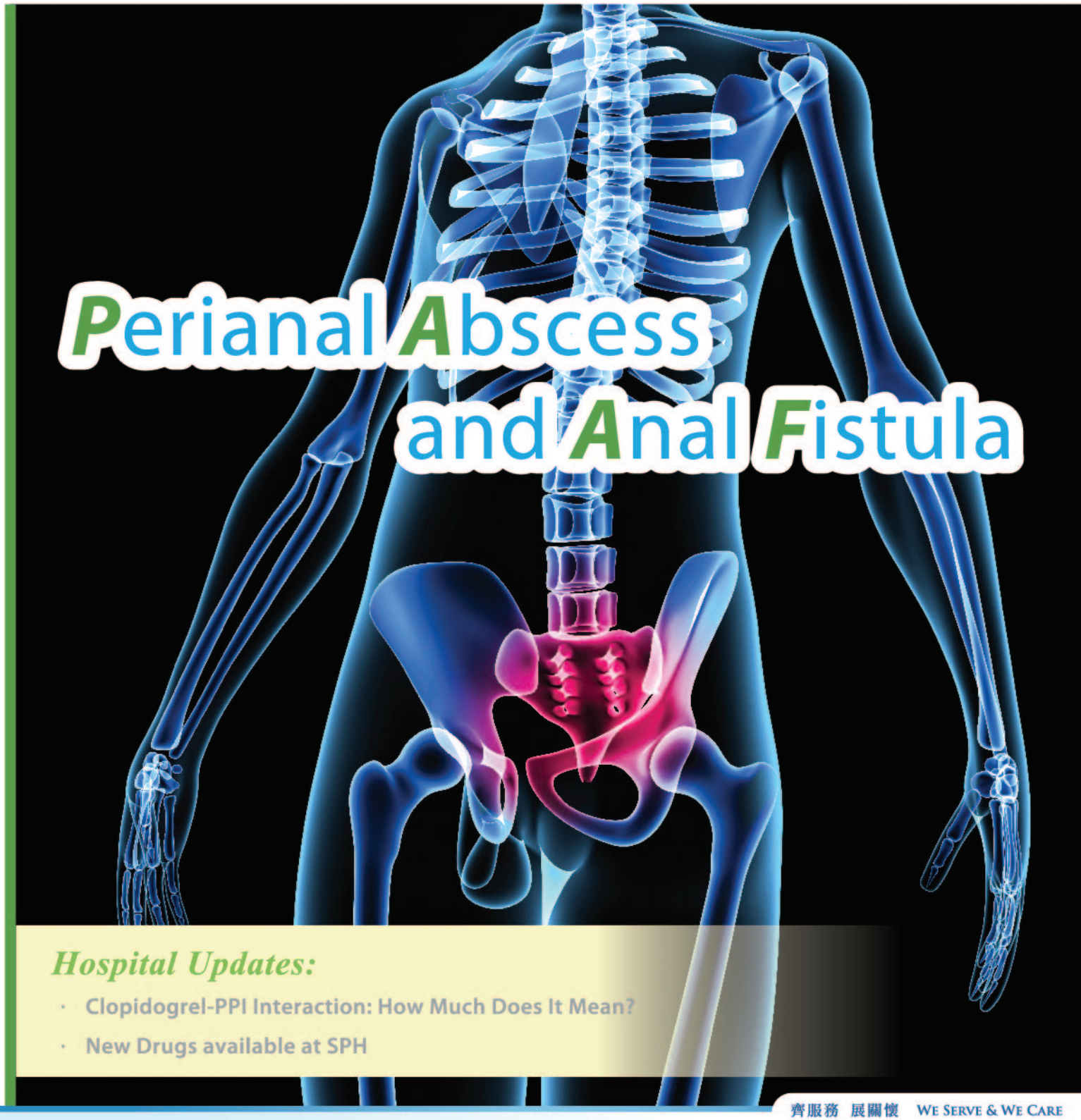
第九十三期 issue 93
Dec , 2015 - Feb, 2016

聖保祿醫院
St. Paul's Hospital

# NewsLetter 院訊



# Perianal Abscess and Anal Fistula

## *Hospital Updates:*

- Clopidogrel-PPI Interaction: How Much Does It Mean?
- New Drugs available at SPH

## 修女的話

時光飛逝，轉眼間猴年已到。在此祝願大家新年快樂、身心安康！

在過去一年，我們的社會和世界各地都充滿著不同的矛盾、衝突和仇恨，人與人之間的關係也變得十分疏離。適逢今年是天主教的「慈悲特殊禧年」，就讓我們一起反思如何於生活中實踐慈悲，以拉近人與人之間的距離，建立更和諧美好的生活關係。

「你們應當慈悲，就像你們的父那樣慈悲」（路6:36）。

隨著教宗方濟各於去年十二月開啟聖保祿大殿的聖門，為期約一年的「慈悲特殊禧年」正式開始。教宗宣布的「慈悲特殊禧年」便以上述的《路加福音》章節作為指導，邀請普世信徒積極參與修和聖事，也鼓勵大家能跟隨天父的慈悲榜樣，力行仁愛和寬恕。

「慈悲」一詞包涵著體諒、同情、慷慨、關懷等意義。它代表著人類最高尚的情操、最美善的一面，甚至成了人性的同義詞。正如教宗於《慈悲特殊禧年詔書》所說：「慈悲，是存在每人心底的基本定律，能使我們誠摯地看待生命中遇到的每位兄弟姊妹。」。在寬恕已淪為各人生活稀客這個時代，如我們能在不同的層面－個人、家庭、職場、社會發揮這份已擁有的人性特質，將有助於建設一個更美好和富人情味的世界。簡單的我們可從家庭做起：多關心父母、子女和其他親人。除了通過社交媒體或手機溝通外，我們還須與別人會面，互相問候和交談，珍惜與家人的共聚時光；在個人方面，各位主內的弟兄姊妹可多參與教區及堂區所推動的有關「慈悲特殊禧年」的活動，例如朝聖和見證分享等活動；在職場上，作為醫療服務提供者，我們有時或會受到病人的情緒反應而影響，變得負面和容易動怒。如我們能以慈悲相待，多加體諒和聆聽病人的聲音，將有助改善彼此之間的關係；在社會方面，我們可以多參與義工服務，以實際行動去關懷弱小，對傷健人士和貧窮者施以憐憫之手。

我十分感恩，聖保祿醫院員工均能發揮這種慈悲精神，以最真誠、最謙虛的心去對待和服務病人；除緊守工作崗位外，他們亦大力支持和參與由本院舉辦的義工活動，利用自己寶貴的空餘時間去關懷和幫助弱勢社群。在這「慈悲特殊禧年」，我希望各位能繼續「去做慈悲可見的見證，宣講慈悲，活出慈悲。」，因「那是喜樂、安寧及和平之泉」 (慈悲特殊禧年詔書25及2)。

最後，再一次感謝聖保祿醫院所有員工在過去一年為本院付出的努力和貢獻。願上主的平安常與你們同在！新年進步，萬事如意！

**張柱見修女**


由耶穌會士馬爾谷．盧力Rupnik神父設計的「慈悲禧年」的徽號

*Dr.Ng Wing Chiu*
Specialist in Surgery
St Paul's Hospital

# Perianal abscess and anal fistula

Perianal abscess and anal fistula are two common benign perianal conditions and they represent different stages of a common pathogenic spectrum.

Perianal abscess presents as a tender and fluctuant perianal mass, together with erythema and warmth. Ninety percent of perianal abscesses are a result of obstruction of small anal glands (cryptoglandular theory), leading to stasis, bacterial infection and abscess formation. Other causes include inflammatory bowel disease, tuberculosis, trauma and malignancies. Offending bacteria are the enteric pathogens, including Gram-negative bacilli and anaerobes.

As antibiotics will not penetrate the abscess cavity, incision and drainage of the abscess is the mainstay of treatment. During the surgery, it is vital to look for any associated or predisposing anorectal pathology. Postdrainage care includes pain relief, sitz bath, stool bulking and wound care. Despite treatment, around 30-50% of perirectal abscesses will result in the formation of an anal fistula.

Anal fistulas are classified based on their relationship to the anal sphincter complex. The Parks classification system for fistulas divides them into 5 types: submucosal, inter-sphincteric, trans-sphincteric (high and low), supra-sphincteric, and extra-sphincteric.

A patient who presents with an anal fistula often has a history of an abscess that has either been drained surgically or spontaneously. Common symptoms are pain, discharge, perianal itching and bleeding due to the presence of granulation tissue.

Careful inspection, examination of the perianal skin and digital rectal examination provide a considerable amount of information about the anatomy of the fistula (internal opening, fistula tract and external opening). Sometimes, preoperative imaging, such as endoanal ultrasound, Magnetic Resonance Imaging and Computed Tomography may be required to determine the relationship of the fistula tract to the anal sphincters and to look for underlying causes. Intra-operatively, injection of the external opening with dilute hydrogen peroxide or methylene blue can assist identification of internal opening.

| The principles of management of anal fistula are to: |
|---|
| 1. Treat sepsis and drain abscess |
| 2. Delineate the anatomy of the tract(s) |
| 3. Eradicate the tract(s) |
| 4. Manage underlying causes |
| 5. Maintain continence |
| 6. Prevent recurrence |

Treatment of an anal fistula depends on the complexity of the fistula and the amount of sphincter complex involved by the fistula tract. Surgery is the mainstay of treatment. Conservative treatment can be an option for selected patients, for example, patients with significant medical co-morbidities and patients with inflammatory bowel disease. A variety of sphincter-sparing and non sphincter-sparing options are available.

### Fistulotomy

A fistulotomy involves the division of the tissue overlying a fistula tract, thereby laying open the entire tract. This is the standard treatment for inter-sphincteric and low trans-sphincteric fistulas.

### Fistulectomy

is the excision of the entire fistula tract to allow healing by secondary intention. The fistula track is identified by placing a fistula probe within the track and then the tract itself can be cored out around the probe. Drawbacks of this technique are the potential to have more tissue damage and a larger tissue defect.

### Seton

A seton is a suture or vessel loop that is passed through the fistula tract and tied to form a continuous ring between the internal and external openings. A seton can be used to keep the fistula tract open, facilitating drainage and preventing development of perianal sepsis. After sepsis settles, the seton can be progressively tightened to allow gradual cutting of the sphincter muscles and gradual fibrosis and healing. It is usually used for high anal fistula.

### Fibrin glue

Fibrin glue is made of a combination of fibrinogen, thrombin, and calcium. The

glue is thought to heal the fistula by inducing clot formation within the fistula tract and then promoting the growth of collagen into the tract and wound healing.

### Plugs

Fistula plugs are made of acellular porcine submucosal collagen designed to allow the growth of fibroblasts into its scaffolding and therefore promoting closure of the fistula. The fistula plug is pulled through the fistula tract, secured at the internal opening, and trimmed at the external opening, which is left open for continued drainage.

### Ligation of inter-sphincteric fistula tract (LIFT) Procedure

The LIFT procedure is a sphincter sparing technique. Once the trans-sphincteric fistula tract is dissected and identified within the inter-sphincteric space, it can be divided and ligated in the space between the internal and external sphincters. Systemic review showed that LIFT procedure is effective and safe in treating trans-sphincteric or complex anal fistulas.

### Endorectal Advancement Flap

Transanally, a healthy sleeve of rectal wall is raised and advanced over the debrided internal opening of the fistula. By positioning a flap of healthy tissue over the internal opening of the fistula, the fistula tract is protected from fecal contamination and allowed to heal by secondary intention. It is used for high and complex anal fistula.

### Summary

Anal abscesses and fistulas are common conditions that are related to one another. Surgical options for the treatment of anal fistula range from less invasive to more destructive procedures. Treatment of fistula should be tailor-made with the aetiology, complexity and sphincter status be taken into account. Staged surgery may be required for complex fistulas.

References:

Management of anal fistula. BMJ 2012; 345:e6705

Ligation of intersphincteric fistula tract (LIFT) to treat anal fistula: systematic review and meta-analysis. Tech Coloproctol (2014) 18:685–691

Modern management of anal fistula. World J Gastroenterol 2015 January 7; 21(1): 12-20

Anal abscess and fistula. Gastroenterol Clin N Am 42 (2013) 773–784

# Clopidogrel-PPI Interaction: How Much Does It Mean?

*SPH Pharmacy Department*

## Introduction

The interaction between clopidogrel (Plavix®) and proton pump inhibitors (PPIs) has been in heated discussion over the recent years. Published meta-analyses have shown inconsistent results of clinical studies, placing controversies on the clinical significance of such interaction, and ultimately, the selection of therapy.

Clopidogrel is a prodrug that requires activation through cytochrome P450 (predominantly CYP2C19) to exert its antiplatelet effect. It has been proposed that PPIs, also metabolized by CYP2C19, may competitively inhibit clopidogrel activation when used concomitantly. In 2009, the US Food and Drug Administration (FDA) and European Medicines Agency (EMA) issued warnings on avoiding combination of clopidogrel and PPI (omeprazole or esomeprazole in particular), based on pharmacokinetic and pharmacodynamic (PK/PD) data[1,2]. Consequently, the American College of Cardiology Foundation, the American College of Gastroenterology, and the American Heart Association (ACCF/ACG/AHA) have specified their recommendations on the concomitant use of PPI and clopidogrel to include only patients at high risk of gastrointestinal (GI) bleeding[3]. However, clinical evidence of this interaction is not substantial. Although a number of clinical studies have been conducted, multiple meta-analyses performed reported inconsistency between the results from reported studies[4-6].

## Updates of evidence

The two most recent meta-analyses have been published in January and June 2015. One meta-analysis evaluated the combination of dual antiplatelet therapy (i.e. clopidogrel and aspirin) and PPI in patients with unstable angina or non-ST-segment-elevation myocardial infarction (MI)[7]. Thirty-one observational studies and 4 RCTs were systematically reviewed. Endpoints include all ischemic events, all-cause mortality, nonfatal myocardial infarction, stroke, revascularization, stent thrombosis, and GI bleeding. Conflicting results were found in various clinical outcomes at about one year. While random-effects estimates suggested clinical outcomes were significantly worse in patients taking PPIs compared to patients not taking PPIs, the results of RCTs showed no difference. These outcomes include composite ischemic endpoints [adjusted HR = 1.35 (95% CI = 1.18-1.54, p<0.001)]; nonfatal MI [adjusted HR = 1.33 (95% CI = 1.15-1.55, p<0.001)]; stroke [adjusted HR = 1.49 (95% CI = 1.20-1.84, p<0.001)]; and stent thrombosis [adjusted HR = 1.34 (95% CI = 1.17-1.55, p<0.001)]. The study also reported moderate strength of evidence that GI bleeding is significantly less in patients taking PPIs.

In another meta-analysis evaluating adverse events of clopidogrel-PPI combination and clopidogrel without PPI use[8], 39 studies were included, 3 of which are RCTs. Endpoints include all-cause mortality, cardiovascular mortality, MI, acute coronary syndromes (ACS), stent thrombosis, revascularization, cerebrovascular accidents (CVA) and GI bleeding. Overall meta-analysis showed significantly increased rate of all ischemic endpoints following clopidogrel-PPI concomitant therapy versus clopidogrel alone. However, sub-analysis, which excluded observational studies and included only RCTs and propensity-score matched studies, reported another side of the story. It found no difference between the two treatment groups in all-cause mortality [OR = 0.91 (95% CI = 0.58-1.40, p=0.66)], ACS [OR = 0.96 (95% CI = 0.88-1.05, p=0.35)], MI [OR = 1.05 (95% CI = 0.86-1.28, p=0.65)], and CVA [OR = 1.47 (95% CI = 0.66-3.25, p=0.34)]. Revascularization [OR = 0.88 (95% CI = 0.80-0.97, p=0.01)] was significantly lower in the PPI group. Both the overall analysis and sub-analysis showed significantly lower GI bleeding events in patients taking PPIs.

## Choosing among PPIs

The possibility of interaction with clopidogrel is theoretically heterogeneous among PPIs, based on differences in degree of CYP2C19 inhibition. In vitro data showed strongest CYP2C19 inhibition by lansoprazole (Ki: 0.4-1.5 μM), followed by omeprazole (Ki: 2-6 μM) and esomeprazole (Ki: 8 μM). Rabeprazole (Ki: 17-21 μM) and pantoprazole (Ki: 14-69 μM) are weaker CYP2C19 inhibitors[9]. In vivo PK/PD data consistently showed decreased clopidogrel exposure with the use of omeprazole[10]. The PK/PD parameters of omeprazole in both in vitro and in vivo studies explain why omeprazole and esomeprazole (S-enantiomer of omeprazole) were highlighted in warnings issued by FDA and EMA. Data on lansoprazole are conflicting. Although it exhibits the strongest CYP2C19 inhibition in vitro, one in vivo study demonstrated less decrease in clopidogrel exposure with the use of lansoprazole and dexlansoprazole (R-enantiomer of lansoprazole) compared to omeprazole and esomeprazole[11]. Data on rabeprazole is also limited. Among the PPIs commonly in use, pantoprazole has consistently demonstrated minimal interaction with clopidogrel in in vitro and in vivo PK/PD studies[10,12].

Clinically, the interclass variability of PPIs' effect on clopidogrel has not been established. The second aforementioned meta-analysis reported a subgroup analysis performed by stratifying PPIs according to the presumed risk of CYP2C19 inhibition into high-risk (omeprazole, esomeprazole, lansoprazole) and low-risk (pantoprazole, rabeprazole) groups. Increased risk of MI and mortality were found to be associated with both groups. However, the studies included in the analysis are all observational studies. In fact, there are limited randomized, controlled head-to-head clinical studies comparing the potential interaction of different PPIs with clopidogrel. Therefore, for clinical practice, the European Society of Cardiology (ESC) currently recommends PPIs with weaker CYP2C19 inhibitory properties (e.g. pantoprazole, rabeprazole) can be reasonably used in conjunction with clopidogrel[13].

## Conclusion

The findings of recent meta-analyses showed inconclusive results on association of ischemic adverse events with concomitant use of PPI and clopidogrel, while consistently reporting lower GI bleeding occurrence with such combination. Going forward, larger prospective randomized controlled trials are needed to evaluate the clinical implications of this interaction. Healthcare professionals should be vigilant on any updates of evidence in regards to this issue. In the meantime, the risks and benefits of prescribing clopidogrel and PPI concurrently should be carefully assessed in individual patients. If a PPI is indicated in patients taking clopidogrel, pantoprazole or rabeprazole may be more appropriate options based on the existing evidences.

References

1. Information for Healthcare Professionals: Update to the labeling of Clopidogrel Bisulfate (marketed as Plavix) to alert healthcare professionals about a drug interaction with omeprazole (marketed as Prilosec and Prilosec OTC). Drug Safety Information for Healthcare Professionals [Archived Content]. U.S. Food and Drug Administration Web site. Published Nov 17, 2009. Accessed Sep 21, 2015.
2. Public statement on possible interaction between clopidogrel and proton pump inhibitors. News and press release archive. European Medicines Agency Web site. Published May 29, 2009. Accessed Sep 21, 2015.
3. Abraham NS, Hlatky MA, Antman EM, et al. ACCF/ACG/AHA 2010 Expert Consensus Document on the concomitant use of proton pump inhibitors and thienopyridines: a focused update of the ACCF/ACG/AHA 2008 expert consensus document on reducing the gastrointestinal risks of antiplatelet therapy and NSAID use: a report of the American College of Cardiology Foundation Task Force on Expert Consensus Documents. Circulation. 2010;122(24):2619-33.
4. Kwok CS, Loke YK. Meta-analysis: the effects of proton pump inhibitors on cardiovascular events and mortality in patients receiving clopidogrel. Aliment Pharmacol Ther. 2010;31(8):810-23.
5. Chen M, Wei JF, Xu YN, Liu XJ, Huang DJ. A meta-analysis of impact of proton pump inhibitors on antiplatelet effect of clopidogrel. Cardiovasc Ther. 2012;30(5):e227-33.
6. Kwok CS, Jeevanantham V, Dawn B, Loke YK. No consistent evidence of differential cardiovascular risk amongst proton-pump inhibitors when used with clopidogrel: meta-analysis. Int J Cardiol. 2013;167 (3):965-74.
7. Melloni C, Washam JB, Jones WS, et al. Conflicting results between randomized trials and observational studies on the impact of proton pump inhibitors on cardiovascular events when coadministered with dual antiplatelet therapy: systematic review. Circ Cardiovasc Qual Outcomes. 2015;8(1):47-55.
8. Cardoso RN, Benjo AM, Dinicolantonio JJ, et al. Incidence of cardiovascular events and gastrointestinal bleeding in patients receiving clopidogrel with and without proton pump inhibitors: an updated meta-analysis. Open Heart. 2015;2(1):e000248.
9. Li XQ, Andersson TB, Ahlström M, Weidolf L. Comparison of inhibitory effects of the proton pump-inhibiting drugs omeprazole, esomeprazole, lansoprazole, pantoprazole, and rabeprazole on human cytochrome P450 activities. Drug Metab Dispos. 2004;32 (8):821-7.
10. Wedemeyer RS, Blume H. Pharmacokinetic drug interaction profiles of proton pump inhibitors: an update. Drug Saf. 2014;37(4):201-11.
11. Frelinger AL, Lee RD, Mulford DJ, et al. A randomized, 2-period, crossover design study to assess the effects of dexlansoprazole, lansoprazole, esomeprazole, and omeprazole on the steady-state pharmacokinetics and pharmacodynamics of clopidogrel in healthy volunteers. J Am Coll Cardiol. 2012;59(14):1304-11.
12. Angiolillo DJ, Gibson CM, Cheng S, et al. Differential effects of omeprazole and pantoprazole on the pharmacodynamics and pharmacokinetics of clopidogrel in healthy subjects: randomized, placebo-controlled, crossover comparison studies. Clin Pharmacol Ther. 2011;89(1):65-74.
13. Agewall S, Cattaneo M, Collet JP, et al. Expert position paper on the use of proton pump inhibitors in patients with cardiovascular disease and antithrombotic therapy. Eur Heart J. 2013;34(23):1708-13, 1713a-1713b.

# New Drugs available at SPH

## The following drugs were approved in the DTC meetings of November 2015:

| Approved drugs | Indication(s) | Usual dosage | Note |
|---|---|---|---|
| **Striverdi (olodaterol) Respimat Inhaler** | A long acting beta 2 agonist (LABA) for maintenance treatment of patients with chronic obstructive pulmonary disease (COPD). | 2 inhalations once daily | -- |
| **ANORO (umeclidinium and vilanterol) Ellipta Inhaler** | A combination product of umeclidinium (long acting antimuscarinic antagonist LAMA) and vilanterol (LABA) as a maintenance bronchodilator treatment to relieve symptoms in COPD. | 1 inhalation once daily | -- |
| **Actemra (tocilizumab) Pre-Filled Injection** | Recombinant humanized, anti-human monoclonal antibody immunoglobulin for the treatment of moderate to severe active rheumatoid arthritis in adult patients. | 162mcg once a week | Actemra infusion is also available at SPH.<br>Actemra pre-filled injection can provide an alternative option to patients especially those with preference of self injection at home.<br>Patients who are on IV infusion before can be switched to subcutaneous injection in which the next subcutaneous injection can be given at the next scheduled IV dose.<br>***Actemra pre-filled injection is available on doctor's request only*** |


聖誕老人在無限歡呼聲中出場，為晚宴打開序幕。



聖保祿女修會會長張月娥修女及醫務總監何兆煒醫生為晚宴致歡迎辭。

## 二零一五年度聖保祿醫院聖誕聯歡晚宴

十二月總是洋溢著陣陣的歡樂氣氛！

「2015年度聖保祿醫院聖誕聯歡晚宴」已於十二月十六及十七日一連兩晚假香港富豪酒店舉行。我們邀請了沙爾德聖保祿女修會會長張月娥修女及本院醫務總監何兆煒醫生為晚宴致歡迎辭，並分別由周景勳神父及張心銳神父帶領一眾賓客祈禱。

晚宴的節目安排非常緊湊。首先是頒發「長期服務獎」予在本院服務滿十年、二十年及三十年的員工，以感謝他們多年來對醫院的付出和貢獻。大會亦輯錄和播放了過去一年由本院舉辦不同的義工和員工活動的回顧片段，從片段中我們感受到當中的喜悅；幸運大抽獎這環節為在座賓客帶來既緊張又興奮的時刻，在此我們恭喜所有得獎之幸運兒。最後是萬眾期待的表演環節。今年我們很榮幸得到由謝德新醫生、劉業光醫生、謝啟聰醫生及劉子榮醫生組成的神秘樂隊「PAUTLES」的支持，為我們演唱歌曲，全場掌聲雷動；更邀得方津生醫生為我們作壓軸的表演嘉賓，雄渾歌聲伴隨著動人的音樂，為賓客帶來聽覺上的享受，將晚宴的氣氛推上高峰。

晚宴在一片歡樂聲中完結，各人亦盡慶而歸。在此，我們感謝大會的籌備小組，以及所有員工的踴躍支持和參與。我們期待來年再為各位帶來更精采的聖誕聯歡晚宴，共渡愉快美好時光！

晚宴幸運大抽獎為各同事心情推向既緊張又興奮。

是晚頒發「長期服務獎」，以感謝各員工多年來對醫院的付出和貢獻。


方津生醫生及神秘樂隊「PAUTLES」的獻唱，為晚宴氣氛推上沸點。

晚宴在一片歡樂聲中完結，各人盡慶而歸。

# 農曆新年團圓彌撒 (4-2-2016)

「天主的旨意，就是要你們因耶穌基督，時常歡樂，不斷祈禱，事事感恩。」(參閱得前5:16-18) 由張心銳神父為我們主持的農曆新年團圓彌撒已於二月四日假基督君王小堂完滿結束，當日出席參禮者約有二百人，在張神父的帶領下，我們一同祈禱、一同頌唱詩歌，以感謝天主賜給我們恩澤，眷顧我們。

在彌撒中，張神父與我們分享了一個故事：一位單身女士搬遷到新居，發現鄰居住著一位窮寡婦和她的兩個小孩子。有一晚停電，那女士點燃起一根蠟燭。門鈴忽然響起，原來是鄰家的小孩子，他問：「亞姨，請問你有沒有蠟燭？」那女士心想：他們窮得連蠟燭也沒有! 便應說:「沒有」。就在她關門之際，小孩子拿著蠟燭說：「亞姨，我知你沒有蠟燭，所以帶了兩根來給你」。那女士很感動，也自責自己之前對小孩子的拒絕。這故事讓我們反省要學會欣賞人的美善。人有能力選擇欣賞別人的優點，看見天主的美善、慈悲。張神父給予大家兩份「功課」：一是讚賞近人；二是依賴天主，進入天主的慈悲。適逢今年是「慈悲特殊禧年」，希望大家能懷著感恩的心去學習欣賞天主的美善，全心全意地欣賞祂的照顧，並在生活中努力實踐慈悲的精神。

最後，我們在此感謝參與禮儀服務和歌詠團的教友和同事們的協助，以及每位參禮者的撥冗出席，使彌撒得以順利舉行。

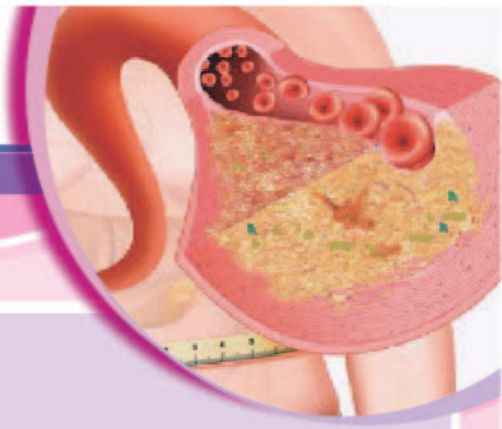
天主保佑！

牧靈部




# CME ANNOUNCEMENT

聖保祿醫院
St. Paul's Hospital



## CME/CPD/CNE Programme 2016

## Advance Management of Type 2 Diabetes Mellitus and Acute Coronary Syndromes in 2016

**Speakers:** **Dr. YU Kin Chap**
Staff Consultant in Endocrinology, Diabetes and Metabolism, St Paul's Hospital

**Dr. LEUNG Tat Chi, Godwin**
Specialist in Cardiology

**Chairman:** **Dr. TSE Tak Sun**
Head, Cardiac Centre, Staff Consultant Cardiologist, St. Paul's Hospital

**Date:** **14 March 2016 (Mon)**

**Time:**

| | |
|---|---|
| 7:00 pm – 7:30 pm | Reception (light refreshment provided) |
| 7:30 pm – 8:00 pm | "Approaches to Manage Type 2 Diabetes" by Dr. YU Kin Chap |
| 8:00 pm – 8:30 pm | "Dual Anti-Platelet Therapy: From acute to chronic - reviewing the evidence and the future implications" by Dr. LEUNG Tat Chi, Godwin |
| 8:30 pm – 9:00 pm | Q & A Session |

**Venue:** **Conference Room, 2/F, St. Paul's Convent**
(Entrance via St. Paul's Hospital, No.2, Eastern Hospital Road, Causeway Bay)

**Registration & Enquiry:**
(First-come-first-serve)

Contact Person: Ms. Fion Wong
Tel: 2830 3904, Fax: 2837 5271,
E-mail: sph.sdd@mail.stpaul.org.hk

Sponsored by: AstraZeneca

CME / CPD/ CNE Accreditation for all Colleges (Pending approval)