vaginal disease in the 9v HPV vaccine group and 30 cases in the 4v HPV group. For any grade of disease there were 3 cases in the 9v HPV vaccine group and 103 cases in the 4v HPV vaccine group. The 9v HPV vaccine was shown to be highly efficacious and persistent in preventing HPV 31/33/45/52/58-related infection and disease.

The 9v HPV vaccine (Gardasil 9) is indicated for girls and women (ages 9 to 45) for the prevention of infection caused by the HPV types 6, 11, 16, 18, 31, 33, 45, 52and 58 and diseases associated with the HPV types included in the vaccine In girls and women ages 9 to 26, the 9v HPV vaccine is indicated for the prevention of anal cancer caused by HPV types 16, 18, 31,33, 45, 52 and 58 and anal intraepithelial neoplasia grades 1, 2 and 3 caused by HPV types 6, 11, 16, 18, 31, 33, 45, 52 and 58.

The 9v HPV vaccine is indicated for boys and men (ages 9-26) for the prevention of infection caused by the HPV types 6, 11, 16, 18, 31, 33, 45, 52 and 58 and the following diseases associated with the HPV types included in the vaccine: anal cancer caused by the types 16, 18, 31, 33, 45, 52 and 58, genital warts caused by HPV types 6 and 11 and anal intraepithelial neoplasia grades 1, 2 and 3 caused by the HPV types 6, 11, 16, 18, 31, 33, 45, 52, 58.

Gardasil 9 is a 9-valent recombinant Human papillomavirus vaccine. Both Gardasil and Gardasil 9 are given over 6 months : 0 month, 2 months and 6 months. It is stored between 2°C to 8°C. The price of Gardasil 9 is about $ 180. Safety and tolerability of the 9v HPV vaccine profile is generally comparable to that of 4v HPV including fever, pain at injection site and sometimes diarrhea.

Please consult your own physician for further information or visit **www.merck.ca** for further information.

安省癌症 護理中心 (Cancer Care Ontario)(CCO)的宗旨是向省民發出指引，建議各省民應於什麼年齡及相隔多久篩查結直腸癌，乳癌和子宮頸癌。鼓勵他們去見醫生索取檢查單，安排篩查。

本文就子宮頸癌再向各讀者介紹新的進展。CCO建議預防子宮頸癌篩渣的對象為已開始有性行為，年齡在21歲至70歲之間的婦女。這檢查叫抹片檢查 (pap test)。報告正常者，建議是可每三年，才需要重複檢查。但如報告不正常者，醫生可能建議自費$90檢查 HPV DNA。HPV代表人類乳頭瘤狀病毒 Human Papillowmavirus。HPV DNA可檢查到在子宮頸有沒有高危的可致癌的HPV病毒存在。百份至九十的子宮頸癌是由HPV病毒所引起的。目前沒有治療HPV病毒的藥物。但如果知道子宮頸部位有沒有感染了高危可致癌的病毒類型，對跟進抹片報告不正常者有些指引。甚至應否轉介病人去做陰道鏡colposcopy檢查，也在考慮的範圍。如報告已進展到高度癌前異變 high grade squamous intraepithelial lesion (HSIL)，治療的方法可能包括冷凍治療 (Cryotherapy)，激光治療 (laser vaporization) 及環圈切除 loop electrosurgical excision procedure (LEEP)治療等。

除了做抹片偵察子宮頸的變化，接種預防子宮頸癌疫苗也是非常有效的預防子宮頸癌的方法。約在2007年，這疫苗最早推出是可預防兩類HPV病毒的bivalentHPV疫苗。可預防的類型包括高風險的16型和18型。跟住推出可預防四類型的quadrivalentHPV疫苗Gardasil。預防四型HPV病毒的疫苗可預防4，11，16和18型所引起的疾病。在安省，很多年前，省府安排了公共衛生局的護士在學校免費為八年級的女學生接種這疫苗。2015年，這疫苗有了新的改進，現在推出了可預防九類HPV病毒的9-valent HPV (Gardasil 9)疫苗了。現這可防9型HPV病毒的疫苗除了可預防原有的四型，增加了可預防新的五型是31，33，45，52和58型所引起的疾病。

現比較一下原本的4vHPV疫苗和新的9vHPV的疫苗所預防的疾病種類和比率如下。

疾病名稱	4v HPV 疫苗(Gardasil)可預防由這 4 型（6，11，16 和 18）HPV 病毒所引起的疾病的比率	9v HPV 疫苗(Gardasil 9) 可預防由這 9 型 (6, 11, 16, 18, + 31, 33, 45, 52 和 58) HPV 病毒所引起的疾病的比率
子宮頸癌 （carcinoma in situ）	70 %	90%
高度癌前異變 (high grade squamous intraepithelial lesion) (HSIL)	50%	75-85%
輕度癌前異變 (low grade squamous intraepithelial lesion) (LSIL)	30-35%	50-60%
與 HPV 有關的陰唇癌 vulvar cancer	70-75%	85-90%
與 HPV 有關的陰道癌 vaginal cancer	65%	80-85%
與 HPV 有關的肛門癌 anal cancer	85-90%	90-95%
生殖器位置的性病疣 genital warts	90%	90%

換句話說，以子宮頸輕度癌前異變為例。原有的4vHPV疫苗可預防30%-35%在子宮頸的輕度癌前異變個案，新的9vHPV疫苗則可預防50%-60%的個案。在其他位置所發生的毛病，9vHPV疫苗可預防的比率也比原來的4vHPV疫苗可預防的多些。

以下是有關HPV疫苗的研究數據。有一研究比較在沒有HPV疫苗前和有了HPV疫苗後，在14-19歲的女孩(包括那些沒有報告過有過性行為者)中，HPV病毒的發病率。結果顯示推出了預防四型(HPV6/11/16/18)的疫苗後，發病率從2003-2006年的11.5%下降到2007 -2010 年的5.1%。即下降了56%。

第二個研究是Kang醫生進行的一項研究，在2007年至2010年，在737名20-45歲接受了環圈切除術(LEEP)治療的患子宮頸輕度或高度癌前異變者進行研究，觀察接種預防宮頸癌疫苗。可否有效地防子宮頸皮內異變cervical intraepithelial neoplasia (CIN) 復發的機會。研究人員替其中360人接種了4vHPV疫苗，377人沒有接種疫苗。然後於3，6，9，12，18和24個月後，進行LEEP手術後的例行後期跟進檢查。結果是不論患者本來的情況是由那一型HPV病毒引起，在接種疫苗那組，有9個人(2.5%)復發，沒有接種疫苗的377人中，有27人(7.2%)復發。從統計學多因素分析顯示，接受LEEP治療後，沒有接種疫苗是是一獨立的復發高危因素。即是說接受了LEEP治療者，仍應考慮接種這疫苗。

第三個研究是對9vHPV疫苗的研究。有一名為V503-001的研究，隨機把14,204名健康的16-26歲的婦女分別接種9vHPV疫苗或4vHPV疫苗。接種完最後一針後的4週後，抽取血清檢查抗體。結果顯示接種9vHPV疫苗所產生的對HPV第6/11/16/18型的抗體不低於由接種4vHPV疫苗所產生的抗HPV6/11/16/18的抗體。在接種過9vHPV疫苗的的婦女中有1宗與HPV31，33，45，52和58 類型 HPV病毒有關的高度子宮頸 / 陰唇 / 陰道的高度異變疾病；在接種4vHPV疫苗的婦女中則有30宗。至於混合高度和輕度異變疾病，在接種過9vHPV疫苗的婦女中有3宗，而在接種4vHPV疫苗的那組則有103宗。這些數據顯示 9vHPV疫苗預防與HPV 31，33， 45， 52 和58類型有關的感染疾病非常有效及持久。

9vHPV疫苗(Gardasil 9) 適合9歲至45歲女孩和婦女接種。用於預防與9型(6，11，16，18，31，33，45，52和58) HPV病毒有關的子宮頸，陰唇和陰道的癌前異變。在9歲至26歲的女孩及婦女，也包括預防肛門癌及性病疣等等。

9vHPV疫苗也適合9歲至26歲的男性接種，用於預防與HPV 6，11，16，18，31，33，45，52和58 型 所引起的疾病包括肛門癌(主要由16，18，31，33，45，52和58型引起)，生殖器性病疣(主要由第6及11型病毒引起)及不同情度的肛門皮內異變。

4vHPV和9vHPV這兩種疫苗的接種時間都是開始時，兩個月後和再四個月後，接種在肌肉裏的。都只需要存放在冰櫃2°C 至8°C便可。Gardasil 9 的費用約 $180。

接種疫是苗後的副作用可能包括接種處有些少紅腫，都是很輕微的。也可能有發燒，頭痛，作嘔，腹瀉等等。4vHPV疫苗 與9vHPV疫苗的副作用相似。至於閣下是否適合接種這新的9vHPV疫苗，請與自己的醫生相量和查詢或溜覽網址 **www.merck.ca**。

6. Harmony 產前檢查
Harmony Prenatal Test

資料提供：*Dynacare Laboratories*
編譯：編譯組

Abstract

In issue 38 we published an article on *Non-Invasive Prenatal Testing* (NIPT). This article provides newer updates for this topic.There are two companies that offer NIPT. Test done through Dynacare laboratory is called Harmony prenatal test. Test done through LifeLab is called Panorama.

Harmony prenatal test detects the risk of trisomy 21 (Down syndrome), trisomy 18 and trisomy 13 in pregnancies of 10 weeks or more, based on direct analysis of fetal DNA in maternal blood. A dating ultrasound is needed to confirm the size of the fetus prior to the blood test.

Trisomy 21 is due to an extra chromosome on the 21st pair of chromosome, trisomy 18 is due to an extra chromosome on the 18th pair while trisomy 13 is due to an extra chromosome on the 13th pair. Trisomy babies can have congenital defects and /or mild to moderate intellectual disabilities.

Harmony test does not detect open neural tube defects. Harmony test can be done on singleton pregnancies, twin pregnancies conceived naturally or from in-vitro fertilization. This test is not for use in pregnancies with triplets or higher number of fetuses. The Harmony test offers the option of testing for Y or X,Y aneuploidies for singleton pregnancies, thus providing information on the sex of the fetus. The X,Y analysis is not available for twins or higher number of fetuses.

How is NIPT different from other available prenatal screening ?

Current screening methods such as first trimester screening (FTS) and integrated prenatal screening (IPS) use biochemical markers combined with measurements from ultrasound examination to calculate a risk rate. For trisomy 21, the detection rates is 80-95% and the false positive rate is approximately 2-5%. For NIPT, the detection rate for trisomy 21 is over 99%, > 98% for trisomy 18 and>80% for trisomy 13. The false positive rate is < 0.1 % for all of them.

Does NIPT replace CVS/amniocentesis?

No. At the present time, NIPT is a screening test, meaning that it cannot tell for certain, if your baby has Down Syndrome. If NIPT detects high risk for Down Syndrome, more testing such as amniocentesis may be needed to see if the baby really has the chromosome changes.

How is NIPT ordered?

Non invasive prenatal testing (NIPT) can be ordered by family physicians or specialists. At this time, the Ministry of Health and Long-Term Care (MOHLTC) will cover NIPT for high risk pregnancies : women over 40 and older at delivery that carry singleton pregnancy, women with a 'screen positive' result from other prenatal screening tests or women with previous pregnancies with chromosomal disorders. For patients that do not qualify for OHIP covered criteria, the cost of Harmony test is now $495. Previously it was $795. This new price includes X, Y analysis for singleton pregnancies if requested.

For the tests to be covered by the MOHLTC, first your doctor needs to contact the laboratory to obtain a NIPT requisition, Ministry of Health and Long-Term Care (MOHLTC) Form 4521-84 and a MOHLTC NIPT questionnaire form . Most laboratories will provide all these forms to physicians upon request. Form 4521-84 (Request for Prior Approval for Full Payment of Insured Out-of –country {OOC} Health Services for Diagnostic Laboratory Testing) can be obtained from www.health.gov.on.ca as well. NIPT is done out of country at this time, prior approval for payment to be covered by MOHLTC is needed. Payment will only be approved if the pregnancy fits the MOHLTC's criteria. After these three forms are filled out, the forms are faxed to MOHLTC .

According to the MOHLTC web site information, as timing is critical in performing this test, response would be received within 48 hours. Once approved, the patient simply takes the approval letter and the laboratory requisition and go to the laboratory to have the blood taken.

For patients that donot fit the MOHLTC coverage, only the Harmony test requisition needs to be filled out and patients simply take it to any Dynacare lab for the blood to be drawn. The Harmony test results provide a risk level (low or high risk) within 10 working days for trisomy 21, trisomy 18 and trisomy The sex of the baby would be reported if requested. For women with results showing high risk, patients should be considered for referral to genetic clinic for further counseling and be considered for further testing such as amniocentesis.

For further information, please inquire with your own physicians, visit www.dynacare.ca or call 1-888-988-1888.

A new test called Non-Invasive Prenatal Paternity Testing (NIPPT) is now being offered by Orchid PRO-DNA through Dynacare laboratory. NIPPT is used to determine the biological father of the fetus by comparing the genetic profile of the fetus from mother's blood with the genetic profile of the alleged father. This test analyzes cell-free DNA from the fetus in mother's blood starting in the ninth week of pregnancy and compare it to blood taken from the alleged father .Paternity can be confirmed with a probability of over 99.9%. If the alleged father is not the biological father, the probability of paternity will be 0%.

With this test being available, the client does not need to wait for the baby to be born to compare the newborn's DNA with the alleged father. Since it is preformed on a blood sample, it poses no risk to the mother and the baby. The cost for this test is $1995. For further inquiries, please call Orchid PRO-DNA at 1-800-565-4505.

本刊於第38期刊登一名為*新的非侵入性產前檢查 (non- invasive prenatal testing)*(NIPT)的文章。現將這檢查的新資料向各讀者介紹一下。有兩間公司提供這檢查。在Dynacare化驗所做的NIPT叫Harmony，在LifeLab化驗所做的叫Panorama。

Harmony產前檢查是於懷孕10週或以上時，從血

液中通過檢查母體血液內所含的胎兒染色體DNA，來篩查胎兒患21三體綜合症，18三體綜合症和13三體綜合症的風險。抽血前需從超聲波檢查來確定孕期。

21三體綜合症(trisomy21)，也被稱為唐氏綜合症，是指第21對染色體有多出一條的情況。18三體綜合症(trisomy18)是指第18對染色體有多出一條的情況。13三體綜合症(trisomy13)是第13對染色體多了一條染色體。有這些綜合症的胎兒通常有先天性缺陷及有其他智能障礙的症狀。

這檢查是不能提供患開放形神經管缺陷畸形(open neural tube defect)，如脊柱裂症的機會的。這檢查可用於懷一胎，自然或人工受孕懷雙胞胎的婦女。這檢查不適用於懷三胞胎或以上的胎兒。在懷一胎者，這檢查也可提供X，Y染色體非整倍體(aneuploidy)數目的資料。檢查X，Y染色體的數目可提供嬰兒性別的。檢查XY染色體數目的技術不適用於雙胞胎或在以上的懷孕。

NIPT 與目前其他的產前篩查有什麼不同呢？

目前的產前篩查測試如 first trimester screening (FTS)，integrated prenatal screening(IPS)等包括抽一次或兩次血，再加上照胎兒頸部透明度(NT)來偵察毛病。可偵察胎兒患唐氏綜合症，18三體綜合症，有時也會偵察到患13三體綜合症和患開放形神經管缺陷畸形，如脊柱裂症的機會。這些產前篩查的偵察唐氏綜合症的比率不夠NIPT的報告準確。例如，以唐氏綜合症為例，在100個唐氏綜合症患者中，目前的檢查只可偵察到80－90%個案。但NIPT則可偵察到98－99%患此病者和假陽性率<0.1%。

那NIPT 是否可代替羊膜穿刺術(amniocentesis)呢？

不能。這檢查可偵察到胎兒是否有患三體綜合症的風險，幫助醫護人員決定需否作進一步測試，如羊膜穿刺術 來確實胎兒有沒有患三體綜合症 。

怎樣安排做 NIPT 測試？

家庭醫生或婦產科醫生都可安排孕婦做這非侵入性產前檢查NIPT。現時，安省保健及長期護理部門Ministry of Health and Long-Term Care (MOHLTC)免費提供這檢查給分娩時年齡40歲或以上懷一胎的孕婦或從其他產前篩查 發覺 有異常者，也可申請免費做NIPT檢查。如孕婦以前有懷過唐氏綜合症胎兒或其他染色體問題的嬰兒或其他毛病，也可申請免費做NIPT的。不符合MOHLTC免費提供檢查的範圍者，可自費檢查。費用從2015年五月開始由原來的$795.00減至加幣$495.00。如有要求的話，這費用可包括做X，Y檢查的。

如符合省府免費檢查的孕婦，通常醫生需要先從化驗所取得要求做NIPT的表格。再加上兩張安省保健及長期護理部門MOHLTC的表格:一張名為申請政府付費在國外進行化驗的表格 F4521-84 (Request for Prior Approval for Full Payment of Insured Out-of-country {OOC} Health Services for Diagnostic laboratory Testing)。這表格也可以在保健部門www.health.gov.on.ca網頁下載。另一張為NIPT問卷。這些表格是可以向化驗所索取的。NIPT檢查是在國外做的。所以如想政府付費，要符合保健部門標準，等申請批準了，才做的。三張表格填好後，傳真到保健部門。

根據保健部門資料，因這檢查有時間性規定，約48小時，批準信便會發出。拿著批準信和化驗單，到化驗所抽血，便可。如孕婦不符合省府免費的範圍，自費檢查者，只需填 Harmony test 的驗血表格便可去Dynacare化驗所抽血。

通常抽血後，約10個工作日，Harmony檢查的報告便可收到。結果會顯示，胎兒是低風險或高風險患21三體綜合症，18三體綜合症或13三體綜合症。如有要求提供嬰兒性別，報告也可提供胎兒性別。

如報告顯示高風險有某些綜合症，醫生便會與孕婦和家人相量，轉介她到基因診所 Genetic Clinic 評估及考慮作進一步檢查，如羊膜穿刺術(Amniocentesis)等。

如想需要更多資料，請與你的醫生查詢或瀏覽:
www.dynacare.ca 網 址或致電1-888-988-1888

最近 Dynacare 化驗所的Orchid PRO－DNA分部推出另一新檢查叫非侵入性產前父系檢查non-invasive prenatal paternity testing (NIPPT)。NIPPT 檢查比較母體血液內的胎兒基因資料和可能是父親的基因資料,用作親子監定,確定胎兒的生父身份。這檢查是在婦女懷孕9周後，抽孕婦的血和懷疑是父親的血。如果基因吻合度是99.9%的話，那父系關系便確定了。相反，如吻合度是0%，便不是父系關系。

有了這檢查，當事人便不必等到胎兒出世後，再從胎兒抽血檢查。對胎兒沒有構成任何傷害。這檢查的費用 是$1995。如欲知詳情，請電Orchid PRO-DNA 1-800-565-4505。

7. 改進前列腺癌精確放射治療的成效：從個人前列腺 癌細胞基因狀況估計治療效果

Improving Prostate Cancer Precision Radiotherapy Results: Getting Personal With A Patient's Own Genetics

作者：*Dr. Robert Bristow MD, FRCPC*
放射治療專家
翻譯：蕭景勳 醫生
Dr. King Fun Siu MD

Abstract

Every year, close to 25,000 men will be diagnosed with prostate cancer in Canada. A number of these men with aggressive cancers will require curative treatment with precision radiotherapy. At the Princess Margaret Cancer Centre, these precision treatments consist of image-guided, external-beam radiotherapy or the use of brachytherapy with the radiation source delivered internally to the prostate gland guided by magnetic resonance imaging. These treatments are sometimes given with systemic therapies such as androgen deprivation therapy (i.e. male hormone therapy). Choosing "the right treatment for the right patients at the right time" is an important part of the personalized medicine that takes place in the Radiation Medicine Program at Princess Margaret, and is based on patient factors and characteristics of the patients' tumours (e.g. the stage of disease, and the Gleason score assessed by pathology under microscope and the value of the prostatic specific antigen (PSA) in the blood).

Personalized cancer medicine for prostate cancer is now entering a new era. Within the next 5 years, patients will have individual assessments of their cancer aggression and best treatment options based on their individual cancer genetics and tests that measure the cancer microenvironment. The program will offer the best care to patients and learn which therapies are most successful for certain genetic sub-types of a given cancer.

As proof of principle of selecting specific types of treatment based on genetic sub-types, Dr Bristow and his collaborators within Princess Margaret (Dr Michael Milosevic) and at the University of Toronto (Dr Paul Boutros) conducted a long term study of the role that prostate cancer cell genetics and the tumour microenvironment in determining successful treatment with radiotherapy. The study used analysis of biopsies and also prostate cancer oxygen measurements to come up with a test that could personalize treatment. The results of the study were recently published in November of 2014 in the top-ranked cancer research journal, Lancet Oncology. Dr Bristow and his team observed that patients that had similar clinical characteristics of their tumours could be further sub-divided into patients that would, or would not, do well with precision radiotherapy due to aggressive genetic features. It was noted that there were a group of patients that had few genetic changes in which therapy would be effective more than 95% of the time; while another group of patients that had aggressive features with severe genetic changes and low oxygen values (also called hypoxia; a predictor of spread in prostate cancer) in which there was a 50% chance of the treatment failing to control the tumor. The study result requires further validation and refinement over the next two to three years so that it can be used in a hospital setting. It demonstrates that we can now use the test to find men with aggressive disease up front and offer them more aggressive therapy with novel clinical trials to offset that 50% failure rate. New clinical trials are expected to start in late 2015 and are called the MATADORS trials (Molecular Adjuvant Therapies for Radiotherapy and Surgery) in which patients will be treated with molecularly-targeted therapies based on abnormal genetic characteristics and presence of hypoxia, in addition to radiotherapy in order to improve the cure rate.

These new genetic and hypoxia tests will never take over from excellent clinical care; they will instead layer onto that care for the patients treated within Princess Margaret Cancer Centre.

在加拿大，每年約有25,000人被確診有前列腺癌。其中一些比較侵畧性的癌症，會需要精確的放射治療來根治。在瑪嘉列癌症中心，這些精確放射治療，包括利用影像引導的外射電療或用近距離放射治療(brachytherapy)。近距離放射治療是一用核磁共振掃描引導，把放射源頭放置於前列腺癌裏的內射電療。這些電療，有時亦會跟內用療法如雄激素剝奪療法(即男性賀爾蒙剝奪療法)一起使用。給〝合適的病人，在適當的時候，選用適當的療法〞是瑪嘉列醫院放射治療部門為每位病人安排合適而獨特的個人治療方法的重心工作。這些選擇是按每位病人的個別因素和癌細胞的特性(如癌細胞的擴散程度、顯微鏡下的病理報告和血內的前列腺素[prostate specific antigen] [PSA]水平評估出來的一個名為Gleason Score的前列腺癌指標)來決定的。

個人化的前列腺癌症療法正進入一個新紀元。在這五年內，病人將會有個人的，評估其癌細胞的侵畧性程度，然後按他們癌細胞的基因突變情度和測量到的癌細胞附近微環境狀況來決定最佳的療法。這計劃能給予每位病人最好的治療及找出那一種治療方法才能對不同的癌細胞基因類別達到最大的療效。

為了証明應按不同的基因類別來選擇獨特的療法這一個原則，Dr.Bristow和其他研究者，瑪嘉列醫院的Dr.Michael Milosevic和多倫多大學的Dr.Paul Boutros，做了一個研究，來分析前列腺癌細胞基因和細胞附近微環境狀況在決定放射治療成效裏所扮演的角色。這研究用從穿刺前列腺細胞的病理報告和量度前列腺癌含氧度的指標來計算出一個可以把治療個人化的測

試。這研究的結果剛於2014年十一月，在極具威信的癌症研究雜誌Lancet oncology刊登過。Dr.Bristow及其組員觀察到有相同臨床特徵的腫瘤，可按基因特癥的侵略性進一步分為對精確放射治療，會或不會，有良好反應的兩種。他們發現到有一組有些少基因轉變的病人，有95%的情形下，療法都有效。但另一組有嚴重基因轉變及侵畧性特徵，同時含氧量低(亦稱缺氧，這是一預測前列腺癌較高擴散風險的指標)的病人，則有50%的機會，療法不能控制腫瘤的增長。這研究還需要多兩三年的驗証和改良，才能在醫院內臨床應用。這些研究，顯示了現在我們能利用一些檢查來盡早找出比較侵畧性的疾病，同時立即採用較侵畧性的療法，這些新的臨床試驗，將會幫助減低現時50%的治療失敗率。一個名叫 MATADORS (Molecular Adjuvant Therapies for Radiotherapy and Surgery) 的臨床試驗，將於2015年尾開始。除了放射治療外，這研究亦會按異常的基因特徵和缺氧程度，給病人明確的針對分子(molecularly-targeted) 治療來增進治愈率。

這些新的基因和缺氧測試，不能用來取代優秀的臨床護理，它們只會被溶入和加強瑪嘉列癌症中心現有的對病人的優越服務。

8. 大專院校學生的心理健康問題
Mental Health Among College and University Students

作者：何安琪 醫生，精神科專家
Dr Angela O. Ho MD, FRCPC
翻譯：陸汶遜 先生 *Mr. Man Shun Luk*

Abstract

As the school year gets underway, there are many college and university students who are living away from their parents for the first time, needing to prepare their own meals, manage finances, and do their own laundry. In addition, there are academic and social pressures, including potential confusion regarding personal beliefs and values, relationships and sexuality, alcohol and drugs, career goals, spiritual beliefs, and purpose in life.

In this group of transitional age youth, there is a risk of developing emotional or mental health difficulties. The 2004 Canadian Campus Survey reports the following statistics:

• 29% reported elevated psychological distress; more likely in those who are intellectually oriented (vs recreationally oriented), those attending university in BC or Ontario, and among women.

• 47% of students reported constantly feeling under strain, 32% lose sleep due to worry, 30% feel unhappy or depressed, 11% had suicidal thoughts.

• 32% drink hazardously or harmfully, most often in males, those living on campus or off campus without family, students who are not intellectually oriented, and students from the Atlantic region. Consequences of such drinking can include memory loss, missing classes, getting into arguments, getting in trouble with the police, unplanned or unsafe sex, drinking and driving, and losing employment.

Studies of Asian, Asian-American, and Pacific Islanders attending college suggest that there are low rates of use of mental health services in this population . There is stigma towards receiving counselling based on perceptions of societal stigma, stigma by close social networks, and self-stigma . Unfortunately, there continues to be false beliefs that mental illness is contagious, or that people with mental illness are dangerous or violent.

For Asian, Asian-American, and Pacific Islanders who adhere to Asian cultural values, there can be fear of damaging their family's reputation by seeking assistance; however, those who adhere to European cultural values may be more likely to seek counselling as a means for self-exploration, which has less stigma. Among Chinese immigrant communities, those with mental illness may be reluctant to disclose their difficulties because of the desire to save face. Similarly, one may anticipate negative consequences such as being alienated and rejected, or discriminated against.

Support from social networks is important in assisting those with mental illness to recover. Although many are more likely to disclose to family and close friends, it is more likely if there is a sense of trust and affection , and if they anticipate positive support. Disclosure can have benefits of decreasing self-stigmatization and secrecy, thus improving self-esteem and decreasing distress.

Those who are close to one with mental illness are advised to be cautious about disclosing information without the affected individual's consent. While some individuals may appreciate this if it intended to solicit help and support, others will feel that they are bothering or worrying others unnecessarily.

A physician involved in an individual's care should maintain confidentiality, even if treating members of the same family.

Some of the mental health diagnoses that can occur during early adulthood include the following: depression, anxiety, post-traumatic stress disorder, eating disorders, ADHD (attention deficit hyperactivity disorder), bipolar disorder, schizophrenia, and substance use disorders. It is important for individuals and their families to watch for signs and symptoms that should be brought to their family doctor's attention:

• difficulty sleeping.
• loss of appetite, excessive weight loss.
• sadness, crying.
• problems with concentration or memory.
• loss of interest in friends and hobbies.
• loss of motivation.
• excessive guilt.
• extreme negative thoughts.
• vomiting to prevent weight gain; use of laxatives or diet pills; exercising excessively.
• excessive worries or preoccupations that are not consistent with known facts.
• hearing voices or sounds when there is no one or

nothing there to cause it.

• behaviours that are out of character: excessively spending money, entering sexual relationships quickly, using more alcohol or drugs, reckless driving.

• excessive speech that is much faster than normal.

• persistent irritability or getting in to arguments more frequently.

• hiding use of, or lying about use of, alcohol and/or drugs; problems at school, work, in relationships, or physical health because of substance use or withdrawal.

• suicidal thoughts and behaviours.

• self-harm: cutting, burning, scratching one's own skin; hitting oneself.

Treatments for mental health difficulties typically include psychotherapy/talk therapy and/or medications. Some can be treated as an outpatient, while others may need a brief inpatient hospital admission. Care providers may include your family doctor, a psychiatrist, a nurse, a psychologist, a social worker, and/or case manager.

Tips to maintain your physical and emotional health

• Eat healthy meals regularly, with lots of vegetables and protein.

• Practice good sleep habits: wake up and sleep at the same time every day, ensure that your room is dark, and quiet; avoid using electronic devices before bedtime, and avoid caffeine after the afternoon.

• Exercise regularly.

• Maintain interest outside of school or work: learn a new skill, volunteer, join a club or committee, make plans with friends

• Avoid excessive alcohol: Canada's low-risk drinking guidelines recommend no more than 10 drinks per week for women (with no more than 2 drinks a day), and no more than 15 drinks per week for men (with no more than 3 drinks a day).

• Take medications as prescribed. Talk to your doctor about side effects. Do not give your medication to others and do not use others' medications. Do not adjust medications on your own.

• Use protection: condoms, helmets, seatbelts, special protective gear for sports; sunscreen.

Resources:

• Good2Talk: a free helpline for post-secondary students available 24/7

http://www.good2talk.ca **1-866-925-5454**

• Youthline: free peer support for LGBTQ youth

http://www.youthline.ca **1-800-268-9688**

• Gerstein Crisis Centre: crisis line and crisis beds

http://gersteincentre.org **416-929-5200**

• MAARS Metro Addiction Assessment Referral Service: for alcohol and drug use:

http://www.camh.ca/en/hospital/care_program_and_services/addiction_programs/Pages/guide_maars_clinic.aspx

(416) 599-1448

Check your local college or university campus website for campus clubs and committees, athletics teams, and campus health services (family doctor, psychologists, counsellors, psychiatrists).

隨着新學年的開始，許多第一次離開父母在外居住的大專學生，需要準備自己的膳食，處理財務事宜，還要自己洗衣服。不僅如此，他們還要面對學業和社交方面的壓力，包括在個人信仰和價值觀、與異性關係和性行為、酒精和毒品、自己事業的目標以及人生目的等方面可能出現困惑。

這一羣年齡正處於過渡期的青年人，正面對着情緒上或精神健康出現麻煩的風險，而這種風險正在發展之中。2014年加拿大學園 調查（The 2004 Canadian Campus Survey) 報告了以下的統計數字：

• 有29%報告自己在心理上的難題增多了。尤其是那些傾向於專注學習的相比那些偏向娛樂的，在卑斯省和安大略省讀大學的和女性。

• 47%的學生報告自己感覺有壓力；37%由於憂慮而失眠；30%感到不快樂或沮喪；11%有自殺念頭。

• 32%的學生酗酒到了危險或有害的地步，多數是男性，住在學園內或學園外，沒有家人同住者，不傾向於專注學習的及來自太西洋地區的學生。酗酒的後果可以是失憶、缺課、容易與人爭吵、與警察發生糾紛、無計劃或不安全的性行為、醉酒駕駛和被解僱。

研究亞裔、亞裔美國人以及從太平洋島來的大學生的研究顯示他們使用精神健康服務的比率較低。接受精神健康指導會被人戴有色眼鏡看待，這是基於社會人仕的看法，在關係密切的社會網絡別人的看法和自己也認為不正常。不幸的是，仍有錯的觀念認為精神病是有傳染性的，或者精神病患者是危險的或有暴力傾向的。

對於堅守亞洲文化價值觀的亞裔人、亞裔美國人及在太平洋島上長大者，他們害怕如尋求精神病治療，會損害他們家庭的名譽；但是對於信服歐洲文化價值觀的人來說，較有可能去尋求指導，作為自我探索的一種方法，這就不算是一種羞恥。在中國移民聚居羣體中，精神病患者可能為要顧全面子，不願意透露自己的困難處境。同樣，也可能害怕，被恥辱，排斥或被岐視等負面後果。

為了協助精神病患者康復，有社會網絡的支持是重要的。雖然許多患者更有可能向家人和親近的朋友透露自己的病情。但是，如果患者感到有信任和摯愛的感覺和預期有積極的支持，就會更有可能做到。透露病情能有助於減少自己感到羞恥的感覺，也有助公開病況之謎，從而提高患者的自尊心，減少苦惱。

奉勸那些作為精神病患者親近的人，要小心從事，不能在未取得患病人士同意前公開有關資料。固然，如用意是發起幫忙和支持，可能有些患者會感激你，但也有人會覺得不必要地打擾別人和令別人擔心。

參與治療病人的醫生應該做到保密，即使在治療同一家庭的不同成員，也應該如此。

在成人早期可出現的一些精神病問題包括：

抑鬱症、焦慮不安、創傷後遺障碍(post-traumatic stress disorder)、飲食失調、欠缺注意力過動症 (attention deficit hyperactivity disorder) (ADHD)、躁鬱症 (bipolar disorder)、精神分裂症以及藥物濫用失常 (substance use disorders)。重要的是患者本人及其家人要密切注意，需要去見家庭醫生的跡象和症狀 ：

- 失眠。
- 沒有胃口，體重急劇下降。
- 悲傷，嚎哭。
- 注意力不能集中或記憶力退化。
- 對朋友和嗜好都失去興趣。
- 喪失動力。
- 過度內疚。
- 極端負面想法。
- 藉嘔吐來防止體重上升；使用輕瀉劑或減肥藥；體育鍛鍊量過大。
- 與已知事實並不相稱的過度憂慮和全神貫注。
- 聽見說話或聲音，而當時並沒有人或任何東西作出話語或發出聲音。
- 不當行為：過度花費錢財；短時間內與異性建立親密關係；飲酒和使用毒品增多；魯莽駕駛。
- 過多地說話，而且說話速度比平時快得多。
- 持續易怒，或頻繁地與人爭論。
- 躲起來飲用或以謊言來否認酗酒和或毒品；在學校或工作場所出現問題、人際關係或身體健康出現問題。
- 自殺想法和行動。
- 自殘：割傷、燒傷、抓破自己的皮膚；自己毆打自己。

精神病治療通常包括精神治療／談話治療(talk therapy)和／或藥物。有些患者可以作為門診病人治療，而有些患者則可能需要短期住院治療。提供治療的可能包括患者的家庭醫生、精神病學家、護士、心理學家、社會工作者以及／或病案管理人員(case manager)。

這裏給提供一些保持自己身體和情緒健康的忠告：

- 定期享用有大量蔬菜和蛋白質的膳食。
- 實行良好的睡眠習慣：每日在規定的同一時間起牀，在規定的同一時間睡覺。要保證你的睡房黑暗、安靜；避免在睡覺前使用電子裝置；避免在下午以後飲用咖啡因。
- 定期運動。
- 保持校外和工餘活動的興趣；學習一門新的技能，當義工，參加一個俱樂部或委員會，同朋友們一起訂定計劃。
- 避免過量飲酒：加拿大低風險飲酒指導方針 (Canada's low-risk drinking guidelines) 建議：女子每週飲酒不超過10杯(每日不超過兩杯)；男子每週飲酒不超過15杯(每日不超過三杯) 。
- 按照醫生處方規定服用藥物。向醫生查詢所服用藥物的副作用。不要將自己的藥物　給予他人，也不要用他人的藥物。不要自行更改藥物的劑量。
- 使用保護器具：避孕套；頭盔；汽車安全帶；體育方面專用的防護器具或衣物; 防曬油，保護自己。

以下資料給各讀者參考：

- Good2Talk：24 / 7免費大專學生援助熱線
  http://www.good2talk.ca　　1-866-925-5454
- Youthline：免費向不同性向的年青人提供同輩式的支援(LGBYQ 女同性戀者、男同性戀者、雙性戀者、跨性別者、對自己性別有疑問者)
  http://www.youthline.ca　　1-800-268-9688
- Gerstein Crisis Centre：危機熱線和危機憩息處
  http://gersteincentre.org　　416-929-5200
- MAARS Metro Addiction Assessment Referral Service 城市對向酗酒和吸毒者提供服務
  http://www.camh.ca/en/hospital/care_program_and_services/addiction_programs/Pages/guide_maars_clinic.aspx
  (416) 599-1448

查閱本地大專院校校園網址，尋找校園內的各俱樂部和委員會、運動隊以及校園內的醫療健康服務 (家庭醫生、心理學家、顧問和輔導人員、精神病學家)

9. 正向心理學簡介
Positive Psychology

作者：*Dr. Fay CF Tang Ph D, C Psych*
鄧靜暉博士 臨床心理學專家

Abstract

Dr. Martin Seligman, father of positive psychology, is a professor at Pennsylvania University in Philadelphia, USA. He was in Toronto on November 12, 2014 to receive the very first TANG award of Canadian $ 100,000 for his achievement in the field of psychology from the TANG Foundation.

The TANG Foundation is a private charitable institution established by Dr. Fay Tang in 2006. The TANG award honors a Ph.D. psychologist who has made an exceptional contribution to the field of psychology. The Foundation's core mission is to raise awareness of the importance of psychological well-being and to promote mental health around the world.

The goals of Dr.Seligman's positive psychology are helping people to be happier, to increase life satisfaction and these are achieved through research and training. These goals are similar to the Foundation's mandate.

被譽為正向心理學之父的美國心理學家Martin Seligman博士，是美國費城賓州大學的教授。他在去年2014年11月12日在多倫多大學接受了加拿大鄧氏基金會首屆的鄧氏心理學成就獎，獎金是十萬元加元。鄧氏基金會是一個私人基金會，由本文作者鄧靜暉心理學博士在2006年所創立。目的是去提高世界人士注重心理健康的重要性，和去獎勵一位在國際上最傑出的心理學家，他/她的工作有助於人們的心理健康。Dr.Seligman便是鄧氏基金會的首屆得獎者。他的正向心理學是去運用科學的方法，去瞭解和有效地幫助人們達到快樂和完滿的生活。

一、什麼是正向心理學？

正向心理學在十年前由Dr.Seligman在美國費城賓州大學發現而創立。簡單而言，正向心理學就是“快樂”兩個字。正向的心態情緒是快樂的基本原則。快樂是一個人的愉快的心情，和在生活上的滿足。正向心理學是一個得眾所望的方法，去達到更完滿的生活。Dr. Seligman設立正向心理學，去尋求如何去使到人們更快樂的秘訣。正向心理學也是身心康樂。Dr.Seligman指出心理健康的基石有下面四個重點：

1. 義務 2. 意義 3. 目的 4. 良好的人際關係。

換言之，身心康樂就是燦爛繁榮地去增加生活上的滿足。正向心理学的最终目的，就是去加强人們生活上的滿足和繁榮！

二、正向心理學的益處

Dr.Seligman對憂鬱症、樂觀、悲觀和學習得來的無助行為的理論，作了多年的科學研究。他同時也作研究關於如何去推進樂觀、彈力和阻止憂鬱症的發生。他的研究結論是：正向心理學可以使到人們更加快樂，正向的思維可以促進人們對生活的滿足性。

他發現不管你在：• 教導正向心理學
• 研究正向心理學
• 自己練習正向心理學
• 運用正向心理學去醫治病人
• 運用正向心理學去做教練
• 研讀正向心理學

或者去和其他運用正向心理學的同行聚會，都會使得人們快樂！

他也發現到，這班運用正向心理學的人，是他以前從來沒有見過的最快樂的一班人士。人們擁有最正向的情緒，最有義務感，和最有意義的生活，是最快樂而且又享受著最滿足生活的人。因為正向的心態是會產生廣泛的注意力量，加強創造的能力，和大腦的思維力量。

Dr.Seligman提議學校應該去教導正向心理學，因為近年來患有憂鬱症的青少年人，有如洪水氾濫的嚴重趨勢。據統計在2011年，在美國有一億人患有憂鬱症。根據世界衛生協會的報導，憂鬱症是全世界最昂貴的治療病狀！每年要花上五千多元去醫理一位患上憂鬱症的病人。

三、如何去獲取正向心理學？

古希臘的著名哲學家亞里士多德曾經說道：人類的作為是去博取快樂，我們所做的每一件事情，都是為著去製造喜樂。Dr.Seligman也注意到缺乏正向情緒、力量、思維和意義的人，會長期憂鬱下去，這一班人的生命是空虛的和沒有意義的。所以他不去治療病人的精神病，而代以集中他的精力於病人的長處，例如：

• 找出曾經幫助病人成功的，而且又是病人自己所擁有的強力；
• 發掘病人的才華和天賦，而且去撫育它；
• 探索病人的生命的重點在哪裡，從這裡發展下去；
• 拔根清除病人生命中的障礙；
• 增加病人的身心康樂，和去幫助他發展鴻圖。

Dr.Seligman想出許多幫助病人加強身心健康快樂的辦法。例如：在晚上上床睡覺之前利用三分鐘的時間寫下：1.當天發生的三件好事情。

2.爲什麼這三件事情是好的？

3.爲什麼這三件事情會發生？

這樣做一個星期(七天晚上)，你可能在六個月之後減少憂鬱，和感覺到快樂一些。

Dr.Seligman他自己試過這個方法，他也提議他的太太和孩子去做，全部都得到很好的結果。他也去試過許多他的學生想出來的加強身心康樂的方法，而且發現它們全部有效。

所以他現在在教授世界各地精神心理健康領域內的工作人員正向心理學，去幫助他們自己達到身心康樂和發展鴻圖。同時他們可以利用正向心理學去幫助他們的病人，去找出其長處，而不是去更正其弱點，以達到快樂完滿的生活。

正向心理學的最終目的，是去建設全球性的心理健康，這和鄧氏基金會的宗旨相仿！

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何肇松醫生 Dr. Michael Ho
陳景新醫生 Dr. King Sun Chan
馮根英醫生 Dr. Kan Ying Fung
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蕭景勳醫生 Dr. King Fun Siu
製作小組 Production Team: 董楊映麗醫生 Dr. Hannah Toong
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