THE HONG KONG 香 港 醫 訊
MEDICAL DIARY
www.fmshk.org
VOL.14 NO.3 MARCH 2009

Obstetrics & Gynaecology

OFFICIAL PUBLICATION FOR THE FEDERATION OF MEDICAL SOCIETIES OF HONG KONG ISSN 1812 - 1691

Breast Milk as Gold Standard

Breast milk has long been recognized as nature's ideal nutrition for healthy term infants. Breast milk is the best form of infant nutrition because it provides the nutrients necessary to support the growth and development of infant.[1-3]

Biofactors are defined as both endogenous and exogenous factors that affect, modulate, or in some way interact with a biological system.[4] Breast milk is a complex matrix of over 200 biofactors that interact with one another, including proteins, carbohydrates, lipids, vitamins, minerals and nucleotides. They perform a number of biological functions, including immunologic, gastrointestinal and neurodevelopmental functions.[4]

Wyeth Biofactors System

The approach of Wyeth Biofactors System takes into account the importance of an integrated system of nutrients and other ingredients for promoting health and supporting optimal growth and development of infant.

Wyeth Innovation

Wyeth has steadfastly modeled its infant formula after the gold standard, Breast milk. Through decades of scientific studies, Wyeth, along with researchers and clinicians around the world, has identified many of the key biofactors that help ensure the health and development of infants. Detailed analysis has yielded a better understanding of breast milk, and nutrients can be added to infant formula to help bridge the nutritional gap between breast milk and formula when babies are not breastfed.

Heritage of Innovation

a. 1921 - Commercialization of 1st modern infant formula
b. 1933 - Carotene is added in amounts equal to those in breast milk
c. 1942 - Iron is added in amount sufficient to satisfy the infant's requirement
d. 1961 - First commercially infant formula with whey-to-casein ratio of 60:40, similar to that of mature breast milk
e. 1989 - First to add nucleotides to infant formula on a global basis
f. 1998 - First formula fortified with AA and DHA from pure vegetable sources
g. 2002 - First and only infant formula rich in alpha-lactalbumin
h. 2006 - First range of formula fortified with Lutein across Wyeth Gold range
i. 2008 - Launch of Biofactors System in Hong Kong

For medical professional's reference only

Reference: 1. Koletzko B, Aggett PJ, Bindels JP, et. al. Growth, development and differentiation: a functional food science approach. Br. J. Nutr. 1998;80 (Suppl. 1):S5-S45. 2. Breastfeeding, The National Women's Health information Center, www.4woman.gov/breastfeeding. Accessed on Jan 12, 2009. 3. American Academy of Pediatrics, Workshop on Breastfeeding. Breastfeeding and the use of human milk. Pediatrics. 1997; 100:1035-1039. 4. de Sierra TM. Biofactors: An integrated approach to infant nutrition. Proceedings of the Wyeth Nutrition satellite symposium. The 24th International Congress of Pediatrics, Cancun, Mexico, August 15-20, 2004.

Breast milk is best for babies. Infant formula is intended to replace breast milk when mothers do not breast-feed. Good maternal nutrition is important for preparation and maintenance of breast-feeding. Introducing partial bottle-feeding could negatively affect breast-feeding and reversing a decision not to breast-feed is difficult. Professional advice should be followed on infant feeding. Infant formula should be prepared and used as directed. Unnecessary or improper use of infant formula may present a health hazard. Social and financial implications should be considered when selecting a method of infant feeding.

Wyeth® 惠氏
Telephone: 2599 8888 Fax.: 2599 8990
12/F, Lincoln House, Tai Koo Place, 979 King's Road, Island East, Hong Kong

1G-PM-001-JAN-09

Contents

The Cover Shot

Birth of Essence

荷花在湖面盛放如出污泥而不染，就像初生嬰兒一樣。他是父母的愛情結晶品，像花一般盛放。荷花上像有著無數的光環，仿佛有很多天使要走出來一樣，如父母的感覺一樣，子女就像天使般純潔美麗。這是父母間感情升華而創造出來的天使，得到父母無限的溫暖與愛護，幸福快樂地成長。

Dr. Yip Wai Man
葉衛民醫生

Published by
The Federation of Medical Societies of Hong Kong

Design and Production
A-PRO MULTIMEDIA www.apro.com.hk

Editorial

Dr. KY LEUNG

FRCOG, FHKAM (O&G)
Consultant and Honorary Associate Professor,
Department of Obstetrics & Gynaecology,
The University of Hong Kong, Queen Mary Hospital

Editor

Dr. KY LEUNG

Dear colleagues,

It is my great pleasure and honour to be the guest editor of this issue of the Hong Kong Medical Diary. I have to take this opportunity to thank all my colleagues who have contributed to this issue out of their precious time.

At present, there are many prenatal screening tests for Down syndrome. Which screening test should we offer to an individual woman?

Our routine antenatal blood tests include screening for rubella, syphilis, Hepatitis B antigen, and more recently, human immunodeficiency virus. Shall we screen for group B streptococcus or other infections as well?

In the recent few years, there has been an increase in the number of non-local expectant mothers delivering babies in Hong Kong. What are the impacts?

Over the years, the Maternal and Child Health Service in Hong Kong has undergone remarkable development. What is the current role?

With technology push and women's demand over the recent several years, 3D/4D ultrasound has become more easily available. Is it necessary to perform 3D/4D ultrasound in obstetric practice?

Are modern hormonal contraceptives safe? What were the new hormonal contraceptives that were launched in Hong Kong in the past three years?

When are we going to give tocolytic agent to prevent preterm labour and which agent should we use?

The Hospital Authority Commissioned Training in 2008 was on obstetrics. There were two excellent speakers from the U.K: Dr. Kim Hinshaw and Tracey Johnston. What have we learnt?

To live a balanced life, we have to relax apart from working. How to open the door of Hi-fi Nirvana?

Hope that you enjoy reading these articles.

HealthBaby
生寶臍帶血庫



- The first Asian cord blood bank enter U.S. market
- The only cord blood bank accredited by HOKLAS
- Unique cryogenic storage system - BioArchive ™ System
- The only cord blood bank located at HK Science Park
- Two successful cord blood transplant cases
- International accreditations
- Highest market share among Hong Kong cord blood banks

Hong Kong Red Cross
shifted to use
BioArchive™ System
since 2008
A+

Hotline: 3188 8899 www.healthbaby.hk HK | MACAU | TAIWAN | THAI | USA

Prenatal Screening for Foetal Down Syndrome

Dr. CP LEE
MBBS (HK), FROCG (England), FHKAM (O&G)
Department of Obstetrics and Gynaecology, The University of Hong Kong, Queen Mary Hospital

Dr. KY LEUNG
FRCOG, FHKAM (O&G)
Consultant and Honorary Associate Professor, Department of Obstetrics & Gynaecology, The University of Hong Kong, Queen Mary Hospital

Dr. MHY TANG
Prenatal Diagnosis and Counselling Department, Tsan Yuk Hospital

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 one CME credit under the programme upon returning the completed answer sheet to the Federation Secretariat on or before 31 March2009.

Introduction

Down syndrome is the most frequent chromosomal disorder among live-born children, with an expected prevalence of 1/600-800 live births. Conventionally, prenatal testing (screening or invasive) for Down syndrome has been offered to women aged 35 or above because they are at a higher risk than younger women. However, the detection rate is as low as 30% while the rate of invasive testing can be as high as 30%. Recently, the American College of Obstetrics and Gynecology (ACOG) recommends that all pregnant women, regardless of their age, be offered screening for Down syndrome.[1] This approach can detect 85% of Down syndrome at an invasive testing rate of 5%.

Several studies were performed on the isolation and analysis of maternal plasma foetal nucleated cells,[2] total cell-free DNA,[3] foetal DNA[4] , and placental expressed mRNA,[5] and have found that it is feasible to detect foetal trisomy 21 non-invasively. However, these new non-invasive genetic based approaches have not been applied in clinical practice yet and are beyond the scope of this review. This article will discuss the various Down syndrome screening tests which are available in Hong Kong (Table 1). The timing, sensitivities and false positive rate of these tests vary.

It is a complex decision-making process for an individual woman to choose one out of these screening tests. An appropriate non-directional counselling is required to help women make an informed decision.

Aged 35 or Above

Conventionally, women aged 35 or above are offered an option of invasive procedure including chorionic villus sampling or amniocentesis. However, these procedures are invasive and associated with 0.5 to 1% miscarriage rate. More and more women in Hong Kong choose to start a family later in recent years. This approach will mean that over 20% of pregnant women in Hong Kong will have to undergo an invasive procedure. Therefore, the current approach is to offer these women an option of a screening test which can detect around 85% of Down syndrome foetuses at a false positive rate of around 5%. If the screening test shows a negative result, an invasive test can be avoided. Women need to understand that screening test may miss a small proportion of foetuses with Down syndrome. In 2007, in a teaching hospital where screening test was offered as an alternative to direct invasive tests, 68% of women aged 35 or above preferred some form of screening test.[6]

Age Below 35

Although advanced maternal age is a risk factor for Down syndrome, 70% of the children with Down syndrome are born to women below 35. Therefore, these women should also be offered a screening test. Although the test itself is noninvasive, a woman will have to make the decision on an invasive test if the result of the test turns out to be positive. Adequate pre-test counselling is essential.

Other Risk Factors

If a woman has a previously affected child, or either one of the couple carries balanced structural rearrangements of chromosome 21, she is at high risk of carrying a foetus with Down syndrome. A direct invasive test is recommended for these women. Other family history of Down syndrome, unless associated with a translocation involving chromosome 21, is usually not associated with a significantly increased risk to warrant direct invasive tests.

Which Screening Test?

Second Trimester

In the Hong Kong Hospital Authority (HA), second trimester screening test in the form of double markers (hCG and alpha-foetal protein) between 15 and 20 weeks' gestation has been offered to women aged 35 or above. The sensitivity is 63% at 5% false positive rate. First trimester nuchal translucency measurements (NT) were available in some HA hospitals in addition to the second trimester serum markers. The sensitivity of this two staged integrated testing is 85% at 5% false positive rate.[7] The sensitivity of second trimester serum test can

be increased by using triple markers (adding Oestriol) or using quadruple markers (adding oestriol and Inhibin A).[8] These are available in some private laboratories in Hong Kong. It is important to note that all serum markers vary with gestational age (some increase with gestational age and some decrease with gestational age) and need to be converted to MoM (multiple of median) according to gestational age. Therefore, ultrasound determination of the gestational age will improve the performance of theses tests.

Second trimester screening allows spontaneous fetal loss to occur and thus reduces the likelihood of electively terminating a pregnancy that was destined to be spontaneously miscarried. However, if fetal aneuploidy is found, termination of pregnancy may have to be performed after 16 to 18 weeks' gestation.

First Trimester

For a woman who wants to know their Down syndrome risk early, first trimester screening based on NT (between 11-13$^{6/7}$ weeks gestation) and maternal serum PAPP-A and free-beta hCG can be offered.[9] The maternal blood test can be done on the same day of the NT or slightly earlier. The main advantage of first trimester over second trimester screening is that it allows earlier prenatal diagnosis (provided that chorionic villus sampling is available) and thus earlier pregnancy termination if aneuploidy is detected. However, approximately 9% of all Down syndrome fetuses viable in the first trimester are lost spontaneously before the second trimester,[10] and thus early detection may lead to some unnecessary invasive diagnostic and pregnancy termination procedures. Fetal nuchal translucency (NT) increases with crown-rump length (CRL), and so it is important to take gestational age into account.[10] The NT measurement is converted into MoM (multiple of median) or delta-NT (difference from the median) for the gestational age based on CRL for risk calculation. Strict guidelines of technique of measuring NT has been well documented. [11,12]

Two Stage Tests:

Integrated First and Second Trimester Test:

For women who wants to choose a more sensitive screening or to reduce the false positive rate (thus reducing the risk of procedure related fetal loss), a two staged integrated first and second trimester test, combining NT and all the first and second trimester serum markers, can theoretically achieve a detection rate of around 90% with a false positive rate of around 2%.[8] However, the risk estimate will only be available after the second trimester test is completed. Furthermore, some women may miss the second part of the screening test.

Step-wise Sequential Screening:

This means women undergo a first trimester screening first and if the result is positive, an early invasive procedure will be offered. If the first trimester result is negative, a second trimester screening is done. The risk calculation is then based on combining the first and second trimester markers, not on the second trimester markers alone. This approach will increase the detection rate at the expense of a slight increase in the false positive rate.[13]

Contingent Sequential Screening:

This means women undergo a first trimester screening first. Based on this result, they are classified into three risk categories: high, intermediate and low risk. Only those at high risk will be offered definitive diagnosis by CVS; those determined to be at low risk will have no further screening and those at intermediate risk will go on to the second trimester screening test.[14] It was calculated that for an overall false positive rate of 5%, 94% Down syndrome detection rates can be achieved, with 70% of the cases detected in the first trimester, and only 15% of women requiring a second trimester test. [14]

The principles of sequential contingent screening can be applied to a two-stage test, all completed in the first trimester. Instead of waiting for a second trimester serum test, women with intermediate risk can be offered further first-trimester ultrasound assessment for presence or absence of the foetal nasal bone, increased resistance to flow in the ductus venosus and for triscupid regurgitation. Patients with a positive secondary ultrasound marker will be offered CVS, whereas those with absence of these markers will be considered screened negative. This approach can still identify more than 90% of affected foetuses while reducing the false positive rate to 2-3%.[15] However, ultrasound assessment of these markers is technically demanding. This approach cannot be widely applied

Genetic Sonogram

The genetic sonogram is a systematic algorithm combining multiple individual ultrasound markers during the second trimester to improve Down syndrome risk assessment. Markers include major structural malformations, shortened humerus or femur, and other anatomic findings such as increased nuchal skin thickness, pyelectasis, echogenic intracardiac focus, hypoplastic fifth digit, sandal gap toe, echogenic bowel and widened iliac angle.[16] The absence of any marker on a second trimester scan conveys a 60-80% reduction in prior risk of Down syndrome based on advanced maternal age or serum screen risk. On the other hand, risk is adjusted in the presence of multiple sonographic markers by multiplying age-related risk by the product of the respective ultrasound markers' likelihood ratios. Although this concept was applied in high risk referral populations[17], a large meta-analysis concluded that sonographic markers are not of practical value in the low-risk population probably due to the variability in obtaining and interpreting these makers, operator experience, sonographic equipment and quality control.[18] Therefore, a genetic sonogram is not recommended as the primary screening method for foetal Down syndrome. Its use is mainly for women who want to reduce the need of invasive tests following a positive integrated test or second trimester serum test. Furthermore, most of these studies were performed on Caucasian subjects. Ethnic variations in these markers, such as the humerus length and prevalence of echogenic intracardiac focus in normal foetuses must be

taken into consideration. Caution is needed when applying these markers to the Asian population.

Multiple Pregnancy

NT measurement which is foetus-specific, seems to be a promising method of screening in these women.[19] The addition of maternal serum analytes may improve the sensitivity of first trimester screening. A 80% detection rate of Down syndrome for a 5% false positive rate using NT and first trimester serum makers has been reported.[20] However, a large discordance between the NT in a pair of monochorionic twins is more likely to be an early sign of twin-twin transfusion, rather than a risk of chromosomal aneuploidy.

Pregnancies Conceived After Assisted Reproduction Technology

It seems that there is a significant impact of assisted reproduction technololgy (ART) on second, but not first, trimester markers and the screen positive rates. Therefore, an appropriate adjustment in the second trimester screening protocol should be considered to reduce the unnecessary anxiety and miscarriage related to invasive diagnostic tests.[21]

Conclusions

The first trimester combined test performs at least as well as the traditional second trimester quadruple screen and 12 weeks appears to be the optimal time for screening if anomaly scan is performed as well. This is recommended for women who want early screening and diagnosis. For women who want a higher detection rate or to reduce the risk of procedure related loss, the integrated or contingent sequential screening can be offered, provided that they accept the possibility that the screening may not be completed until the second trimester. For women who first seek antenatal care after 14 weeks of gestation, second trimester serum screening can be offered. Where available and affordable, quadruple test performs better than triple or double test.

Table 1 Down syndrome risk assessment approaches in Hong Kong

A. First trimester screening 1. Combination of nuchal translucency (NT) + Pregnancy associated plasma protein-A (PAPP-A) and free £]-Human chorionic gonadotrophin (free £]-hCG) 2. Individual risk-oriented two-stage screening for Down syndrome: First trimester test (NT + PAPP-A + free £]-hCG) + diagnostic test (if high risk), further ultrasound assessment of fetal nasal bone, ductus venous, and triscupid regurgitation (if intermediate risk), or nothing (if low risk).
B. Second trimester screening 1. Double screen: maternal serum alpha-fetoprotein (MSAFP), hCG, 2. Genetic sonogram: multiple ultrasound markers 3. Extended sonogram: serum screen + ultrasound markers C. First and second trimester screening (i) Integrative (nondisclosure of first trimester results) 1. Integrated (NT, PAPP-A, double screen)
(ii) Sequential first and second trimester screening (disclosure of first trimester results) 1. Step-wise: first trimester test + diagnostic test (if positive) or second trimester test (if negative); final risk estimate incorporates both test results 3. Contingent: first trimester + diagnostic test (if high risk), second trimester test (if intermediate risk) or nothing (if low risk)

References

1. ACOG Practice Bulletin No 77: Screening for fetal chromosomal abnormalities. Obstet Gynecol 2007;109:217-2328.
2. Bianchi DW. Et al. PCR quantitation of fetal cells in maternal blood in normal and aneuploidy pregnancies. Am J Human Genet 1997;61:822-829.
3. Spencer K, de Kok JB, Swinkeis DW. Increased total cell-free DNA in the serum of pregnant women carrying a fetus affected by trisomy 21. Prenat Diagn 2003;23:580-583.
4. Fan HC, Blumenfeld YJ, Chitkara U et al. Noninvasive diagnosis of fetal aneuploidy by shotgun sequencing DNA from maternal blood. PNAS Early Edition 2008; www.pnas.org/cgi/10/1073/pnas.0808319105
5. Lo YMD, Tsui NBY, Chiu RWK, et al. Plasma placental RNA allelic ratio permits noninvasive prenatal chromosomal aneuploidy detection. Nature Med 2007; doi:10.1038/nm1530.
6. Annual statistics of Prenatal Diagnosis and Counseling Department, Tsan Yuk Hospital 2007
7. Lam YH, Lee CP, Sin SY et al. Comparison and integration of first trimester fetal nuchal translucency and second trimester maternal serum screening for fetal Down syndrome. Prenat Diagn 2002; 22:730-735
8. Wald N, Rodeck C, Hackshaw AK, Rudnicka A. SURUSS in perspective. BJOG 2004;111:521-531.
9. Snijders RJ, Noble P, Sebire N, et al. UK multicentre projection on assessment of risk of trisomy 21 by maternal age and fetal nuchal translucency thickness at 10-14 weeks of gestation. Lancet 1998;351:343-346.
10. Snijders RJ, Johnson S, Sebire NJ, et al. First-trimester ultrasound screening for chromosomal defects. Ultrasound Obstet Gynecol 1996;7:216-226.
11. Malone FD, D'Alton ME. First trimester sonographic screening for Down syndrome. Obstet Gynecol 2003;102:1066-1079.
12. Monni G, Zoppe MA, Ibba RM, et al. Results of measurements of nuchal translucency ultrasound before and after training. Lancet 1997;350:1631.
13. Malone FD, Canick JA, Ball RH, et al. First-trimester pr second-trimester screening, or both, for Down syndrome. N Engl J Med 2005;353:2001-2011.
14. Wenstrom KD. Evaluation of Down syndrome screening strategies. Semin Perinatol 2005;29:219-224.
15. Nicolaides KH, Spencer K, Avgidou K, et al. Multicenter study of first trimester screening for trisomy 21 in 75 821 pregnancies: results and estimation of the potential impact of individual risk-orientated two-stage first-trimester screening. Ultrasound Obstet Gynecol 2005;25:221-226.
16. Benacerraf BR. The role of the second trimester genetic sonogram in screening for fetal Down syndrome. Semin Perinatol 2005;29:386-394.
17. Bromley B, Lieberman E, Shipp T, Benacerraf B. The genetic sonogram: a method of risk assessment for Downs syndrome in the second trimester. J Ultrasound Med 2002;21:1087-1096.
18. Smith-Bindman R, Hosmer W, Feldstein VA, Deeks II. Goldbertg JD. Second-trimester ultrasound to detect fetuses with Downs syndrome: a meta-analysis. JAMA 2001;285:1044-1055.
19. Spencer K. Screening or trisomy 21 in twin pregnancies in the first trimester using free £]-hCG and PAPP-A, combined with fetal nuchal translucency thickness. Prenat Diagn 2000;20:91-95.
20. Cleary-Goldman J, Berkowitz RL. First trimester screening for Down syndrome in multiple pregnancy. Semin Perinatol 2005;29:395-400.
21. Lambert-Messerlian G, Dugoff L, et al. First- and second-trimester Down syndrome screening markers in pregnancies achieved through assisted reproductive technologies (ART): a FASTER trial study. Prenat Diagn 2006;26:672-678.

MCHK CME Programme Self-assessment Questions

Please read the article entitled "Prenatal Screening for Foetal Down Syndrome" by Dr. CP LEE, Dr. KY LEUNG and Dr. MHY TANG and complete the following self-assessment questions. Participants in the MCHK CME Programme will be awarded 1 CME credit under the Programme for returning completed answer sheets via fax (2865 0345) or by mail to the Federation Secretariat on or before 31 March 2009. 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)

1. An invasive test (amniocentesis or chorionic villus sampling) should be offered to all women aged 35 or above to detect foetal Down syndrome.
2. A Down syndrome screening test should not be offered to a woman below 35 because she is not at risk of foetal Down syndrome.
3. If a woman has a previously affected child, it is reasonable to offer her an invasive test to exclude foetal Down syndrome.
4. Ultrasound determination of the gestational age will improve the performance of a prenatal Down syndrome screening test.
5. First trimester Down syndrome screening test (nuchal translucency and serum markers) can be performed as early as 10 weeks' gestation.
6. When considering prenatal screening for Down syndrome screening, a woman may want to reduce the false positive rate or avoid an invasive procedure as far as possible. Integrated first and second trimester test is a reasonable option.
7. When considering prenatal screening for Down syndrome screening, a woman may want to reduce the false positive rate or avoid an invasive procedure as far as possible. Stepwise sequential screening is a reasonable option.
8. Absence of the foetal nasal bone, increased resistance to flow in the ductus venosus and tricuspid regurgitation are the first trimester sonographic markers of Down syndrome.
9. Prenatal ultrasound examinations can exclude foetal Down syndrome.
10. The performance of prenatal Down syndrome screening test is better for twin than singleton pregnancies.

ANSWER SHEET FOR MARCH 2009

Please return the completed answer sheet to the Federation Secretariat on or before 31 March 2009 for documentation. 1 CME point will be awarded for answering the MCHK CME programme (for non-specialists) self-assessment questions.

Prenatal Screening for Foetal Down Syndrome

Dr. CP LEE
MBBS (HK), FROCG (England), FHKAM (O&G)
Department of Obstetrics and Gynaecology, The University of Hong Kong, Queen Mary Hospital

Dr. KY LEUNG
FRCOG, FHKAM (O&G)
Consultant and Honorary Associate Professor, Department of Obstetrics & Gynaecology, The University of Hong Kong, Queen Mary Hospital

Dr. MHY TANG
Prenatal Diagnosis and Counselling Department, Tsan Yuk Hospital

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐

Name (block letters):_____ HKMA No.: _____

HKID No.:___ ___ - ___ ___ ___ ___ X X (x) HKDU No.: _____

Contact Tel No.:_____ CDSHK No.: _____

Answers to February 2009 Issue

Use of Eye Movement Desensitization & Reprocessing Therapy in the Treatment of Post Traumatic Stress Disorder

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

2009-10

Family Medicine Unit
Department of Medicine
The University of Hong Kong

Part-time Postgraduate Diploma Courses

Quotable qualifications by the Medical Council of Hong Kong
Clinically orientated and multiple learning modes

Postgraduate Diploma in Community Geriatrics
社區老年醫學深造文憑

With The Hong Kong Geriatrics Society as co-organizer, this Course offers practical knowledge and experience in the care of the aging population.

- Workshops conducted by experienced geriatricians and family physicians
- Locally-developed distance learning study
- Clinical geriatric teaching and attachment

Conjoint Clinical Examination with
Royal College of Physicians and Surgeons of Glasgow (RCPSG)

Doctors may opt to obtain Postgraduate Diploma in Community Geriatrics and RCPSG's Diploma in Geriatric Medicine by sitting the same Clinical Examination.

Postgraduate Diploma in Community Psychological Medicine
社區精神醫學深造文憑

Co-organized with the Department of Psychiatry, this Course offers knowledge and skills in early detection and appropriate referral to specialist care for patients with psychological problems.

- Seminars on common psychological problems and psychotherapy
- Clinical training and case discussion by psychiatrists, clinical psychologists and family physicians
- Small group learning and hands-on experience of interviewing and caring for patients

Course duration: September 2009 – June 2010 on a part-time basis.
Tuition fee for each Course is HK$42,000, subject to adjustment in 2009/2010.

Closing date for application: 30th April 2009

Enquiries:
Ms Tang, Executive Assistant
Tel: 2518 5681
Fax: 2814 7475
Email: magtang@hku.hk

Address:
Family Medicine Unit,
3/F, Ap Lei Chau Clinic,
161 Main Street, Ap Lei Chau,
Hong Kong

Websites:
www.hku.hk/fmunit/geriatrics
www.hku.hk/fmunit/psychiatry

Screening for Infections in Pregnancy - What Tests Should We Offer?

Dr. William WK TO
MBBS, M Phil, FRCOG, FHKAM (O&G), FHKCOG

Dr. William WK TO

Infections in pregnancy may cause significant morbidity and mortality through various different mechanisms in pregnancy. Concerns with congenital infections are focused on the possible vertical transmission of these infections to the foetus, which may lead to various forms of malformations, neuro-developmental delay and long term childhood consequences (such infections include syphilis, varicella, rubella, cytomegalovirus, toxoplasmosis, pavovirus B19, human immunodeficiency virus). Other maternal infections may adversely affect the course of the pregnancy, leading to increased risks for miscarriage or preterm delivery (such infections include listeriosis, asymptomatic bacteriuria, vaginal bacterosis), or are associated with possible severe neonatal sepsis (examples include Gp B streptococcus infection or colonisation, and genital herpes). The more common infections in the antenatal period and recommendations for screening are briefly discussed in this article.

Rubella

The aim of screening for rubella in pregnancy is to identify susceptible women so that postpartum vaccination may protect future pregnancies against rubella infection and its consequences. Hence, rubella screening does not attempt to identify current affected pregnancies. There is also no treatment to prevent or reduce mother-to-child transmission of rubella for the current pregnancy. Vaccination during pregnancy is contraindicated because of fears that the vaccine could be teratogenic. However, in an evaluation of surveillance data from the USA, UK, Sweden and Germany of 680 live births to susceptible women who were inadvertently vaccinated during or within 3 months of pregnancy, none of the children was born with congenital rubella syndrome[1].

Recommendation - *Rubella susceptibility screening should be offered early in antenatal care to identify women at risk of contracting rubella infection and to enable vaccination in the postnatal period for the protection of future pregnancies.*

Syphilis

The prevalence of syphilis in pregnant women is very low in Hong Kong, but there were trends of a higher incidence in new immigrants and non-resident mothers. In pregnant women with early untreated syphilis, 70% to 100% of infants will be infected and one-third will be stillborn. The risk of congenital transmission declines with increasing duration of maternal syphilis prior to pregnancy. Full and timely treatment of syphilis in pregnancy with penicillin has shown pregnancy outcomes when comparable with untreated seronegative women. Although erythromycin is useful in the treatment of syphilis for non-pregnant women who are allergic to penicillin, treatment of pregnant women with erythromycin has been shown to be ineffective in some cases[2].

Recommendations - *Screening for syphilis should be offered to all pregnant women at an early stage in antenatal care because treatment of syphilis is beneficial to the mother and foetus.*

Toxoplasmosis

No data specific to Hong Kong were available, but in the UK, approximately 75% to 90% of pregnant women are estimated to be susceptible to toxoplasmosis infection. The prevalence of congenital toxoplasma infection was reported to be approximately 0.3/1000 live births in Denmark. A study in six European centres identified undercooked meat and cured meat products as the principal factor contributing to toxoplasma infection in pregnant women[3]. The reported overall risk of congenital toxoplasmosis with primary infection with T. gondii increases from 6% to 26% from 7 to 15 weeks of gestation and rising to 32% to 93% at 29 to 34 weeks of gestation. Clinical manifestations of congenital toxoplasmosis include inflammatory lesions in the brain and retina and choroids that may lead to permanent neurological damage or visual impairment. In contrast to the risk of transmission, the risk of an infected infant developing clinical signs of disease (hydrocephalus, intracranial calcification, retinochoroiditis) is highest when infection occurs early in pregnancy, declining from an estimated 61% at 13 weeks to 9% at 36 weeks[4].

Available screening tests to determine sero-conversion cannot distinguish between infection acquired during pregnancy or up to 12 months beforehand and women who have acquired the infection before conception are not at risk of foetal infection. For pregnant women with a diagnosis of primary toxoplasma infection, it is possible to multiply the risk of congenital infection by the risk of signs among congenitally infected children to estimate the risk to the foetus and to arrive at an informed decision. Primary prevention of toxoplasmosis with the provision of information about how to avoid toxoplasma infection before or early in

pregnancy should be given. Systematic reviews on the effects of antiparasitic treatment (spiramycin alone, pyrimethamine sulphonamides or their combination) on women who acquire primary toxoplasmosis infection during pregnancy showed inconsistent treatment effects. The drugs are reported to be well tolerated and non-teratogenic, although sulpha drugs may carry a risk of kernicterus in infants and also of bone marrow suppression in the mother and infant. Although universal screening with antenatal treatment reduced the number of cases of congenital toxoplasmosis, an additional 18.5 pregnancies were lost for each case avoided[5]. Other costs include the unnecessary treatment or termination of uninfected or unaffected foetuses. As an alternative, neonatal screening aims to identify neonates with congenital toxoplasmosis in order to offer treatment and clinical follow up. The vast majority of congenitally infected infants are asymptomatic in early infancy and would be missed by routine paediatric examinations. Neonatal screening is based on the detection of toxoplasma-specific IgM and has been found to detect 85% of infected infants. There are no published studies that have determined the effect of postnatal treatment.

Recommendation *- Routine antenatal serological screening for toxoplasmosis should not be offered because the harms of screening may outweigh the potential benefits. Pregnant women should be informed of primary prevention measures to avoid toxoplasmosis infection such as washing hands before handling food; thoroughly washing all fruit and vegetables, including ready-prepared salads, before eating; thoroughly cooking raw meats and ready-prepared chilled meals; wearing gloves and thoroughly washing hands after handling soil and gardening; and avoiding cat faeces in cat litter or in soil.*

Cytomegalovirus

Congenital infection is thought to occur in 3/1000 live births[6], and a small proportion of these babies would be expected to have severe neuro-developmental problems as a result. At present, antenatal screening for this condition is thought to be inappropriate, as it is not currently possible accurately to determine which pregnancies are likely to result in the birth of an infected infant, and which infected infants will have serious sequelae. There is no currently available vaccine or prophylactic therapy for the prevention of transmission and no way to determine whether intrauterine transmission has occurred.

Recommendation *- The available evidence does not support routine cytomegalovirus screening in pregnant women and it should not be offered.*

Asymptomatic Bacteriuria

Local data on the incidence of asymptomatic bacteriuria are not available, but it occurs in around 2-5% of pregnant women in the UK. Evidence from randomised controlled trials designed to verify the benefits of treatment amongst women with ASB indicates an increased risk of preterm labour and pyelonephritis in women with ASB[7]. Midstream urine culture has been used as the reference standard for diagnosis of ASB. This has been shown to be superior to rapid tests such as reagent strips, microscopic urinalysis, Gram staining, urinary interleukin or enzymatic tests. A Cochrane systematic review of 14 RCTs has shown that antibiotic treatment reduced persistent bacteriuria during pregnancy, reduced preterm delivery or low birthweight babies, and reduced the development of pyelonephritis[8]. Economic considerations also supported the use of urine culture as a cost effective means to prevent the wider cost consequences of ASB.

Recommendation *- Pregnant women should be offered routine screening for asymptomatic bacteriuria by midstream urine culture in pregnancy. The identification and treatment of the condition reduces the risks of preterm birth.*

Hepatitis B and C Virus

The prevalence of hepatitis B surface antigen (HBsAg) in pregnant women in HK has been found to range from 6-10%. As many as 85% of babies born to mothers who are positive for the hepatitis e antigen (eAg) will become HBsAg carriers and subsequently become chronic carriers, compared with 31% of babies who are born to mothers who are eAg negative (RR 2.8)[9]. Mother-to-child transmission of the hepatitis B virus is approximately 95% preventable through administration of vaccine and immunoglobulin to the baby at birth[10]. To prevent mother-to-child transmission, all pregnant women who are carriers of hepatitis B virus need to be identified by antenatal screening for screening for HBsAg, HCV prevalence observed in most antenatal populations ranges from 0.1 to 0.8%. The risk of mother-to-child transmission is estimated to lie between 3% and 5%[11]. Although there is consistent evidence that the risk of mother-to-child transmission of HCV increases with increasing maternal viral load, whether caesarean delivery could reduce perinatal transmission as compared to vaginal delivery is uncertain. The clinical course of HCV in infants who have acquired the disease through mother-to-child transmission is also unclear, and some infected children could subsequently become HCV-RNA negative. Nevertheless, it is possible that infected children may develop long-term clinical outcomes. Upon confirmation of a positive screening test, a woman should be offered post-test counselling and referral to a hepatologist for management and treatment of her infection.

Recommendation *- Serological screening for hepatitis B virus should be offered to pregnant women so that effective postnatal intervention can be offered to infected women to decrease the risk of mother-to-child transmission.*

Pregnant women should not be offered routine screening for hepatitis C virus because there is insufficient evidence on its effectiveness and cost effectiveness.

Human Immunodeficiency Virus

HIV infection in HK pregnant population is reported to be less than 1: 4200. Currently available HIV tests are more than 99% sensitive and specific for the detection of HIV antibodies. Available tests for HIV diagnosis in

pregnant women include the EIA and Western blot protocol, which is at least 99% and 99.99% sensitive and specific. Interventions to reduce mother-to child transmission of HIV during the antenatal period include antiretroviral therapy, elective caesarean section delivery and advice on avoidance of breast feeding after delivery. The risk of infant mortality and maternal death was found to be reduced with zidovudine treatment compared with treatment with placebo (infant mortality: OR 0.57, maternal death: OR 0.30). In the absence of intervention, mother-to-child transmission was reported to occur in 25.5% of deliveries and was reduced to 8% with antiretroviral treatment with zidovudine[12]. The combination of interventions (i.e. combination antiretroviral therapy, caesarean section and avoidance of breast feeding) can further reduce the risk of transmission to 1%[13]. The use of anti-retrovirals to reduce mother-to-child transmission has resulted in resistant mutations, and has raised concerns about the efficacy of anti-retroviral treatment decreasing with time.

Recommendations *- Pregnant women should be offered screening for HIV infection early in antenatal care because appropriate antenatal interventions can reduce mother-to-child transmission of HIV infection. A system of clear referral paths should be established in each unit or department so that pregnant women who are diagnosed with an HIV infection are managed and treated by the appropriate specialist teams.*

Group B Streptococcus

There is little organised antenatal screening for maternal GBS carriage in Hong Kong and its prevalence in Hong Kong is uncertain. The estimated incidence of GBS carriage varied from 6.6% to 20% of mothers in the USA. Maternal intrapartum GBS colonisation is a risk factor for early onset disease in infants. The collection of cultures between 35 and 37 weeks of gestation appears to achieve the best sensitivity and specificity for detection of women who are colonised at the time of delivery, with swabs of both the vagina and rectum provide the highest predictive value for identification[14]. A comparison of screening methods (obtaining cultures from all pregnant women versus identifying women for intrapartum treatment through clinical risk factor assessment) in a large study in the US found that the risk of early-onset disease was more than 50% lower in the universally screened group compared with those screened by assessment of clinical risk factors to identify candidates for intrapartum antibiotics[15]. However, a systematic review of RCTs of intrapartum antibiotics for the reduction of perinatal GBS infection has not yet demonstrated an effect on neonatal deaths from infection (Peto OR 0.12), although a reduction in infant colonisation rate (Peto OR 0.10), as well as a reduction in early-onset neonatal infection with GBS, was observed[16]. With an assumption of 80% effectiveness for the prevention of early-onset GBS disease in infants with intrapartum antibiotics, for every 1000 women or more treated with intrapartum antibiotics for GBS, 1.4 cases of early-onset disease may be prevented.

Recommendations *- It is controversial whether all pregnant women should be offered routine antenatal screening for group B streptococcus (GBS) because evidence of its clinical effectiveness and cost effectiveness remains uncertain. Clinical risk factors for intrapartum antibiotic prophylaxis include previous baby affected with GBS, GBS bacteriuria during current pregnancy, preterm labour (< 37 or < 35 weeks), prolonged rupture of membranes > 18 hours, intrapartum fever and those in which GBS was detected incidentally in the pregnancy. However, antenatal treatment of maternal GBS colonisation is not recommended. There is also no good evidence to support the administration of antibiotic prophylaxis if GBS was detected in a previous pregnancy, or in those undergoing elective caesarean section without labour. Penicillin is the drug of choice and clindamycin should be given if the woman is allergic to penicillin[17].*

Asymptomatic Bacterial Vaginosis

The presence of bacterial vaginosis during pregnancy varies according to ethnicity and how often a population is screened. Local data are again lacking, but in general Asian populations have a lower incidence compared to North American populations[18]. Bacterial vaginosis may be diagnosed by either the Amsel's criteria (thin white-grey homogenous discharge, pH greater than 4.5, release of 'fishy odour' on adding alkali, clue cells present on direct microscopy) or Nugent's criteria (Gram-stained vaginal smear to identify proportions of bacterial morphotypes using a scoring system), while culture of G. vaginalis is not recommended as a diagnostic tool because it is not specific. Cervical Papanicolaou tests have limited clinical utility for the diagnosis of bacterial vaginosis because of low sensitivity. Women with bacterial vaginosis infection were found to be 1.85 times more likely to deliver preterm than women without bacterial vaginosis[19]. The higher risk of preterm birth remains in women diagnosed with bacterial vaginosis early in pregnancy even if the bacterial vaginosis spontaneously recovers later in pregnancy[20].

A systematic review of ten RCTs (n = 4249) found oral or vaginal antibiotics to be highly effective in the eradication of bacterial vaginosis in pregnancy when compared with placebo or no treatment (Peto OR 0.21)[21]. Antibiotics used in the interventions included oral metronidazole, oral metronidazole plus erythromycin, amoxicillin, vaginal metronidazole cream and intravaginal clindamycin cream. No significant differences in the rates of preterm birth or perinatal death were observed between the treated or untreated groups. However, a reduction in risk of preterm premature rupture of membranes was associated with antibiotics (Peto OR 0.32)[22].

Recommendation *- Pregnant women should not be offered routine screening for bacterial vaginosis because the evidence suggests that the identification and treatment of asymptomatic bacterial vaginosis do not lower the risk for preterm birth and other adverse reproductive outcomes.*

References

1. Revised ACIP recommendation for avoiding pregnancy after receiving a rubella-containing vaccine. MMWR-Morbidity and Mortality Weekly Report 2001;50:1117.
2. Hashisaki P, Wertzberger GG, Conrad GL, Nicholes CR. Erythromycin failure in the treatment of syphilis in a pregnant woman. Sexually Transmitted Diseases 1983;10:36-8.
3. Cook AJ, Gilbert RE, Buffolano W, Zufferey J, Petersen E, Jenum PA, et al. Sources of toxoplasma infection in pregnant women: European multicentre case-control study. European Research Network on Congenital Toxoplasmosis. British Medical Journal
4. Dunn D, Wallon M, Peyron F, Petersen E, Peckham C, Gilbert R. Mother-to-child transmission of toxoplasmosis: risk estimates for clinical counselling. Lancet 1999;353:1829-33.
5. Bader TJ, Macones GA, Asch DA. Prenatal screening for toxoplasmosis. Obstetrics and Gynecology 1997;90:457-64.
6. Preece PM, Tookey P, Ades A, Peckham CS. Congenital cytomegalovirus infection: predisposing maternal factors. Journal of Epidemiology and Community Health 1986;40:205-9.
7. Thomsen AC, Morup L, Hansen KB. Antibiotic elimination of group-B streptococci in urine in prevention of preterm labour. Lancet 1987;591-3
8. Smaill, F. Antibiotic treatment for symptomatic bacteriuria: antibiotic vs. no treatment for asymptomatic bacteriuria in pregnancy. Cochrane Database of Systematic Reviews 2002;(3):1-5.
9. Beasley RP, Trepo C, Stevens CE, Szmuness W. The e antigen and vertical transmission of hepatitis B surface antigen. American Journal of Epidemiology 1977;105:94-8.
10. Wong VC, Ip HM, Reesink HW, Lelie PN, Reerink-Brongers EE, Yeung CY, et al. Prevention of the HBsAg carrier state in newborn infants of mothers who are chronic carriers of HBsAg and HBeAg by administration of hepatitis-B vaccine and hepatitis-B immunoglobulin. Double-blind randomised placebo - controlled study. Lancet 1984;1:921-6.
11. Ades AE, Parker S, Walker J, Cubitt WD, Jones R. HCV prevalence in pregnant women in the UK. Epidemiology and Infection 2000;125:399-405.
12. Connor EM, Sperling RS, Gelber R, Kiselev P, Scott G, O'Sullivan MJ, et al. Reduction of maternal - infant transmission of human immunodeficiency virus type 1 with zidovudine treatment. Pediatric AIDS Clinical Trials Group Protocol 076 Study Group. New England Journal of Medicine 1994;331:1173-80.
13. Duong T, Ades AE, Gibb DM, Tookey PA, Masters J. Vertical transmission rates for HIV in the British Isles: estimates based on surveillance data. British Medical Journal 1999;319:1227-9.
14. Yancey MK, Schuchat A, Brown LK, Ventura VL, Markenson GR. The accuracy of late antenatal screening cultures in predicting genital group B streptococcal colonization at delivery. Obstetrics and Gynecology 1996;88:811-5.
15. Schrag SJ, Zell ER, Lynfield R, Roome A, Arnold KE, Craig AS, et al. A population-based comparison of strategies to prevent early onset group B streptococcal disease in neonates. New England Journal of Medicine 2002;347:233-9.
16. Smaill, F. Intrapartum antibiotics for group B streptococcal colonisation. Cochrane Database of Systematic Reviews 1999;(3):1-5.
17. RCOG Green Top Guidelines No 36. Prevention of early onset neonatal Group B Streptococcal disease. RCOG; November 2003.
18. Goldenberg RL, Klebanoff MA, Nugent R, Krohn MA, Hilliers S, Andrews WW. Bacterial colonization of the vagina during pregnancy in four ethnic groups. Vaginal Infections and Prematurity Study Group. American Journal of Obstetrics and Gynecology 1996;174:1618-21.
19. Flynn CA, Helwig AL, Meurer LN. Bacterial vaginosis in pregnancy and the risk of prematurity: a meta-analysis. Journal of Family Practice 1999;48:885-92.
20. Gratacos E, Figueras F, Barranco M, Vila J, Cararach V, Alonso PL, et al. Spontaneous recovery of bacterial vaginosis during pregnancy is not associated with an improved perinatal outcome. Acta Obstetricia et Gynecologica Scandinavica 1998;77:37-40.
21. McDonald H, Brocklehurst P, Parsons J, Vigneswaran R. Interventions for treating bacterial vaginosis in pregnancy. Cochrane Database of Systematic Reviews 2003;(2):1-30.
22. Brocklehurst P, Rooney G. Interventions for treating genital chlamydia trachomatis infection in pregnancy. Cochrane Database of Systematic Reviews 2002;(3).

Social Obstetrics - Non-local Expectant Mothers Delivering Babies in Hong Kong

Dr. WC LEUNG

MBBS, FRCOG, FHKAM(O&G), Cert RCOG(Maternal and Fetal Med)
Consultant Obstetrician, Department of Obstetrics & Gynaecology, Kwong Wah Hospital, HKSAR

Dr. WC LEUNG

Introduction

When standard obstetrics practice is affected by a socio-economic situation, it can be described as ***social obstetrics.*** Ever since the Court of Appeal's decision in 2001 allowing Chong Fung-yuen (born while his parents were in HK on two-way permits) to stay in HK, an increasing number of non-local expectant mothers have travelled from the China Mainland to HK to deliver their babies for a special social reason - these children will then have the right to stay in HK (Figure 1). Some of them also come to evade the Mainland's one-child policy. In the past, these women were usually married to a Hong Kong resident husband, but now, more and more of these couples are both Mainland residents. These mothers have to pay much higher fees to use the public health service. In the past, the obstetric package was HK$20,000 for 3 days and 2 nights' of hospitalisation including delivery + $3,300 per extra day, which resulted in many non-booked cases. The last minute help-seeking behaviour of these mothers can result in adverse pregnancy outcomes. From 1st February 2007, a new system of antenatal care and delivery bookings for non-local expectant mothers commenced in Hospital Authority hospitals (http://www.ha.org.hk). They now have to pay $39,000 for an obstetric package covering the first antenatal visit, delivery and birth-related hospitalisation for 3 days and 2 nights. Any additional clinic visit costs $700 and any additional day in hospital costs $3,300. Those who come for deliveries but have not booked will be charged $48,000. The new system significantly reduces the number of non-booked cases but still defers the non-local expectant mothers from having adequate antenatal care, leading to adverse pregnancy outcomes or near miss scenarios. They would usually go back to the Mainland after the first antenatal visit in Hong Kong and then came back at term either to the antenatal clinic once or directly to the labour ward when in labour. In principle, there could be shared antenatal care between Hong Kong and the Mainland. But in reality, this form of shared care was often suboptimal because of the difference in clinical practice and culture between Hong Kong and the Mainland. Furthermore, those non-local expectant mothers who were evading the one-child policy would avoid antenatal care in the Mainland to hide their pregnancy.

I have chosen the following six common scenarios to illustrate this ***social obstetrics*** phenomenon.

1. Perinatal Mortality Due to Extreme Postmaturity

This used to happen before 1st February 2007 with the old obstetric package i.e. $20,000 for 3 days and 2 nights' of hospitalisation including delivery + $3,300 per extra day, which resulted in many non-booked cases. At that time, these non-local expectant mothers tended to come to the hospital through the A&E Department at the last minute, often just after midnight in order to maximise the $20,000 covered 3 days and 2 nights' period, only when they are in active labour, even when they were post-term. We had reported two cases of postmaturity-related perinatal mortality with delivery at 42 weeks 6 days and 44 weeks gestation respectively (HKMJ 2007;13:231-3). The standard obstetrics practice would be induction of labour at 41 weeks.

2. Untreated Gestational Diabetes

Gestational diabetes is one of the most common obstetric complications affecting 10 to 20% of Chinese pregnant population. The standard management includes universal screening, diagnosis by oral glucose tolerance test (OGTT), diet control, home blood glucose monitoring, Insulin treatment for poorly controlled cases, monitoring for foetal growth, liquor volume & foetal well-being, and an appropriate time of delivery. Untreated cases could result in perinatal morbidity and mortality. It was difficult for non-local expectant mothers to comply and follow the recommended management of gestational diabetes. They would usually go back to the Mainland after their first antenatal visit and would not come for antenatal check-ups until delivery. Some of them did have OGTT in the Mainland but more of them did not have satisfactory control of blood glucose levels. The situation was even worse for those women who were evading the one-child policy because they would not attend regular antenatal care in the Mainland. Thus it was not unusual to find an affected foetus when they came to Hong Kong at term for delivery. Intrauterine foetal death had occurred in some cases as well.

3. Time of Delivery for Pre-eclampsia - Either Too Early or Too Late

Pre-eclampsia is another common obstetric complication which can result in significant maternal and perinatal morbidity and mortality. The standard management includes early recognition by detecting high blood pressure and proteinuria during regular antenatal visits, close monitoring of maternal and foetal well being, the use of antihypertensives, and most importantly, the decision on the best time for delivery of the baby. It is not difficult to understand why non-local expectant mothers with pre-eclampsia cannot follow the above standard management. They could appear too late in our labour ward with eclampsia, acute renal failure, pulmonary oedema and severe intrauterine foetal growth retardation. On the other

hand, some of them might come to Hong Kong to request a Caesarean section once they had been diagnosed to have early pre-eclampsia in the Mainland, despite the fact that it would be possible to buy some time for foetal maturity with antihypertensives and close monitoring. If their unreasonable request was not entertained, discharge against medical advice (DAMA) was almost always the case. DAMA was also common in intensive care unit (ICU) when those women were just recovering from eclampsia and other complications.

4. Unexpected Major Placenta Praevia / Accreta

Placenta praevia / accreta is a major cause of massive antepartum and postpartum haemorrhage which can be life threatening. Successful management depends on early diagnosis, in-patient stay for major cases, elective Caesarean section at term with adequate preoperative preparation which includes the availability of adequate blood products, standby uterine arteries embolisation, surgical expertise for compression sutures and emergency hysterectomy, and most importantly, a team approach. Non-local expectant mothers with major placenta praevia usually turned up only when there was vaginal bleeding, sometimes massive, which precludes an adequate preoperative preparation before emergency Caesarean section. Even when the diagnosis of placenta praevia / accreta could be made earlier, they would refuse in-patient management because of financial concern.

5. Haemoglobin (Hb) Bart's Hydrops Foetalis - Back to the 70's

Thalassaemia is the most common single gene disorder in our locality. Universal screening using mean corpuscular volume (MCV≤80fl) for thalassaemia couples in pregnancy has been well established since 1980's. When both parents are having alpha-thalassaemia trait, there is a 1 in 4 chance that their offsprings will suffer from alpha-thalassaemia major or Hb Bart's. Foetuses with haemoglobin Bart's can be identified by ultrasound examination and chorionic villus sampling / amniocentesis. The affected pregnancies are usually terminated. As a result, it is rare nowadays for Hb Bart's foetuses to go into the third trimester of pregnancy and to develop hydropic changes, which were common before 1980's. Unfortunately, we began to see Hb Bart's hydrops foetalis coming back in non-local expectant mothers because of the breakdown in the continuity of antenatal care in pregnancy - an important component of the ***social obstetrics*** phenomenon.

6. Requesting Caesarean Section Because of Cord Round Neck

Cord round neck is a common finding in obstetrics - 10 to 20% of healthy babies at birth have umbilical cord round neck. Although cord round neck could result in intrauterine foetal death, this is rare and should be considered as an obstetric accident. It is usually not necessary to look for cord round neck during obstetric ultrasound examination which could create unnecessary maternal anxiety. Interestingly, cord round neck was a very common finding in the ultrasound reports from the Mainland. It was not uncommon to have non-local expectant mothers coming to our antenatal clinic requesting Caesarean section based on this finding. When we could not satisfy their request, complaints would arise despite any explanation on the nature of cord round neck and that it is not an indication for Caesarean section per se.

Conclusion

Non-local expectant mothers delivering babies in Hong Kong has become a classic ***social obstetrics*** phenomenon. There is nothing wrong with these mothers who would like to have their children born and to become citizens in Hong Kong. We could probably remember it was not long ago when Hong Kong mothers would like to have their children born and to become citizens in USA or Canada. The non-local expectant mothers are not coming to Hong Kong illegally either. Perhaps the gray area is whether those mothers who are evading the one-child policy by delivering their second baby in Hong Kong should be considered as violating the population policy in the Mainland. With positive thinking, non-local expectant mothers are income generating for both the public and private sectors of obstetrics. The near miss clinical scenarios arising from this ***social obstetrics*** phenomenon provide invaluable training opportunities for our trainees and ourselves. In return, we should try our best to minimise the adverse pregnancy outcome resulting from this ***social obstetrics*** phenomenon and to resolve the conflicts between local and non-local expectant mothers on the already limited resource allocation.

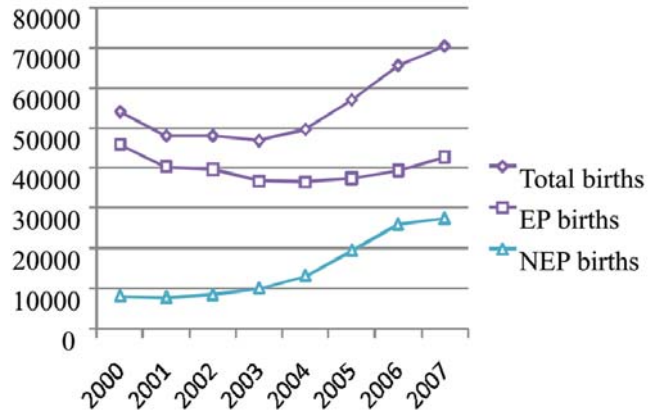


Figure 1. Number of Births in Hong Kong (NEP denotes non-eligible person, and EP eligible person)
(Source: Census and Statistics Department, HKSAR)

References

- Au Yeung SKC. Impact of non-eligible person deliveries in obstetric service in Hong Kong. Hong Kong J Gynaecol Obstet Midwifery 2006; 6:41-4.
- New arrangement for antenatal checkup and delivery booking for non-local expectant mothers. Hospital Authority website: http://www.ha.org.hk. Assessed 6 Feb 2007.
- Yung C, Liu K, Lau WL, Lam H, Leung WC, Chin R. Two cases of postmaturity-related perinatal mortality in non-local expectant mothers. Hong Kong Med J 2007;13:231-3.
- 陳衍標. 內地婦女來港產子的前因後果. 跨境家庭：踰越與對話 (Cross-border Families: Transgression and Dialogue). 藍天圖書. 2008; 47-54.
- 梁永昌, 劉偉霖. 跨境孕婦 — 社會產科現象. 跨境家庭：踰越與對話 (Cross-border Families: Transgression and Dialogue). 藍天圖書. 2008; 55-9.

(drospirenone & ethinyl estradiol)

YAZ®

Unique 24/4 Ultra-Low Dose Giving You More!

YAZ® combines 20 µg ethinylestradiol and 3 mg drospirenone in an innovative 24/4 regimen:

- Highly reliable OC
  - Pearl Index = 0.41 for perfect use [1]
- 3 additional days of EE/Drospirenone with antimineralocorticoid and antiandrogenic activity [5]
- Less hormonal fluctuations due to a shortened hormone-free interval [2]
- Well-tolerated bleeding profile [3]
- Clinically reviewed to improve the most severe emotional and physical symptoms associated with menstrual cycle [4]
- High user satisfaction [3]

References:

1. Data on file (BSP Hong Kong)
2. Klipping C, et al. Contraception 2008; 78:16-25
3. Bachmann G, et al. Contraception 2004; 70(3): 191-8
4. Yonkers KA, et al. Obstet Gynecol 2005; 106(3): 492-501
5. YAZ® Product Insert (BHC Hong Kong)

YAZ® Abbreviated Prescribing Information [1,5]: YAZ® consists of 24 active tablets containing 3mg drospirenone and 0.02mg ethinylestradiol together with 4 placebo tablets. Take once daily at about the same time. Indication: Hormonal oral contraception. Contraindication: Presence or history of venous or arterial thromboembolic events or of a cerebrovascular accident; presence or history of prodromi of a thrombosis; history of migraine with focal neurological symptoms; diabetes mellitus with vascular involvement; severe or multiple risk factor(s) for venous or arterial thrombosis; pancreatitis or history associated with severe hypertriglyceridemia; presence or history of severe hepatic disease as long as liver function values have not returned to normal; severe renal insufficiency or acute renal failure; presence or history of liver tumors; known or suspected sex-steroid influenced malignancies; undiagnosed vaginal bleeding; known or suspected pregnancy; hypersensitivity to the ingredients. Side Effects: Nausea, abdominal pain, weight increased, headache, depressed mood, mood altered, breast pain, breast tenderness. For less common side effects, please see package insert.

Please consult the full prescribing note before prescribing.

Bayer HealthCare Limited
Nos. 801-808, 8/F Shui On Centre, 6-8 Harbour Road, Wanchai, Hong Kong
Tel: (852) 2814 7337 Fax: (852) 2576 5964

Bayer HealthCare
Bayer Schering Pharma

Bayer Schering Pharma The Expert in Women Healthcare

HK.11.2008.0094 22/11/2008

Current Role of Maternal and Child Health Service

Dr. Joanna LEUNG

Senior Medical Officer, Family Health Service, Department of Health

Dr. Joanna LEUNG

Introduction

The Maternal and Child Health Service in Hong Kong has undergone remarkable development since the establishment of the first Government's Infant Welfare Centre in 1932. At the time, both the Maternal Mortality Ratio (MMR) and the Infant Mortality Rate (IMR) were very high; expectant mothers seldom had antenatal checkups and it was not unusual for babies to fail to survive beyond their first year of life. Malnutrition and gastro-intestinal disturbance were major infant problems and the emphasis of the Infant Welfare Centre was on proper infant feeding, and providing health education to mothers on infant care. In the 1940s, the government deemed it necessary to introduce maternal health care programmes into the Infant Welfare Centres, and from then on, the centres were called Maternal and Child Health Centres (MCHCs).

Due to the rapid rise in population, more centres and maternity homes were opened in the 1950s and 1960s. Early antenatal care was promoted and postnatal service was started. The improved environmental and socio-economic factors, advances in medicine, increased awareness amongst pregnant women of the need for regular antenatal checkups, and the implementation of an organised childhood immunisation programme, all contributed to the significant reduction in IMR and MMR over the last few decades. In the 1970s, the Maternal and Child Health Service began to take up a new role of health promotion with emphasis on Family Planning and the early detection of developmental abnormalities (the Comprehensive Observation Scheme). In the 1980s, various screening services were introduced, such as the Cervical Cytology Screening Project, serological testing for rubella antibody for women of childbearing age, neonatal screening for G6PD deficiency and congenital hypothyroidism. Breastfeeding rates were low at the time and there was more emphasis placed on the promotion of breastfeeding.

In the 1980s-1990s, the decline in birth rate and the increasing proportion of deliveries occurring in hospitals contributed to the steady closure of maternity homes. Two antenatal screening programmes were introduced at the turn of this century, namely antenatal thalassaemia and Human Immunodeficiency Virus (HIV) screening. The Woman Health Service was set up in 1994 to serve perimenopausal women by providing a range of health promotion and screening services; since 2000, this service has been extended to all women aged 64 or below. A territory-wide parenting programme was implemented in 2002 to promote positive and effective parenting. The year 2004 saw the launch of an organised, territory-wide cervical screening programme to encourage and facilitate women to have regular cervical smears, and the gradual replacement of the Comprehensive Observation Scheme by the Developmental Surveillance Scheme as a means to monitor the developmental progress of children.

The Current Maternal and Child Health Service of the Department of Health

The Family Health Service of the Department of Health (DH) contributes to a significant proportion of the maternal and child health service provided at the primary care level in Hong Kong. It provides a comprehensive range of health promotion and disease prevention services to children from birth to 5 years and women below 65 years of age to help mothers, their children, and their families lead healthy lives. The Service operates through 31 Maternal & Child Health Centres and 3 Woman Health Centres across the territory.

Maternal Health Services

I. Antenatal Health Care

The MMR was 1.4 per 100,000 registered live births in 2007, and has remained low in the past two decades. Hong Kong residents have access to free antenatal care provided at the public hospitals and MCHCs. The MCHCs collaborate with public hospitals to establish a comprehensive antenatal shared-care programme to monitor the whole pregnancy and delivery process. Expectant mothers receive checkups at scheduled intervals, routine blood tests, related health advice and counselling. Prospective parents also have access to a comprehensive maternal health education programme in the form of information leaflets, health talks, workshops, and audio-visual materials. Women identified to have obstetric or medical risk factors at MCHCs are referred to the public hospitals for further management. Women identified to have psychosocial problems or risk factors (e.g. those with substance abuse or mental health problems, or pregnant teenagers) receive comprehensive assessment so that a holistic management plan can be tailored according to individual needs.

II. Postnatal Health Care

Postnatal mothers are provided with health assessment,

physical examination and contraceptive advice. Immunisation against rubella is given to all non-immune women. Postnatal mothers are also given help and support to adapt to changes in life through experience sharing in support groups and individual counselling. Recognising that postnatal depression (PND) is a common and serious disorder affecting approximately 12% of Hong Kong mothers after delivery[1], MCHC nurses have been trained to identify mothers with probable PND, and to provide these mothers with supportive counselling. The Comprehensive Child Development Service (CCDS) is a government policy initiative piloted in 2005, with the aim to provide comprehensive and timely support to children and their families. In MCHCs with CCDS, mothers with probable PND are identified using the Edinburgh Postnatal Depression Scale, and visiting psychiatric nurses and psychiatrists from public hospitals provide on-site counselling and specialised support to mothers with special needs. With the systematic screening of PND in CCDS centres, the proportion of mothers identified to have probable PND increased to 10.7 %, compared with the previous detection rate by opportunistic screening of 3.8%.[2] By March 2009, there will be 13 MCHCs with CCDS covering 8 districts, with the plan to roll out the CCDS to the rest of the districts subject to resource availability.

III Family Planning Service

Family planning contributes to improving the health outcomes of women and children. Effective use of contraception by women wanting to postpone or cease further childbearing averts abortion-related and obstetric-related mortality and morbidity.[3] It also brings potential health and survival benefits for children, mainly as a result of wider intervals between births. Findings of studies in both developing and developed countries show that conception taking place within 18 months of a previous livebirth are at a greater risk of low birthweight, prematurity, and being small for gestational age.[4]

In the 1960s, programmes to promote family planning began locally and in many countries in response to the rapid population growth, which was secondary to the 'baby boom' and improvement in child survival.

Since the 1970s, the MCHCs offer accessible and affordable family planning services at a nominal fee of $1 per visit to women of childbearing age to help them make informed choices about the number and spacing of the children, and to prevent unintended pregnancies. The fertility indicators have shown a continuous decline for the past 25 years, with the total fertility rate fallen to below replacement level, despite a moderate rebound in recent years.[5]

IV Woman Health Service

Women have different health needs at various stages in life. They are often the caretakers of their children, spouse and even their parents and hence they play a significant role in health promotion within their families. Working women have the additional job-related responsibilities and stress. The Woman Health Service, available at 3 Woman Health Centres and 10 MCHCs, aims to promote the health of women and address their health needs through enhancing the awareness and encouraging the practice of healthy lifestyle, education on the prevention of important health problems and the provision of effective screening services. Topics discussed in the health education programme include conditions specifically affecting women such as cancer of the breast and cervix, menstrual disorders, menopause, urogynaecological conditions etc., as well as general lifestyle and health topics such as weight management, exercise and management of hypercholesterolaemia. Our mission is that women should be aware of and have access to knowledge related to a spectrum of health issues, with a view to maximising their chance of enjoying a quality life throughout their lifespan, as well as being a positive influence on the health of their children, their family and the community.

Child Health Services

Since 2000, the Family Health Service has revamped its child health services and implemented the 'Integrated Child Health and Development Programme' (ICHDP). The ICHDP is a universal health promotion and disease prevention programme for children (0-5 years) and their parents, aiming to improve the health of the target population group. It comprises 3 components, designed to meet the developmental needs of preschool children in the physical, cognitive and socio-emotional domains in a coordinated way. The 3 components are i) health and developmental surveillance programme, ii) immunisation programme, and iii) parenting programme. Each year, over 90% of the local newborns whose parents are Hong Kong residents receive services from the MCHCs.

i) Parenting Programme

As well as providing the child with basic necessities, the role parents play in the parent-child relationship can influence the child's development in all domains. There is evidence that poor parenting skill is associated with behavioural, mental and physical health problems in later life.[6,7] The Family Health Service launched the parenting programme in 2002 with the aim to equip parents/caregivers of all children attending MCHCs with the necessary knowledge and skills to bring up healthy and well-adjusted children. The programme consists of two levels of intervention:

a) Universal Programme: Expectant parents and parents of all children attending MCHCs receive anticipatory guidance on childcare and parenting issues which are appropriate to the ages of the child.
b) Intensive Programme: Parents of children aged 2 to 5 with early signs of behavioural problems or those who encounter difficulties in parenting will be given more intensive group training (Positive Parenting Programme (Triple P)) at MCHCs. The Triple P is a parenting programme adapted from Australia and has been evaluated to be effective in the local context. Parents who have completed Group Triple P are found to have significantly lower level in their children's behavioural problems and in dysfunctional parenting styles, higher sense of parental competence and improved marital relationship.[8]

Children with established behavioural problems or with more complicated family issues such as maternal depression or marital conflict are referred for further management by clinical psychologists at Child Assessment Centres, psychiatrists at public hospitals,

and/or social workers of Social Welfare Department or non-governmental organisations as appropriate.

ii) Immunisation Programme

As recommended by the Scientific Committee on Vaccine Preventable Diseases of the Centre for Health Protection, immunisation is provided to protect children against 9 infectious diseases, namely tuberculosis, poliomyelitis, hepatitis B, diphtheria, tetanus, pertussis, measles, mumps and rubella. The Government Influenza Vaccination Programme also provides free influenza vaccination to selected subgroups. Children aged between 6 months and less than 6 years from families receiving Comprehensive Social Security Assistance (CSSA), as well as pregnant women receiving CSSA, can receive immunisation against influenza at MCHCs.

iii) Health and Developmental Surveillance Programme

Health professionals in MCHCs work in partnership with parents in the continual monitoring of health and development of the child. A series of routine reviews is conducted by health professionals so that timely identification and referral of children with health and developmental problems can be achieved. This programme includes:

a) Newborn Assessment

Parents are advised to bring their babies to the MCHCs soon after hospital discharge so that any congenital abnormalities, neonatal jaundice, and feeding problems can be identified early and managed accordingly. This is also a good opportunity to discuss with parents matters related to childcare, parenting, as well as to identify any family and social problems that require attention. Breastfeeding advice and coaching are provided for mothers who are or intend to start breastfeeding. Babies who have not received any hearing screening in hospitals are offered the Automated Otoacoustic Emission (AOAE) screening test in MCHCs.

b) Growth Monitoring and Nutrition

Growth parameters of the child are measured at specified ages, and whenever there is a concern about growth problems, with the aim to inform parents of their child's growth, address any growth concerns, and allow early identification of growth abnormalities. Nutritional advice including weaning information is provided as appropriate.

c) Developmental Surveillance

Parents are empowered to monitor the child's development through anticipatory guidance. At specified ages, health professionals obtain relevant developmental history, identify parental concerns, perform observation on the child's development, and provide parents with appropriate advice. Children identified to have significant developmental problems are referred to the Child Assessment Service for further management. Pre-school teachers are also provided with training to identify and manage children with suspected developmental problems. A referral mechanism has been developed for teachers to refer these children to MCHCs for further management.

d) Hearing Screening

Since 2007, newborn infants undergo universal hearing screening at all HA hospitals prior to discharge. Some private hospitals also provide hearing screening services at a cost. Infants who have missed the hearing screening at the hospitals are offered the AOAE screening test in MCHCs, usually before 1 month of age.

e) Vision Screening

A vision screening test is performed in MCHCs on all children at 4 years of age by optometrists or orthoptists, with the aim to detect amblyopia and other associated conditions such as squint, anisometropia, and severe refractive error.

Breastfeeding

Breast milk is the best source of nourishment for infants and is the first gift a mother can give to her baby soon after birth. The promotion and practice of breastfeeding are essential to the achievement of optimal infant and child health, growth and development.[9] The DH has always been actively involved in promoting, protecting and supporting breastfeeding. Since 2000, a breastfeeding policy, incorporating the 'Ten Steps to Successful Breastfeeding' and the International Code of Marketing of Breastmilk Substitutes, has been implemented in all MCHCs. Breastfeeding promotion constitutes a major activity in MCHCs for antenatal and postnatal clients, as well as their families. The staff of MCHCs have received structured training to enhance their competency in providing effective counselling and management for breastfeeding mothers. A comprehensive information kit to enhance community awareness and educate on breastfeeding is made available to pregnant women, nursing mothers, their families, professionals and employers.

The local ever breastfed rate is calculated based on the percentage of discharged babies from all the public and private hospitals in Hong Kong who had been breastfed. The reports show that the percentage has increased from about 20% in the 1980s to 73% in 2007.[10] The DH also carries out regular breastfeeding surveys in its MCHCs to monitor the local trend of breastfeeding practices since 1998. The latest survey was done in 2007, and examined the breastfeeding practices among the infants of the 2006 birth cohort. The findings indicate a rising trend in duration of breastfeeding, with around 13% of babies being still exclusively breastfed at 4-6 months, compared with only 6% in 1998.[11]

The Challenges Ahead

With obesity and other chronic conditions such as diabetes mellitus on the rise, and the tendency for women to have children later in life, preconceptual care is becoming an increasingly important component of health care for women of reproductive age. Health promotion, screening and interventions for these women can aim to optimise their health, thus maximising their chance of delivering a healthy infant, and decreasing the risk of pregnancy-related maternal complications. In addition to addressing the physical health, increased emphasis is being placed on taking care of other aspects of health such as mental, social, and sexual wellbeing.

Domestic violence is a serious public health and social problem which can adversely affect the maternal and child health. As health workers who are in regular contact with women and the family unit, we should be vigilant on this issue.

Affordable and accessible family planning programmes will continue to play a significant role in preventing unintended pregnancies and reducing the need for abortion.

To be in line with the WHO's recommendation on breastfeeding (exclusive breastfeeding for the first 6 months[12] and to continue breastfeeding up to 2 years or beyond[13]), there is obviously much work that still needs to be done. Changes in cultural norms, workplace practices, and social policy are needed to encourage and sustain breastfeeding.

Like other developed countries, prevention of childhood obesity is a major health issue which is being addressed.

In terms of health service utilisation, it is a common phenomenon of Hong Kong people to attend both the public and private medical sectors simultaneously, particularly during the antenatal period. Better information exchange amongst the service providers and enhancing inter-sectoral partnerships can improve continuity of care, avoid duplication of services, and help towards delivering a coordinated, consistent and quality maternal and child health service to the Hong Kong people.

Last but not least, Gender Mainstreaming should be considered when formulating any health policy, planning programmes or embarking on health system reforms.

References

1. Lee DT, Yip SK, Chiu HF, et al. Detecting postnatal depression in Chinese women. Validation of the Chinese version of the Edinburgh postnatal depression scale. BR J Psychiatry 1998;172:433-7
2. Leung SSL, Leung CM, Chan RSM, Lee TN, Ip P. Evaluation report of the Comprehensive Child Development Service. Family Health Service, Department of Health, 2007.
3. Collumbien M, Gerressu M, Cleland J. Non-use and use of ineffective methods of contraception. Comparative quantification of health risks: global and regional burden of disease attributable to selected major risk factors. Geneva: World Health Organization, 2004;Chapter 15: 1255-320.
4. Conde-Agudelo A, Rosas-Bermudez A, Kfury-Goeta A C Birth Spacing and Risk of Adverse Perinatal Outcomes JAMA 2006; 295: 1809-1823
5. Census & Statistics Department, HKSAR. Demographic trends in Hong Kong 1981-2006
6. Stewart-Brown SL. Mental health promotion-childhood holds the key? Public Health Medicine 2005; 5(3) 8-17
7. Stewart-Brown SL, Fletcher L, Wadsworth MEJ. Parent-child relationships and health problems in adulthood in three UK national birth cohort studies. European Journal of Public Health 2005: 15 (6) 640-6
8. Leung, C., Sanders, M., Leung, S., Mak, R., & Lau, J. An outcome evaluation of the implementation of the Triple P-Positive Parenting Program in Hong Kong. Family Process 2003: 42, 531-544
9. American Academy of Pediatrics. Policy Statement: Breastfeeding and the use of Human Milk. Pediatrics 2005: Vol. 115(2)
10. Department of Health Statistics: Ever breastfeeding rate as reported by all Maternity Units in HK
11. Department of Health Statistics: Breastfeeding survey (1998-2007)
12. Department of Nutrition for Health & Development/Department of Child & Adolescent Health Development: WHO 2002. The optimal duration of exclusive breastfeeding: A Systematic Review
13. Pan American Health Organization, WHO 2004. Guiding principles for complementary feeding of the breastfed child

Is Three-dimensional/Four-Dimensional Ultrasonography Necessary in Obstetric Practice?

Dr. KY LEUNG

FRCOG, FHKAM (O&G)

Consultant and Honorary Associate Professor, Department of Obstetrics & Gynaecology, The University of Hong Kong, Queen Mary Hospital

Introduction

Standard two-dimensional ultrasonography (2DUS) has been the cornerstone of prenatal diagnosis of foetal abnormalities. In the last 10 years, we saw an advance in the technology of three-dimensional/four-dimensional ultrasonography (3D/4DUS), an increase in the availability of 3D/4D ultrasound machine and a decrease in its price. More expectant mothers requested a 3D/4D ultrasound examination with an impression that the latter is better than a conventional 2D ultrasound examination. Rendered 3D/4D images of their foetus can be very impressive. However, the fundamental question is whether 3D/4DUS can help.

Basic Techniques of 3D/4D Ultrasonography

A basic 3D/4DUS includes two steps: automatic volume acquisition and imaging display. 3D/4D volumes can be acquired when the scanning mode is black and white alone or together with colour, power Doppler, or B-flow. Once a 3D or 4D volume is acquired and stored, the volume can be displayed in three orthogonal planes (planes that are at right angles to each other) which are parallel (plane A), perpendicular (plane B) and coronal (plane C) to the original plane of volume acquisition. More recently, the display can be in a multi-slice format which allows the simultaneous display of multiple sequential parallel views of a reference (sagittal, transverse or coronal) plane of an object. The images can also be displayed in a rendered format which is unique to 3DUS. Surface rendering allows curved structures or organs to be viewed in a single image. Maximum or x-ray mode can be used to emphasise bones while minimal mode or inversion mode can be used to study blood vessels or fluid. 3D power Doppler enables the visualisation of the foetal vascular system.

4DUS displays a continuously updated and newly acquired volume in the planar and/or rendered images, creating the impression of a moving structure. Spatiotemporal image correlation (STIC) allows the automatic acquisition of a volume of data from the foetal heart that is displayed as a cine loop of a single cardiac cycle.

Detection and Assessment of Foetal Abnormalities

At present, 3DUS has been used mostly as an adjunct to traditional 2D foetal imaging rather than for primary investigation of foetal anatomy. When foetal abnormalities are suspected or confirmed on a 2DUS, a 3DUS examination is useful to confirm or exclude an abnormality and assess the severity of the abnormalities including facial cleft, spina bifida, and skeletal abnormalities. However, its impact on the management is small, in about 5% of cases. The use of a properly shown 3D/4D rendered image may help counselling women on certain types of foetal abnormalities including cleft lip or club feet.

Subtle facial features that are hallmarks of other diseases are not so easily appreciated with 2DUS. 3DUS plus 2DUS can correctly identify more cleft palate than 2DUS alone. Using 3D multiplanar and/or multi-slice technique, cleft palate can be diagnosed or excluded more confidently than 2DUS alone. Besides, the use of 3DUS also assists the diagnosis of micrognathia, nasal hypoplasia and small ear. On the other hand, the use of 2DUS is good enough to detect cleft lip, and 3DUS does not offer additional benefits.

In the assessment of spina bifida, 3DUS with multiplanar views can facilitate the localisation of bony defects of the foetal spine. The site of spina bifida is the most significant outcome predictor, as high spinal dysraphisms were associated with abnormal postnatal neurological outcome.

3DUS with rendered images in maximum mode and/or rotation of volume data set is helpful in depicting abnormal spatial relationships such as short ribs, splayed digits, and absent bones, the diagnosis of scapular aplasia or hypoplasia, and the visualisation of cranial sutures and fontanelles.

Overall, STIC offers a new look into the foetal heart and provides additional information over 2DUS. Some studies found that 3D/4DUS is advantageous over 2DUS in visualisation of congenital heart diseases, while other studies did not. Whether 3D/4DUS can improve the detection rate of congenital heart disease is yet to be determined.

When women are at high risk of having foetal abnormalities, the use of 3DUS can provide more convincing evidence of a normal foetus than a conventional 2DUS. The use of 3D ultrasound may allow the assessment of the planes that are difficult or impossible to obtain with 2D ultrasound. When foetal echocardiography is performed for pregnancies at risk of congenital heart diseases, nine standard planes across the heart and the connecting vessels should be examined according to the standard in the U.S.

Sometimes, an examination of these nine planes is incomplete because of unfavourable foetal position or foetal movements. The use of static 3DUS or STIC facilitates the examination of different planes across the foetal heart, and a segmental approach to the diagnosis of congenital heart disease.

For low risk women, currently, there is no evidence showing a clear benefit of adding a 3DUS over 2DUS. A review of 525 articles comparing 2D and 3DUS for the diagnosis of congenital anomalies has not demonstrated a difference in the detection rates. A randomised controlled trial did not show that the addition of 3D/4D ultrasound to 2D ultrasound could reduce the maternal anxiety. Although the use of 3DUS in a routine anomaly scan may reduce scanning time, the anatomic survey is less satisfactory than a 2DUS. A recent study has shown that the standard foetal cardiac anatomy survey can be performed in the routine second-trimester scan by STIC. Further study is required to show whether this approach can reduce an operator's dependency in the prenatal diagnosis of congenial heart disease.

Other Uses

It is generally accepted that 3DUS volumetry gives more precise results than 2DUS measurements, in particular, of irregularly shaped objects. 3D volumetry can be performed using multiplanar techniques, Virtual Organ Computer aided Analysis (VOCAL) or more recently eXtended Imaging VOCAL. In cases of congenital diaphragmatic hernia, lung volumes can be predictive of pulmonary hypoplasia and the neonatal outcomes. The use of a new formula using 3D volumetry of foetal abdomen and thigh plus 2D measurements is superior to weight estimation by traditional formulae using 2D measurements alone in foetuses weighing <or= 1600 g at birth.

Digital storage capabilities of 3D/4D imaging allow offline analysis in one centre or review by experts in another centre connected by internet link. Sending a STIC volume though the Internet to a centre with paediatric cardiologists can improve the prenatal diagnosis of congenital heart disease and counselling. Besides, if 3DUS volume data of various foetal structures are collected and stored, they can be reviewed in the future to assess findings which have initially been overlooked or forgotten.

4DUS can be used to guide precise needle placement during intervention procedures but this offers no advantages to an experienced operator who can perform a procedure well with a 2DUS.

Limitations of 3D/4DUS

Diagnostic accuracy can be affected by the quality and artifacts of 3D/4DUS images. The quality of the reconstructed multi-planar images not derived from the original plane of acquisition is generally not as good as 2DUS images. Besides, the quality of 3D images can be adversely affected by several factors including foetal or maternal movements, unfavourable foetal position, advanced gestational age, multiple pregnancies, oligohydramnios, and anterior placenta. In addition, there are artifacts unique to 3D volume acquisition and visualisation. To overcome artifacts, acquiring optimal 2DUS images, several volumes through an area of interest, additional 3D volumes from different angles, using different scanning parameters and at a later time are useful measurements. Education and training are required.

Ultrasound Safety

Ultrasound has a demonstrated record of safety for more than 50 years of clinical use. However, ultrasound power levels have gone up, and there is increasing use of more powerful colour and spectral Doppler in the first trimester, so safety cannot be presumed. The U.S. Food and Drug Administration recommends against the use of medically unindicated or commercial prenatal ultrasonography.

Conclusions

2DUS remains the method of choice for detection of foetal abnormalities. 3D/4DUS is useful in the evaluation of a foetal abnormality, and provides more convincing evidence of a normal foetus than 2DUS in at risk pregnancies.

References

1. Leung KY, Ngai SW, Chan BC, Leung WC, Lee CP, Tang MHY. Three-Dimensional Extended Imaging™: a new display modality for three-dimensional ultrasound examination. Ultrasound Obstet Gynecol 2005;26:244-251.
2. Leung KY, Ngai CSW, Tang MHY. Facial cleft or shadowing artifact? Ultrasound Obstet Gynecol 2006;27:231-2
3. Leung KY, Ngai CSW, Tang MHY. Use of Three-dimensional/Four-dimensional Ultrasound in Prenatal Diagnosis. J Paed Obstet Gynecol 2006
4. Leung KY, Ngai CSW Ngai, Chan HY, Leung WC, Lee CP, Tang MHY, Lee A. The effects of two-dimensional ultrasound alone versus two- plus three/four-dimensional ultrasound on maternal anxiety: a randomized study. Ultrasound Obstet Gynecol 2006;28:249-54
5. Wang LM, Leung KY, Tang M. Prenatal evaluation of facial clefts by three-dimensional extended imaging. Prenat Diagn. 2007 Aug;27(8):722-9.
6. Lee YM, Simpson LL. Major fetal structural malformations: the role of new imaging modalities. Am J Med Genet Part C Semin Med Genet 2007; 145C: 33-44.
7. Reddy UM, Filly RA, Copel JA. Prenatal imaging: ultrasonography and magnetic resonance imaging. Obstet Gynecol 2008; 112: 145- 157.

Erratum

With reference to the article in Feb Issue: Retrospective Study on the Outcome of Patients Attending Psychogeriatric Day Hospital (PGDH)

The authors should have been:

Dr. CHIU Ling, MRCPsych, FHKAM (Psychiatry), Specialist in Psychiatry
Dr. LAM Wai Keung, FHKAM (Psychiatry), Specialist in Psychiatry

NEW

Go WITH LO

LOETTE®

LEVONORGESTREL 100µg AND
ETHINYL ESTRADIOL 20µg

The beauty of LOW

The only low-dose pill indicated for effective contraception & acne control

- Excellent efficacy — Pearl index of 0.88[1]
- Good cycle control with lower incidence* of intermenstrual bleeding[2,3]
- Effective and safe treatment for moderate acne[4,5]
- Neutral effects on lipids** and weight[6,7]

* Compared between 100µg levonorgestrel/20µg ethinyl estradiol and 1000µg norethindrone acetate/20µg ethinyl estradiol

** By the end of cycle 24

References: 1. Archer DF, et al. Am J Obstet Gynecol 1999;181:S39-44. **2.** DelConte A, et al. Contraception 1999;59:187-193. **3.** Reisman H, et al. Am J Obstet Gynecol 1999;181:S45-52. **4.** Thiboutot D, et al. Fertil Steril 2001;76:461-468. **5.** Leyden J, et al. J Am Acad Dermatol 2002;47:399-409. **6.** Coney P, et al. Contraception 2001;63:297-302. **7.** Young RL, DelConte A. Am J Obstet Gynecol 1999;181:S59-62.

Loette Tablets : Abbreviated Prescribing Information

Product Name: Loette **Active Ingredient:** Each tablet contains 100mcg of Levonorgestrel and 20mcg of Ethinylestradiol. **Indication:** Oral Contraceptives. Treatment of moderate acne vulgaris in women ≥14 years old. **Dosage:** One tab once daily orally starts on 1st day of menstrual cycle for 21 days followed by a 7 tab-free days. **Contra-indications:** Thrombophlebitis or thromboembolic disorders, past history of deep-vein thrombophlebitis or thromboembolic disorders, cerebrovascular or coronary artery disease (current or past history), thrombogenic valvulopathies, thrombogenic rhythm disorders, major surgery with prolonged immobilization, diabetes with vascular involvement, headaches with focal neurological symptoms, uncontrolled hypertension, known or suspected carcinoma of the breast or personal history of breast cancer, carcinoma of the endometrium or other known or suspected estrogen-dependent neoplasia, undiagnosed abnormal genital bleeding, cholestatic jaundice of pregnancy or jaundice with prior pill use, hepatic adenomas or carcinomas, or active liver disease, known or suspected pregnancy, hypersensitivity to any of the ingredients of Loette. **Warnings and Precautions:** Cigarette smoking increases the risk of serious cardiovascular side effects from oral contraceptive use. Women who use oral contraceptives should be strongly advised not to smoke. The use of oral contraceptives is associated with increased risks of several serious conditions including venous and arterial thrombotic and thromboembolic events (such as myocardial infarction, thromboembolism, and stroke), hepatic neoplasia, gallbladder disease, and hypertension. Risk increases in the presence of other underlying risk factors such as certain inherited or acquired thrombophilias, hypertension, hyperlipidemias, obesity, diabetes, and surgery or trauma with increased risk of thrombosis. Patients should be counseled that oral contraceptives do not protect against transmission of HIV (AIDS) and other sexually transmitted diseases (STDs). A complete personal and family medical history and physical examination, including blood pressure, should be taken prior to the initiation and periodically for all women. **Drug Interactions:** Contraceptive effectiveness may be reduced when hormonal contraceptives are coadministered with antibiotics, anticonvulsants, and other drugs that increase the metabolism of contraceptive steroids. This could result in unintended pregnancy or breakthrough bleeding. Examples include rifampin, rifabutin, barbiturates, primidone, phenylbutazone, phenytoin, dexamethasone, carbamazepine, felbamate, oxcarbazepine, topiramate, griseofulvin, modafinil and herbal products containing St. John's Wort. **Undesirable effects:** Aggravation of varicose veins, amenorrhea, anaphylactic/anaphylactoid reactions, including urticaria, angioedema, and severe reactions with respiratory and circulatory symptoms, breakthrough bleeding, breast changes: tenderness, pain, enlargement, secretion; change in cervical erosion and secretion; change in corneal curvature (steepening); changes in libido; change in menstrual flow; change in weight or appetite (increase or decrease); cholestatic jaundice colitis; dizziness; edema/fluid retention; erythema multiforme; erythema nodosum; exacerbation of chorea; exacerbation of porphyria; exacerbation of systemic lupus erythematosus; gastrointestinal symptoms (such as abdominal pain, cramps, and bloating); hirsutism; intolerance to contact lenses; loss of scalp hair; melasma/chloasma which may persist; mesenteric thrombosis; mood changes, including depression, nervousness; nausea; pancreatitis; spotting; temporary infertility after discontinuation of treatment; vaginitis, including candidiasis; vomiting. **Full prescribing information available upon request.** API_Feb2009 (CI6794-2)

Wyeth

Wyeth (HK) Limited
12/F, Lincoln House, Taikoo Place, 979 King's Road, Island East, Hong Kong.
Tel: 2599 8888 Fax: 2599 8998 http://www.wyeth.com.hk

LOE-AD-003-FEB-09

Updates on Hormonal Contraceptives

Dr. Sue ST LO

Dr. Sue ST LO

MBBS, FRCOG, MPA
The Family Planning Association of Hong Kong

This article highlighted some important safety updates on two modern hormonal contraceptives and introduced four hormonal contraceptives that were launched in Hong Kong in the past three years.

Safety of Evra® (Janssen Pharmaceutica, Hong Kong)

In 2001, Ortho Evra® patch was approved by the United States Food and Drug Administration (US FDA) for contraception. Each patch contains 0.75mg ethinyloestradiol and 6mg norelgestromin. Evra® was launched in Hong Kong in 2003 and it contains 0.6mg ethinyloestradiol and 6mg norelgestromin. Both Ortho Evra® and Evra® releases approximately 20µg of ethinyloestradiol and 150µg of norelgestromin into the systemic circulation daily.

It is a reliable contraceptive with Pearl index 1.24 (95% CI, 0.19-2.33), which is similar to that of a triphasic combined oral contraceptive (COC) pill (2.18; 95% CI, 0.57-3.8)[1]. However, its safety has remained a main concern after reports on venous thromboembolism (VTE) in Ortho Evra® users emerged. In November 2005, the US FDA announced a revision in the Ortho Evra® label to include a bolded warning on the higher exposure to oestradiol. It stated that the average concentration for ethinyloestradiol at steady state was approximately 60% higher in women using Ortho Evra® than in women using 35µg ethinyloestradiol COC. The higher oestrogen exposure might increase risk of adverse events but there was insufficient evidence to associate VTE with the use of Ortho Evra® [2].

In September 2006, US FDA announced an update to the Ortho Evra® label to reflect the risk of VTE with patch use[3]. The first study[4] cited in this update was a nested case-control study based on information from a company that collected and organised information on claims paid by managed care plans. It did not show any increased risk of nonfatal VTE in patch users compared with women using 35µg ethinyloestradiol and norgestimate COC. The overall incidence of nonfatal VTE was 52.8 / 100,000 women-years (95% CI, 25.8 - 74.9) among Ortho Evra® users and 41.8 / 100,000 women-years (95% CI, 29.4 - 57.6) among women using COC. The odds ratio of VTE for current Ortho Evra® users was 0.9 (95% CI, 0.5 - 1.6) compared with COC users. There were no data on fatal VTE, as the company did not capture deaths that occurred outside a health care facility. The second study[5] cited in this update was a retrospective review of clinical records. It showed a two-fold increase in medically verified VTE in Ortho Evra® users compared with 35µg ethinyloestradiol COC users (OR 2.4; 95% CI, 1.1-5.5). The most recent label revision[6] in January 2008 quoted findings from the third study[7] that showed an insignificant two-fold increase risk of VTE in Ortho Evra® users compared with women using 30µg ethinyloestradiol COC (OR 2.0; 95% CI, 0.9-4.1).

There are no data on the risk of VTE with Evra®. Since Evra® releases similar amount of ethinyloestradiol into the circulation everyday as Ortho Evra®, the risk should be similar.

In an earlier study, Ortho Evra® users were found to have significantly more breast discomfort and dysmenorrhoea than women using triphasic COC and there were significantly more women who discontinued patch because of headache and dysmonorrhoea[8]. There are no data regarding the risk of cervical or breast cancers with patch use.

Revised Duration of Use for Diane 35® (Bayer HealthCare Ltd, Hong Kong)

In Hong Kong, Diane 35® is a prescription drug licensed for the treatment of androgen dependent diseases in women and for contraception. In the United Kingdom, the Committee on Safety of Medicines and the Medicines Control Agency[9] recommended against using it for the sole purpose of contraception because of a four-fold increase in the risk of VTE compared with second generation COC[10]. It is indicated for the treatment of severe acne that does not respond to oral antibiotics and moderately severe hirsutism and it should be discontinued 3-4 months after these androgen-related symptoms resolved[9].

An Extensively Studied Monthly Injectable -- Cyclofem® (Concept Foundation, Bangkok, Thailand)

This monthly injectable contains 5mg oestradiol cypionate and 25mg medroxyprogesterone acetate. It had been extensively studied by the World Health Organization and was approved by US FDA for contraception in October 2000. It was introduced to Hong Kong in 2007 by the Concept Foundation, which is a non-profit foundation established by the UNDP/UNFPA/WHO/WB Special Program in Reproductive Health (WHO/HRP), PATH and the World Bank in 1989.

Cyclofem® is highly effective with a first-year failure rate of less than 0.2%[11,12]. Short-term studies showed little effect on haemostasis, coagulation, lipid metabolism, carbohydrate metabolism and liver function compared with COC[13-16].

There were few epidemiological data on its long-term

side effects. Menstrual problems like irregular bleeding, prolonged bleeding, heavy bleeding and amenorrhoea were reported during the first few months. After that, women could expect regular and predictable monthly cycles, similar to COC use[17]. The contraceptive effects reversed relatively quickly following discontinuation and ovulation had been observed as early as 63 days after the final injection[18]. Cumulative conception rates following discontinuation were similar to that observed with COC[19]. Other side effects included weight change, breast tenderness, mood swings, acne, and nausea. In most cases, these side effects subsided with time and were not major reasons for discontinuation. In one trial, the 12-month method-related discontinuation rate for Cyclofem® was below 30%, which was comparable to 32% during the first year of COC use and substantially lower than 44% during the first year of DepoProvera® use[20].

A New Progestogen-only Pill -- Cerazette® (Schering Plough, SOL Ltd. Hong Kong Branch)

Cerazette® is a progestogen-only contraceptive pill (POP) that contains 75µg desogestrel. It offers more consistent ovulation inhibition (up to 97% of cycles) than levonorgestrel POP (up to 71% of cycles) thus has higher contraceptive efficacy (Pearl index: 0.4 vs 1.6 for levonorgestrel POP)[21] and wider missed pill margin (12 hours instead of 3 hours for levonorgestrel POP)[22]. Ovarian ultrasound monitoring showed follicular diameter reduced with Cerazette® use over time and there were fewer large follicles (>30mm in diameter) compared to levonorgestrel POP users[21].

The most common undesirable effect reported in clinical trials was irregular bleeding but the discontinuation rate due to abnormal bleeding pattern was similar to levonorgestrel POP[23]. After a few months, bleedings would be less frequent and shorter. After 12 months of use, 50% of users had amenorrhoea or infrequent bleeding over a three months period, 40% had 3-5 bleeding or spotting episodes and 10% had more than six bleeding or spotting episodes or prolonged bleeding and spotting[24]. Other reported side effects include acne, mood changes, breast pain, nausea and weight increase.

There are still some uncertainties about this new POP. The use of COC containing desogestrel is associated with an increased risk of VTE compared with levonorgestrel containing COC. However, the clinical relevance of this finding for desogestrel POP is unknown. Although use of Cerazette® is associated with a low estradiol serum level close to that of early follicular phase, it is as yet unknown whether this will have any clinically relevant effect on bone mineral density. There is no information on how long after stopping Cerazette® fertility will return.

A New COC -- YAZ® (Bayer HealthCare Ltd, Hong Kong)

YAZ® contains 24 active pills (20µg ethinyloestradiol / 3mg drospirenone) and four placebo pills. It has obtained US FDA approval for use as a contraceptive, for treatment of emotional and physical symptoms of premenstrual dysphoric disorder in women desiring contraception and for treatment of moderate acne. The Pearl index is 0.72 (upper limit of the 95% confidence interval, 1.69)[25].

The number of active pill is increased by three to compensate for the weaker ovarian suppression with ultra low dose ethinyloestradiol. Ovulation-inhibition study confirmed that the 24/4 formulation provided more consistent suppression of endogenous oestradiol and hormone fluctuations thus was more effective in inhibiting ovulation, even when 3 pills were missed at the start, than the 21/7 formulation[26]. The cycle control by YAZ® was acceptable. In one study[25], 0.7% of women discontinued YAZ® because of irregular bleeding, which was lower than that cited for other 20µg COC (6% and13%)[27,28]. The shorter pill free interval and steady hormone level also reduced the occurrence of minor side effects like headache, abdominal pain and breast pain[26]. These are important predictors for discontinuation[29].

Theoretically, YAZ® should be safer as it contains 20µg ethinyloestradiol. However, this is difficult to prove as most of the vascular complications are uncommon in healthy young women thus requires very large sample size to demonstrate any difference. The risk of VTE with YAZ® is expected to be at least similar, if not lower than Yasmin® (30µg ethinyloestradiol / 3mg drospirenone). Post marketing surveillance of Yasmin® in Europe[30] and United States[31] showed that the incidence of VTE was not greater than other COC.

The contraindications to YAZ® are the same as other COC plus predisposition to hyperkalaemia like renal insufficiency, hepatic dysfunction, adrenal insufficiency and medications that might increase serum potassium.

A New COC -- Loette® (Wyeth (HK) Ltd, Hong Kong)

This COC is a prescription drug because it is also licensed for the treatment of acne in women aged 14 and above. It contains 20µg ethinyloestradiol and 100µg levonorgestrel. The Pearl index is 0.88 with acceptable cycle control and good tolerability profile[32]. The adverse effects, contraindications, eligibility assessment, practice pattern is the same as other COC.

References

1. Clinical Effectiveness Unit, Faculty of Family Planning and Reproductive Health Care. New Product Review (September 2003). Norelgestromin/ethinyl oestradiol transdermal contraceptive system (Evra). J Fam Plann Reprod Health Care 2004; 30(1):43-5.
2. United States Food and Drug Administration. FDA News: FDA Updates Labeling for Ortho Evra Contraceptive Patch. November 10, 2005. http://www.fda.gov/cder/drug/infopage/orthoevra/qa.htm, Accessed on August 18, 2008.
3. United States Food and Drug Administration. Questions and Answers: Ortho Evra (norelgestromin / ethinylestradiol). September 20, 2006. http://www.fda.gov/cder/drug/infopage/orthoevra/qa20060920.htm. Accessed on August 18, 2008.
4. Jick SS, Kaye JA, Russmann S, Jick H. Risk of nonfatal thromboembolism in women using a transdermal contraceptive patch and oral contraceptives containing norgestimate and 35mcg ethinyl estradiol. Contraception 2006;73:223-8.
5. Cole JA, Norman H, Doherty M, Walker AM. Venous thromboembolism, myocardial infarction and stroke among transdermal contraceptive system users. Obstet Gynecol 2007;109(2):339-346.
6. United States Food and Drug Administration. FDA News: FDA Approves Update to Label on Birth Control Patch. January 18, 2008. http://www.fda.gov/cder/drug/infopage/orthoevra/qa2008.htm. Accessed on August 18, 2008.
7. Boston Collaborative Drug Surveillance Program. Postmarketing study of ORTHO EVRA® and levonorgestrel oral contraceptives containing hormonal contraceptives with 30£gg of EE in relation to non-fatal venous thromboembolism, ischemic stroke and myocardial infarction. http://www.clinicaltrials.gov/ct2/show/NCT00511784. Accessed on August 18, 2008.

8. Audet M, Moreau M, Koltun WD, Waldbaum AS, Shangold G, Fisher AC, Creasy GW. Evaluation of contraceptive efficacy and cycle control of a transdermal contraceptive patch vs an oral contraceptive: a randomised controlled trial. JAMA 2001;285(18):2347-54.
9. Committee on Safety of Medicines and Medicines Control Agency. Cyproterone acetate (Dianette): Risk of venous thromboembolism (VTE). Current Problems in Pharmacovigilance 2002; 28:9-10.
10. Vasilakis-Scaramozza C and Jick H. Risk of venous thromboembolism with cyproterone or levonorgestrel contraceptives. Lancet 2001;358(9291):1427-9.
11. Kaunitz AM, Garceau RJ, Cromie MA. Comparative safety, efficacy and cycle control of Lunelle monthly contraceptive injection (medroxyprogesterone acetate and estradiol cypionate injectable suspension) and Ortho-Novum 7/7/7 oral contraceptive (norethindrone/ethinyl etradiol triphasic. Contraception 1999;60:179-187.
12. Hall PE. New once-a-month injectable contraceptives, with particular reference to Cyclofem/Cyclo-Provera. Int J Gynaecol Obstet 1998;62 Suppl 1:S43-56.
13. United Nations Development Programme/United Population Fund/World Health Organization/World Bank, Special Programme of Research, Development and Research Training in Human Reproduction, Task Force on Long-acting Systemic Agents for Fertility Regulation. Comparative study of the effects of two once-a-month injectable contraceptives (Cyclofem and Mesigyna) and one oral contraceptive (Ortho-Novum 1/35) on coagulation and fibrinolysis. Contraception 2003; 68(3): 159-76.
14. Canto de Cetina TE, Luna MO, Cetina Canto JA, Bassol S. Menstrual pattern and lipid profiles during use of medroxyprogesterone acetate and estradiol cypionate and NET-EN (200 mg) as contraceptive injections. Contraception 2004;69(2):115-9.
15. United Nations Development Programme/United Population Fund/World Health Organization/World Bank, Special Programme of Research, Development and Research Training in Human Reproduction, Task Force on Long-acting Systemic Agents for Fertility Regulation. Comparative study of the effects of two once-a-month injectable steroidal contraceptives (Mesigyna and Cyclofem) on glucose metabolism and liver function. Contraception. 1998;57(2):71-81.
16. United Nations Development Programme/United Population Fund/World Health Organization/World Bank, Special Programme of Research, Development and Research Training in Human Reproduction, Task Force on Long-acting Systemic Agents for Fertility Regulation. Comparative study of the effects of two once-a-month injectable steroidal contraceptives (Mesigyna and Cyclofem) on lipid and lipoprotein metabolism. Contraception. 1997;56(4):193-207.
17. Garceau RJ, Wajszczuk CJ, Kaunitz AM. Bleeding patterns of women using Lunelle monthly contraceptive injections (medroxyprogesterone acetate and estradiol cypionate injectable suspension) compared with those of women using Ortho-Novum 7/7/7 (norethindrone/ethinyl etradiol triphasic) or other oral contraceptives. Contraception 2000;62:289-295.
18. Rahimy MH, Ryan KK. Lunelle monthly contraceptive injections (medroxyprogesterone acetate and estradiol cypionate injectable suspension): assessment of return of ovulation after three monthly injections in surgically sterile women. Contraception 1999;60:189-200.
19. Kaunitz AM. Injectable contraception. New and existing options. Obstet Gynecol Clin North Am 2000;27:741-780.
20. Trussell J, Vaughan B. Contraceptive failure, method-related discontinuation and resumption of use: results from the 1995 National Survey of Family Growth. Fam Plann Perspect 1999;31:64-72,93.
21. Rice CF, Killick SR, Dieben T, Coelingh Bennink H. A comparison of the inhibition of ovulation achieved by desogestrel 75 mcg and levonorgestrel 30 mcg daily. Hum Reprod 1999; 14: 982-5.
22. Korver T, Klipping C, Heger-Mahn I, Duijkers I, van Osta G, Dieben T. Maintenance of ovulation inhibition with the 75-microg desogestrel-only contraceptive pill (Cerazette) after scheduled 12-h delays in tablet intake. Contraception. 2005;71(1):8-13.
23. Collaborative Study Group on the Desogestrel-containing Progestogen-only Pill. A double blind study comparing the contraceptive efficacy, acceptability and safety of two progestogen-only pills containing desogestrel 75 microgrammes per day or levonorgestrel 30 microgrammes per day. Eur J Contraception Reprod Health Care 1998;3:169-178.
24. Clinical Effectiveness Unit, Faulty of Family Planning and Reproductive Health Care. Desogestrel only pill (Cerazette). April 2003.
25. Bachmann G, Sulak PJ, Sampson-Landers C, Benda N, Marr J. Efficacy and safety of a low-dose 24-day combined oral contraceptive containing 20£gg ethinylestradiol and 3mg drospirenone. Contraception 2004;70:191-8.
26. Klipping C, Duijkers I, Trummer D, Marr J. Suppression of ovarian activity with a drospirenone-containing oral contraceptive in a 24/4 regimen. Contraception 2008;78(1):16-25.
27. Akerlund M, Rode, A, Westergaard J. Comparative profiles of reliability, cycle control and side effects of two oral contraceptive formulations containing 150 micrograms desogestrel and either 30 micrograms or 20 micrograms ethinyl estradiol. Br J Obstet Gynaecol 1993;100:832-8.
28. Bounds W, Vessey M, Wiggins P. A randomised double-blind trial of two low dose combined oral contraceptives. Br J Obstet Gynaecol 1979;86:325-9.
29. Rosenberg MJ and Waugh MS. Oral contraceptive discontinuation: a prospective evaluation of frequency and reasons. Am J Obstet Gynecol 1998;179(3 Pt 1):577-82.
30. Dinger JC, Heinemann LA, Kuhl-Habich D. The safety of a drospirenone-containing oral contraceptive: final results from the European Active Surveillance Study on oral contraceptives based on 142,475 women-years of observation. Contraception 2007;75(5):344-54.
31. Seeger JD, Loughlin J, Eng PM, Clifford CR, Cutone J, Walker AM. Risk of thromboembolism in women taking ethinylestradiol/drospirenone and other oral contraceptives. Obstet Gynecol 2007;110(3):587-93.
32. Archer DF, Maheux R, DelConte A, O'Brien FB. Efficacy and safety of a low-dose monophasic combination oral contraceptive containing 100 micrograms levonorgestrel and 20 micrograms ethinyl estradiol (Alesse). North American Levonorgestrel Study Group (NALSG). Am J Obstet Gynecol 1999;181(5 Pt 2):39-44.

The Use of Tocolytic Therapy in the Prevention of Preterm Labour

Dr. Tak-yuen FUNG

MBBS, FHKCOG, FRCOG, FHKAM (O&G)

Dr. Tak-yuen FUNG

Introduction

In Hong Kong, the incidences of preterm delivery (<37 completed weeks) and early preterm delivery (<33 weeks) were 6.7% and 1.2% respectively in 2004[1]. Preterm delivery has been shown to account for 80% of foetal morbidities and mortalities.[2] Although a proportion of the preterm deliveries are iatrogenic because of maternal and foetal indication, spontaneous preterm labour still accounts for 45% of preterm births.[3]

The role of tocolytic therapy in the prevention of preterm labour is still controversial. Tocolysis is not associated with any clear effects on perinatal death or on any measure of neonatal morbidity, such as respiratory distress syndrome or intraventricular haemorrhage.[4] Tocolysis should be considered to prolong the pregnancy for 48 hours for completing a course of corticosteroids which has been shown to reduce the risk of respiratory distress syndrome by at least 50%[5] or in utero transfer.

When the Patient has Preterm Labour, Should We Start Tocolytic Therapy?

With the improvement of neonatal care, tocolytic therapy is usually necessary for those patients with gestational age less than 34 weeks. We still need to exclude some conditions such as intrauterine infection, placental abruption or foetal distress, which may affect foetal well being if it is still maintained in utero.

Before starting tocolytic therapy, it is important to identify women with false labour as 30% of preterm labours would resolve spontaneously.[6] Foetal fibronectin (FFN) is an extracellular matrix glycoprotein localised at the maternal-foetal interface of the amniotic membranes, between chorion and decidua. FFN is found at very low levels in cervico-vaginal secretions. Foetal Fibronectin level of 50ng/ml or more can predict only 20 to 50% preterm delivery.[7] Transvaginal ultrasound scan measurement of cervical length 1.5cm or less has a positive predictive value of 65%.8 However both of them are not good predictors for true labour. On the other hand, a negative FFN (less than 50ng/ml) test result can identify 99.5% of patients who are unlikely to deliver within 7 to 10 days.[7] Cervical length of 2.5 to 3.0 cm or above has a negative predictive value of 99 to 100%.[8,9] A combination of these two modalities have been shown to be useful in detection of false labour.[10] It can decrease the chance of over diagnosis and subsequently reduces the side effects of medication, cost of hospitalisation, and the social isolation.

If We Want to Start Tocolytic Therapy, What are the Drugs We Can Choose?

The commonly used tocolytic agents include nifedipine, atosiban, ritrodrine and indomethacin or sulindac. The regime, contraindications and side effects of these drugs are summariesed in Table1. Magnesium sulphate is not mentioned here as recent literature had shown that this drug was no more efficacious than placebo, but associated with increased risk of foetal and paediatric death (Relative Risk(RR) 2.82 with Confident Interval(CI) 1.2 to 6.62).[11] It is time to quit this drug as a tocolytic agent.[12]

Nifedipine:

It is a calcium channel blocker which inhibits the influx of calcium ions into myometrial and other cells and thereby reduces muscle contractility.[13]

Although there is no placebo controlled study, King JF et al have reviewed 12 randomised controlled trials involving 1209 women and showed that nifedipine was associated with a reduction in the number of delayed delivery for 7 days (RR 0.76 ; 95% CI, 0.60 to 0.97) and before 34 weeks of gestation (RR 0.83; 95% CI, 0.69 to 0.99). It appeared to reduce the frequency of respiratory distress syndrome, necrotising enterocolitis, intraventricular haemorrhage and neonatal jaundice and fewer maternal adverse effects than beta-mimetics.[14]

Dyspnoea, pulmonary oedema, myocardial infarction, severe hypotension, hypoxia and elevated liver enzymes had been associated with nifedipine tocolysis.[15] One local study had shown that only 2% had severe maternal hypotension and all returned to normal thereafter.[16]

Atosiban

It is a competitive antagonist for oxytocin receptors. It binds to receptors in the myometrium and decidua, thus preventing the increase in intracellular free calcium that occurs with receptor binding.[17]

Atosiban has been shown to have similar efficacy in preventing preterm labour when compared to beta-mimetics but with reduced maternal side effects in a multiple centre, double-blind, placebo controlled trial.[18] A recent Cochrane review six trials in 2005 [19] showed

that atosiban did not reduce the incidence of preterm delivery or improve the neonatal outcome as compared with placebo in 2 trials. In one trial, it has been associated with an increase in infant deaths with a relative risk of 6.15 (95% CI 1.39 -27.22).[20] Please note that this trial randomised significantly more women to atosiban before 26 weeks of gestation which can account for the excess in deaths. This phenomenon was not observed in other studies. There was no difference in the effects on delayed delivery when atosiban was compared with betamimetics. Atosiban increased the number of infants born under 1.5kg but had fewer maternal drug reactions.

Atosiban is licensed in the United Kingdom for the treatment of threatened preterm labour.[4] However the Food and Drug Administration of the United States has not approved the use of this drug because of the study of apparent increased risk of foetal and infant deaths.[21]

Beta-mimetics: Ritrodrine

Ritodrine is one of the widely used tocolytic agents. This drug binds to the β-2 receptors on the surface of the myocytes and mediates myometrial relaxation by stimulating cyclic AMP. However, it also has a stimulatory effect on the β-1 in the heart, liver, pancreas, and kidney which account for the side effects. Prolonged use of this drug would induce down-regulation of the β-2 receptors and more drug (i.e. more side effects) is necessary to maintain the effect.[22]

A meta-analysis of all randomised controlled trials on intravenous ritrodrine hydrochloride when compared to placebo had lower risk of preterm delivery for tocolysis in preterm labour. The relative risks (RR) related to placebo for delivery within 48 hours or 7 days for intravenous ritodrine hydrochloride were 0.74 (95% CI 0.56-0.97) and 0.85 (95% CI: 0.74 - 0.97) respectively.[23] However maternal adverse effects included chest pain, dyspnoea, tachycardia, palpitations, tremor, headache, hypokalaemia, hyperglycaemia, nausea and vomiting, and nasal stuffiness were reported. The RR for cessation of treatment because of adverse events was 11.3 (95 percent CI, 3.8 to 33.5). There was no difference in the rate of perinatal and neonatal deaths. Treatment had no effect on neonatal morbidity such as respiratory distress syndrome, cerebral palsy, and necrotising enterocolitis.[24]

Non-steroidal Anti-inflammatory Agents (NSAID): Indomethacin / Sulindac

Prostaglandins are important intermediates of the many pathways leading to spontaneous preterm labour. The efficacy of NSAID lies in their ability to interrupt the actions of prostaglandins at multiple sites in preterm labour cascade.[25]

Indomethacin is currently the most common non-steroidal anti-inflammatory drug (NSAID) used in the treatment of preterm labour. King J reviewed 13 trials and showed that the use of indomethacin had lower preterm delivery when compared to placebo and other tocolytics mainly the betamimetics and magnesium sulphate. However due to the smaller number of cases, there was insufficient information on which to base decisions about its role for women in preterm labour.[26]

Furthermore, concern has been raised about the safety of the drug for the foetus and newborn. Premature closure of the ductus arteriosus occurs in 10 to 50% of foetuses exposed to indomethacin. It is more prevalent in later gestations (>32 weeks).[27] A meta-analysis had shown antenatal indomethacin was associated with an increased risk of periventricular leukomalacia (RR 2.0; 95% CI 1.3 -3.1) and necrotising enterocolitis (RR 2.2; 95% CI 1.1 - 4.2).[28]

Sulindac, a more selective cyclo-oxygnease 2 inhibitor had been shown to have similar effect as indomethacin but with lesser effects on amniotic fluid volume or foetal ductus in a small study.[29] A bigger study is necessary to delineate the efficacy and safety of this drug.

Among All the Tocolyitc Agents, Which One Should We Choose First?

The Royal College of Obstetricians and Gynaecologists' Green Top Guidelines in 2002 stated that when a tocolytic is required, nifedipine or atosiban (an oxytocin receptor antagonist) should be used as the preferred first line tocolytic agent, in preference to beta-mimetics.[4] Afterwards, there have been increasing debates into which drug is the first choice. Without direct comparison between the two drugs, Coomarasamy et al pooled analysis of the odds indirectly. It was shown that nifedipine tocolysis was associated with a significant reduction in respiratory distress syndrome compared with atosiban (RR 0.55, 95% CI 0.32-0.97). It also increased the number of women whose delivery was delayed by 48 hours (RR 1.20, 95% CI 0.73-1.95), although this result was not statistically significant.[30] Before further evidence is available, nifedipine would be the preferred first line tocolytic agent when there is no contra-indication.

Should We Use Tocolytic Agents to Maintain a Pregnancy?

Sanchez-Ramos et al in 1999 reviewed 12 trials on 855 receiving maintenance tocolysis and 735 receiving placebo or no treatment. There were no significant differences in preterm delivery and recurrent preterm labour.[31] Dodd JM et al in a recent review did not found evidence to support the use of oral betamimetics for maintenance therapy after threatened preterm labour.[32]

Which Agent If the First Line Tocolytics Failed?

If the first line tocolytic failed even on maximum dosage, it is important to review the whole case again. Cervical assessment may help to find out whether the patient is in true preterm labour. The possible underlying infection or abruptio placenta needs to be considered.

If nifedipine is the first line treatment, the cardiovascular effects of nifedipine preclude its use in combination with betamimetics.[15] Therefore, the choice of second line agents would be either atosiban or sulindac. Given the

potential foetal side effects of sulindac, atosiban can used as the second line of treatment.

Should We Give Tocolytics in Preterm Premature Rupture of Membranes?

The value of tocolytic therapy after PPROM remains controversial. The main concern is that PPROM is commonly associated with subclinical intra-uterine infection and that contractions could be a marker for overt infection. Tocolysis might prolong pregnancy and thus expose the mother and foetus to undue risk from intra-uterine infection. Weiner CP et al showed that tocolytic therapy might have a longer latency when compared to bed rest alone (105.2 vs 62.1hrs).[33] However, Decavalas et al showed that prolonged tocolytic therapy might increase the risk of chorioamnionitis (RR: 2.47; 95% CI: 1.42-4.66) and postpartum endomyometritis (RR: 1.74; 95% CI: 1.10-2.75) when compared to limited tocolytic therapy to 48 horus.[34] Recently Combs et al showed that limited tocolysis to 48 hours did not have more frequent maternal or neonatal infection.[35] Therefore tocolysis in patients with PPROM should be limited to 48 hours for the effects of corticosteroid or in-utero transfer.

Is There Any Tocolytic Therapy in Preventing Preterm Labour in Asymptomatic Patients?

There is no evidence to support that prophylactic oral betamimetics can prevent birth in high risk pregnancy with previous preterm delivery or twin pregnancy.[36,37]

Progesterone, on the other hand, has been widely investigated in preventing preterm labour. A large randomised placebo controlled trial had shown weekly intramuscular injections of 17α\-hydroxyprogeterone caproate (not commercially available yet) in high risk population (previous spontaneous preterm delivery less than 37 weeks) can significantly reduce preterm labour (36.3% versus 54.9%).[38] Furthermore, in patients found to have short cervix (<15mm) detected between 20 and 25 weeks, daily vaginal progesterone (200mg micronised progesterone capsules) significantly reduces the rate of spontaneous preterm birth less than 34 weeks of gestation (19.2% versus 34.5%).[39] Unfortunately, progesterone has not been shown to be useful in twin pregnancy.[40] The American College of Obstetricians and Gynecolgists has recommended progesterone supplementation for prevention of recurrent preterm birth should be offered to women with a singleton pregnancy and a prior spontaneous preterm birth due to spontaneous preterm labour or premature rupture of membranes. Current evidence does not support the routine use of progesterone in women with multiple pregnancies. It may be considered in patients with short cervical length (< 15mm).[41]

Conclusion:

Progesterone may be used for the prevention of spontaneous preterm labour in high risk singleton pregnancy. When a patient has preterm labour, foetal fibronectin and cervical length assessment may help in identify those cases with false labour. When tocolytic therapy is indicated, nifedipine is the first drug of choice. Atosiban can be used as the second line drug if nifedipine is contraindicated or fails.

Declaration

The author declares no conflicts of interest.

Table 1. Commonly used tocolytic agents: regime, side effects and contraindications

Agent	Regime	Side effects		Contraindications
		Maternal	Fetal	
Nifedipine	Initial dosage :- sublingual 10mg, repeat every 15 minutes until contractions cease total maximum dosage 40mg - Maintenance dosage: Oral 20mg start 6 hrs after the initial sublingual dose q8h for 2 days Titrate against response and side-effects Can increase dosage, firstly to 20mg q6h then up to 40 mg q6h on the first day	- Flushing or headache - Significant hypotension, maternal tachycardia,	Foetal tachycardia	Hypotension Preload-dependent cardiac lesions (e.g. aortic insufficiency)
Atosiban	Loading dose: - 6.75mg ivi over 1 minute - Then start high dose loading infusion: 75mg in 100ml. Infusion rate 24ml/hour (18mg/hour or 300mcg/min) for 3 hours - Then start low dose Maintenance infusion: (75mg/100ml) Infusion rate to 8ml/hour (6mg/hour or 100mcg/min) for 21 hours (Maximum duration: 45 hours)	- Nausea and vomiting - Dizziness and hot flushes - Tachycardia and hypotension - Hyperglycaemia - Injection site reaction		Allergy to Atosiban
Indomethacin	50 to 100mg rectal suppository Then 15mg 4-6 hrs for 48 hours	GI upset (Nausea, heartburn) Drug rash, bleeding disorders	Transient constriction foetal ductus arteriosus, oligohydramnios	Asthma Drug allergy Renal, cardiac, hepatic impairment Peptic ulcer Thrombocytopenia
Sulindac	200mg po Q12H for 4 doses			
Ritodrine	Start IV infusion using syringe pump (150mg in 50ml 5%-dextrose) with 50ug/min or 1ml/hr Increment at 15 minute-interval by 50ug/min until uterine contractions are suppressed, or maximum dosage attained (350ug/min), or complications arise Maintain infusion rate for at least 6 hours after contractions have ceased, and up to 24 hours for steroid to work	Tachycardia and hypotension Palpitation Shortness of breath chest discomfort Hypokalaemia Hyperglycaemia ECG changes (ST depression, prolonged QT interval), pulmonary edema	Foetal tachycardia Increased intraventricular haemorrhage	- Severe cardiac diseases and arrhythmia - Poorly controlled hyperthyroidism or taking beta-blocker for control of tachycardia - Poorly controlled diabetes mellitus

References

1. Territory-wide O&G Audit Report 2004. Hong Kong College of Obstetricians and Gynaecologists.
2. Robinson JN, Norwitz ER. Current concepts in the management of preterm labor: Part 1. Semin Perinatol 2001;25:215.
3. Ananth CV, Joseph KS, Oyelese Y, Demissie K, Vintzileos AM. Trends in preterm birth and perinatal mortality among singletons: United States, 1989 through 2000. Obstet Gynecol 2005;105:1084-91.
4. Clinical Guideline No.1(B). Tocolytic drug for women in preterm labour. London: Royal College of Obstetricians and Gynaecolgists; 2002
5. Crowley P., Chalmers I. & Keirse M. J. N. C. The effects of corticosteroid administration before preterm delivery: an overview of the evidence from controlled trials. Br J Obstet Gynaecol 1990; 97:11-25.
6. King JF, Grant A, Keirse MJ, Chalmers I. Beta-mimetics in preterm labour: an overview of the randomized controlled trials. Br J Obstet Gynaecol 1988; 95:211-22.

8. Schmitz T, Kayem G, Maillard F, Lebret MT, Cabrol D, Goffinet F. Selective use of sonographic cervical length measurement for predicting imminent preterm delivery in women with preterm labor and intact membranes. Ultrasound Obstet Gynecol 2008;31:421-6.
9. Tsoi E, Fuchs IB, Rane S, Geerts L, Nicolaides KH. Sonographic measurement of cervical length in threatened preterm labor in singleton pregnancies with intact membranes. Ultrasound Obstet Gynecol 2005; 25(4):353-6.
10. Gomez R, Romero R, Medina L, Nien JK, Chaiworapongsa T, Carstens M, Gonzalez R, Espinoza J, Iams JD, Edwin S, Rojas I.Cervicovaginal fibronectin improves the prediction of preterm delivery based on sonographic cervical length in patients with preterm uterine contractions and intact membranes. Am J Obstet Gynecol 2005;192:350-9.
11. Crowther CA, Hiller JE, Doyle LW. Magnesium sulphate for preventing preterm birth in threatened preterm labour. Cochrane Database Syst Rev. (4), 2002.
12. Grimes DA, Nanda K. Magnesium sulfate tocolysis: time to quit. Obstet Gynecol 2006;108:986-9.
13. Nakajima H, Hoshiyama M, Yamashita K, Kiyomoto A. Effect of diltiazem on electrical and mechanical activity of isolated cardiac ventricular muscle of guinea pig. Jpn JPharmacol 1975;25:383-92.
14. King JF, Flenady VJ, Papatsonis DN, Dekker GA, Carbonne B. Calcium channel blockers for inhibiting preterm labour. Cochrane Database Syst Rev 2003
15. Oei SG. Calcium channel blockers for tocolysis: a review of their role and safety following reports of serious adverse events. Eur J Obstet Gynecol Reprod Biol. 2006;26:137-45.
16. Chan LW, Sahota DS, Yeung SY, Leung TY, Fung TY, Lau TK, Leung TN. Side-effect and vital sign profile of nifedipine as a tocolytic for preterm labour. Hong Kong Med J 2008;14:267-72.
17. Goodwin TM, Valenzuela G, Silver H, Hayashi R, Creasy GW, Lane R. Treatment of preterm labor with the oxytocin antagonist atosiban. Am J Perinatol 1996;13:143-6.
18. Moutquin JM, Sherman D, Cohen H, Mohide PT, Hochner-Celnikier D, Fejgin M, Liston RM, Dansereau J, Mazor M, Shalev E, Boucher M, Glezerman M, Zimmer EZ, Rabinovici J. Double-blind, randomized, controlled trial of atosiban and ritodrine in the treatment of preterm labor: a multicenter effectiveness and safety study. Am J Obstet Gynecol 2000;182:1191-9.
19. Papatsonis D, Flenady V, Cole S, Liley H. Oxytocin receptor antagonists for inhibiting preterm labour. Cochrane Database Syst Rev. 20;(3), 2005.
20. Romero R, Sibai BM, Sanchez-Ramos L, et al. An oxytocin receptor antagonist (atosiban) in the treatment of preterm labor: a randomized, double-blind, placebo-controlled trial with tocolytic rescue. Am J Obstet Gynecol 2000;182:1173-83.
21. Simhan HN, Caritis SN. Prevention of preterm delivery. N Engl J Med. 2007;357(5):477-87.
22. Caritis SN, Lin LS, Toig G, Wong LK. Pharmacodynamics of ritodrine in pregnant women during preterm labor. Am J Obstet Gynecol 1983;147:752-9.
23. Yaju Y. Nakayama T. Effectiveness and safety of ritodrine hydrochloride for the treatment of preterm labour: a systematic review. Pharmacoepidemiology & Drug Safety 2006;15:813-22.
24. Anotayanonth S, Subhedar NV, Garner P, Neilson JP, Harigopal S. Betamimetics for inhibiting preterm labour. Cochrane Database Syst Rev. 18;(4). 2004
25. Olson DM, Ammann C. Role of the prostaglandins in labour and prostaglandin receptor inhibitors in the prevention of preterm labour Front Biosci. 2007;12:1329-43.
26. King J. Flenady V. Cole S. Thornton S. Cyclo-oxygenase (COX) inhibitors for treating preterm labour. Cochrane Database of Systematic Reviews. (2):2005.
27. Macones GA, Marder SJ, Clothier B et al. The controversy surrounding indomethacin for tocolysis. Am J Obstet Gynecol 2001; 184: 264-72.
28. Amin SB. Sinkin RA. Glantz JC. Metaanalysis of the effect of antenatal indomethacin on neonatal outcomes. Am J Obstet Gynecol 2007;197:486.e1-10.
29. Carlan S, O'Brien W, O'Leary, et al. Randomized comparative trial of indomethacin and sulindac for the treatment of refractory preterm labor. Obstet Gynecol 1992;79:223.
30. Coomarasamy A, Knox EM, Gee H et al. Effectiveness of nifedipine versus atosiban for tocolysis in preterm labour: a meta-analysis with an indirect comparison of randomised trials. BJOG 2003; 110:1045-9.
31. Sanchez-Ramos L, Kaunitz AM, Gaudier FL Delke I. Efficacy of maintenance therapy after acute tocolysis: a meta-analysis. Am J Obstet Gynecol 1999;181: 484-90.
32. Dodd JM, Crowther CA, Dare MR, Middleton P. Oral betamimetics for maintenance therapy after threatened preterm labour. Cochrane Database Syst Rev. 2006
33. Weiner CP, Renk K, Klugman M. The therapeutic efficacy and cost-effectiveness of aggressive tocolysis for premature labor associated with premature rupture of the membranes. Am J Obstet Gynecol. 1988;159:216-22.
34. Decavalas G, Mastrogiannis D, Papadopoulos V, Tzingounis V. Short-term versus long-term prophylactic tocolysis in patients with preterm premature rupture of membranes. Eur J Obstet Gynecol Reprod Biol. 1995;59:143-7.
35. Combs CA, McCune M, Clark R, Fishman A. Aggressive tocolysis does not prolong pregnancy or reduce neonatal morbidity after preterm premature rupture of the membranes. Am J Obstet Gynecol. 2004;190:1723-8.
36. Yamasmit W, Chaithongwongwatthana S, Tolosa JE, Limpongsanurak S, Pereira L, Lumbiganon P. Prophylactic oral betamimetics for reducing preterm birth in women with a twin pregnancy. Cochrane Database Syst Rev. 2005 20;(3)
37. Whitworth M, Quenby S. Prophylactic oral betamimetics for preventing preterm labour in singleton pregnancies. Cochrane Database Syst Rev. 2008 23;(1)
38. Meis PJ, Klebanoff M, Thom E, Dombrowski MP, Sibai B, Moawad AH, Spong CY, Hauth JC, Miodovnik M, Varner MW, Leveno KJ, Caritis SN, Iams JD, Wapner RJ, Conway D, O'Sullivan MJ, Carpenter M, Mercer B, Ramin SM, Thorp JM, Peaceman AM, Gabbe S; National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Prevention of recurrent preterm delivery by 17 alpha-hydroxyprogesterone caproate. N Engl J Med. 2003 12;348:2379-85.
39. Fonseca EB, Celik E, Parra M, Singh M, Nicolaides KH; Fetal Medicine Foundation Second Trimester Screening Group. Progesterone and the risk of preterm birth among women with a short cervix. N Engl J Med. 2007 2;357:462-9.
40. Rouse DJ, Caritis SN, Peaceman AM, Sciscione A, Thom EA, Spong CY, Varner M, Malone F, Iams JD, Mercer BM, Thorp J, Sorokin Y, Carpenter M, Lo J, Ramin S, Harper M, Anderson G; National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. A trial of 17 alpha-hydroxyprogesterone caproate to prevent prematurity in twins. N Engl J Med. 2007; 357:454-61.
41. ACOG Committee Opinion number 419 October 2008 (replaces no. 291, November 2003). Use of progesterone to reduce preterm birth. Society for Maternal Fetal Medicine Publications Committee. Obstet Gynecol. 2008; 112 :963-5.

The Hospital Authority Commissioned Training 2008-Obstetrics

Dr. Rebecca TANG

MBBS (HK), FHKCOG, FHKAM(O&G), MRCOG(UK)

Many of us would recall we had a wonderful week in January this year in the Pamela Youde Nethersole Eastern Hospital. The theme of this Commissioned Training was on Obstetrics.

We had very distinguished speakers from overseas, Dr Kim Hinshaw who was no stranger for most of us for he had been our main instructor in many of the ALSO Courses in the past years. We also met Dr Tracey Johnston who is the consultant in Foetal Maternal Medicine, Birmingham Women's Hospital, United Kingdom. Not the least, we had very renowned local speakers who are obstetricians, neonatologists, anaesthetists and midwives!

Different from the previous commissioned trainings where we listened to lectures and a minority of us observed procedures, operations or had short experience on some new skills, this time we had 2 whole days of workshop where many frontline staff, medical and nursing, joined in discussions and drills where some of the ideas are new to us. But are they useful and how many Obstetric Units have applied the ideas and knowledge learned?

I am blaming globalisation again, many of the problems faced by obstetrical practices in UK mentioned by Dr Johnston are very similar to ours. Concerns she mentioned included high Caesarean Section Rate, or interfered too much, juniors are not well trained, consultants are de-skilling and midwives are extremely short with low morale. And what do we mean when we say we wish to 'improve outcome'? Do we mean reduction in maternal and perinatal morbidity and mortality, reducing unnecessary interventions, improving birth experience of our pregnant clients and family or improving job satisfaction for obstetricians, trainees, midwives and other health care workers? We have tried very hard to decrease perinatal and maternal mortality and morbidity figures and we used to measure our performance by these figures, meticulously compared ours with other units' and previous years'! Ways to improve our performance would include doing audits, both local and international. Teaching and training to trainees need more refinement particularly when the enforcement of limited workhour is going to be in place very soon. Clinical protocol has to be updated and evidence-based. And we have to adopt a positive and open view and mood in handling complaints, incidents and special events with careful review, suggestions of improvement and proper reflection to all staff. An area that we did very little is on clients' satisfaction. 'Healthy mum with healthy baby at the end' may not mean our job well done! We seldom ask what our service users want or what they think of our service. When standing on our side and looking at our own constraints, we dare not ask what else should we provide and whether their needs are met by our service! It is known that one to one care in labour will reduce intervention and increase satisfaction. User satisfaction will also be enhanced when they are given choices in management, there is continuity of care, they are being listened to, kept informed and being treated with respect and dignity. To achieve this, there may need a rather fundamental change in strategic planning with our funding authority regarding models of care and staffing. Staffing needs need to be recalculated with regard to workload in striving for a less stressed workplace, better communication and improved patient and staff job satisfaction.

Dr Kim HInshaw presented a relatively new concept in Intrauterine Foetal Resuscitation (IUR). He gave us a very clear concept in foetal physiology. He advocated systematic interpretation of CTG in one's own clinical scenario with support of foetal pH. IUR may be considered when there is borderline or established foetal acidaemia. IUR may improve foetal environment prior to urgent delivery and IUR may alter the mode of delivery. When there is suspected foetal comprise, institute conservative measures like maternal fell lateral tilt, oxygen and IV fluid bolus and continue monitoring. Candidates suitable for IUR are foetuses with borderline or established acidaemia, when general anaesthesia can be avoided for Caesarean Section, and when there is oligohydramnios and recurrent decelerations on CTG. Active IUR includes tocolysis for those with foetal acidaemia before Caesarean Section and amnioinfusion for those with oligohydramnios and borderline acidaemia.

Other very interesting topics include training of Delivery Suite Staff, High Dependency and Critical Care in Delivery Suite and many updates in Obstetrics Emergnecy Management. Most of the slides and valuable presentations are in CDs compiled after the training and have been distributed to all training units.

My Road to Hi-fi Nirvana

Dr. Hon-kwong WONG

MBBS, FRCOG(UK), FHKAM(O&G)

Dr. Hon-kwong WONG

Like every big river, all things start as small trickles. My road in Hi-fi is no exception.

It started when I was in Form 5, when I spent a princely sum of $150 on a small cassette tape recorder and player. The cassette player was nothing of high fidelity, but a definite improvement over the minute transistor radio that had accompanied me over countless nights. It wasn't even in stereo, but the enjoyment was still overwhelming. I can still remember the times when I recorded music over the radio and television, and of course the five-dollar-per-cassette pirated compilations. Unfortunately my player became so popular within the family that it had effectively turned into everybody's entertainment centre, and I lost custody of my first love.

Then everything was quiet for the next two years when I had to study hard for my A-level examination. I could still use the cassette player after 11 pm, when everyone had gone to sleep, when I was burning my midnight oil. I also experimented with building my speaker boxes, which could give me deeper bass or better ambience. But of course I would be filled with joy if the speaker could utter any sound at all.

My real encounter with Hi-fi in the usual sense occurred when I was in Year 1, when I moved out of the family and lived alone in Kowloon. I got myself a set of junkies, including a record player (yes, those black vinyl discs), an amplifier and two loudspeakers. Some of them were second-hands from Apliu Street, while the others were cheap and cheerful Japanese boxes. They were all connected together with "red and black" wires, again from Apliu Street. The price I paid was really peanuts, when compared to the present day exotic gears, but of course it was still a sizable sum, not to mention the cost of software.

So every month I tried to buy a few vinyl records, costing around 20 dollars each. My first record was by Mary Hopkins (remember Those Were the Days?), which cost 18 dollars. I was a poor student so I had to spend less on food. You can see easily the reason why I was one of the thinnest amongst my fellow classmates.

I was hooked onto Hi-fi and music since then. Even though most of my software nowadays are CDs I still hold onto my precious vinyl collection. The sweet and mellow sound, and especially the nostalgia from vinyl is still incomparable. Give it a try if you haven't heard that before.

In the past decades many more hardware came and went, initially mostly Japanese transistor gears bought from high street shops. I was happy with them, and bought hundreds of CDs and LPs, enjoying every piece. An hour or so of listening, down with a glass of whisky, was at one time my usual routine, and source of delight. I grew a particular affection to Baroque music. Its intricate and symmetrical arrangement had given me hours and hours of relaxation and joy.

But things gradually changed. What was considered adequate in the past had slowly degenerated into something that I loathed. In the beginning I was particularly fond of a loud and thumping bass, and of course a splashy high pitch on the other frequency extreme. I have changed as well, my hair is getting thinner, my tummy beginning to swell, and I was loosing my high frequency hearing. My sonic preference slowly tilted towards a sweet and mellow sound, and not just highs and lows.

The transition came almost suddenly. A few years ago I was browsing around in a Hi-fi shop. No purchase was expected. The shop was demonstrating a newly introduced, made-in-China amplifier, a tube amplifier. The sound was cosy and relaxing, with lots of nuance. Suddenly I was immersed totally into this auditory hallucination. After full recovery I was very interested in the amplifier, which cost just a few thousand dollars. I bought one on the spot, and replaced most of my solid state hardware within a short time.

I was bitten by the vacuum tube bug, with no regret. The cheap original tubes were replaced by very expensive vintage ones, giving me even more pleasure. For the past two years or so, vintage gears which are often forty or fifty years old are my favourite, with a reason. The sound is simply superb, when compared to many modern designs. The other point worth mentioning is that this vintage machine collecting could be a very good investment. A Marantz 7 preamplifier that was bought less than a year ago has already doubled its market price!

According to the Pocket Oxford Dictionary, Nirvana is "(in Buddhism) a state of perfect happiness in which there is no suffering or desire, and no sense of self", you can see that the road I have pursued so far is more a track of gadget collection, with desire and lust thrown in. Nirvana seems to be a non-reachable land. But just forget that. I am enjoying the journey myself, and when immersed in the music I will forget about self and all other troubles. Isn't there a touch of Zen?

Dermatological Quiz

Dr. Ka-ho LAU

MBBS(HK), FRCP(Glasg), FHKCP, FHKAM(Med)
Yaumatei Dermatology Clinic, Social Hygiene Service

Dr. Ka-ho LAU

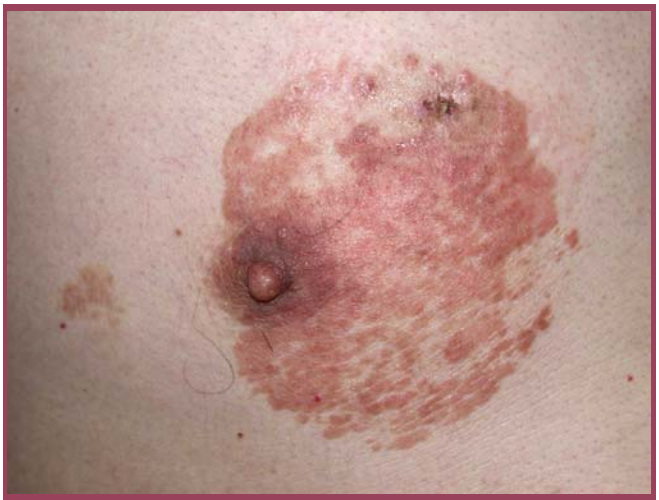


Fig 2: Skin lesion at left nipple

A 70-year-old man with good past health complained of non-itchy skin lesion around his left nipple for one year (Figure). The skin lesion only affected his left nipple and progressively enlarged in size. He has tried various topical steroids and antifungal creams with no improvement.

Questions:

1. What is your provisional diagnosis or differential diagnoses?
2. What other important physical examination you would like to perform?
3. How will you manage this patient?

(See P.36 for answers)

Society News

News from Member Societies:

Hong Kong Society of Cytology
Updated office-bearers for the year 2009-2010 are as follows: President: Dr. Ui-soon KHOO; Honorary Secretary: Ms. Kit-yee LEE; Honorary Treasurer: Mr. Fuk-cheong LONG

The Hong Kong Orthopaedic Association
Updated office-bearers for the year 2009-2010 are as follows: President: Dr. Henry S.F. YIP; Honorary Secretary: Dr. K.M. SIU; Honorary Treasurer: Dr. Raymond N.M. WONG

The Hong Kong Society for Colposcopy and Cervical Pathology
Updated office-bearers for the year 2008-2009 are as follows: President: Dr. S.K. LAM; Honorary Secretary: Dr. S.F. YIM; Honorary Treasurer: Dr. Alice CHAN

The FMSHK would like to send its congratulations to the new office-bearers and look forward to working together with their societies.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
★ Beat Drugs Seminar **1**	**2**	★ HKMA CME - Medical Disputes in Hong Kong **3**	★ Dancing Course (Ballroom Dancing) - Lesson 5 ★ HKMA Choir Rehearsal **4**	★ FMSHK Officers' Meeting ★ (第一講) 人類乳頭瘤病毒疫苗如何防禦子宮頸癌 (Code no: SE-WHT-0109) ★ HKMA Council Meeting **5**	★ Joint Surgical Symposium - Minimally Invasive Surgery Parathyroidectomy **6**	**7**
★ HKMA Structured CME Programme 08/09 (XII) - Clinical Oncology & Cardiothoracic Surgery **8**	**9**	**10**	★ Dancing Course (Ballroom Dancing) - Lesson 6 ★ HKMA Choir Rehearsal ★ Hong Kong Neurosurgical Society Monthly Academic Meeting - Review on Management of Atypical Meningioma ★ Joint Professional Golf Tournament **11**	★ HKMA Structured CME Programme with Hong Kong Sanatorium & Hospital Year 2009 (III) - Update on Osteoporosis **12**	**13**	★ Refresher Course for Health Care Providers 2008/ 2009 - Primary Care Approach to Patients with Chest Pain **14**
★ Dragon Boat Practice Session **15**	★ Acupuncture in Pain Management 2009 **16**	★ FMSHK Executive Committee Meeting ★ HKMA Tai Po Community Network CME - BACK PAIN: A Rheumatologist Perspective **17**	★ Dancing Course (Ballroom Dancing) - Lesson 7 ★ HKMA Choir Rehearsal **18**	★ (第二講) 更年期婦女健康與骨質疏鬆症 (Code no: SE-WHT-0209) **19**	**20**	**21**
★ HKMA Football Day ★ Kowloon East Community Network Public Education Day ★ HKMA Structured CME Programme with PMH Year 2009 (2) - I) Use of Oral Hypoglycemic Agents in Type 2 Diabetes II) Primary Prevention of Type 2 Diabetes ★ Dragon Boat Practice Session **22**	**23**	**24**	★ Dancing Course (Ballroom Dancing) - Lesson 8 ★ HKMA Choir Rehearsal **25**	**26**	**27**	**28**
★ Dragon Boat Practice Session **29**	★ ICN Leadership for Change Program ★ HKMA Choir Outreach Performance **30**	**31**				

Date / Time	Function	Enquiry / Remarks
1 SUN 2:30 pm	**Beat Drugs Seminar** Organised by: Hong Kong Medical Association & HK Council of Social Service, Chairmen: Dr. TSE Hung Hing & Ms. Christine FUNG, Venue: HA Theatre	Miss Viviane LAM Tel: 2527 8452 2 CME Points
3 TUE 1:00 pm	**HKMA CME - Medical Disputes in Hong Kong** Organised by: The Hong Kong Medical Association, Speakers: Dr. TEOH Ming Keng & Dr. LEONG Kwok On Harold, Venue: Tsim Sha Tsui	Miss Viviane LAM Tel: 2527 8452 1.5 CME Points
4 WED 2:00 pm *(11,18,25)*	**Dancing Course (Ballroom Dancing) - Lesson 5 to 8** Organised by: The Hong Kong Medical Association, Venue: Jordan	Ms. Dora HO Tel: 2527 8285
8:00 pm *(11,18,25)*	**HKMA Choir Rehearsal** Organised by: The Hong Kong Medical Association, Venue: CR1, Hong Kong Cultural Centre	Ms. Candy YUEN Tel: 2527 8285
5 THU 8:00 pm - 10:00pm	**FMSHK Officers' Meeting** Organised by: 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. Paulina TANG Tel: 2527 8898 Fax: 2865 0345
6:00 pm - 7:30 pm	**(第一講) 人類乳頭瘤病毒疫苗如何防禦子宮頸癌 (Code no: SE-WHT-0109)** Organised by: College of Nursing, Hong Kong	Secretariat Tel: 2572 9255 Fax: 2838 6280 1.5 CNE points
8:00 pm	**HKMA Council Meeting** Organised by: The Hong Kong Medical Association, Chairman: Dr. H.H. TSE, Venue: HKMA Head Office, 5/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms. Christine WONG Tel: 2527 8285
6 FRI 8:00 am - 9:00 am	**Joint Surgical Symposium - Minimally Invasive Surgery Parathyroidectomy** Organised by: Department of Surgery, The University of Hong Kong & Hong Kong Sanatorium & Hospital, Chairman: Dr. LO Chung-Yau, Speakers: Drs. Brian LANG & CHAN Wai-Keung, Venue: Hong Kong Sanatorium & Hospital	Department of Surgery, Hong Kong Sanatorium & Hospital Tel: 2835 8698 Fax: 2892 7511 1 CME Point (Active)
8 SUN 2:00 pm	**HKMA Structured CME Programme 08/09 (XII) - Clinical Oncology & Cardiothoracic Surgery** Organised by: The Hong Kong Medical Association & Queen Elizabeth Hospital, Speakers: Dr. Carman LEUNG, Dr. LO Cheuk Kin, Venue: Lecture Theatre, G/F, Block M, Queen Elizabeth Hospital, Kowloon	Miss Viviane LAM Tel: 2527 8452 (Registration Fee is required) 3 CME Points
11 WED 7:30 am	**Hong Kong Neurosurgical Society Monthly Academic Meeting - Review on Management of Atypical Meningioma** Organised by: Hong Kong Neurosurgical Society, Chairman: Dr. CHEUNG Fung Ching, Speaker: Dr. KWAN Cheuk Lun Marco, Venue: Seminar Room, G/F., Block A, Queen Elizabeth Hospital, Kowloon	Dr. Y.C. PO Tel: 2990 3788 Fax: 2990 3789
11:00 am	**Joint Professional Golf Tournament** Organised by: The Hong Kong Medical Association, Venue: East and South Course, Kau Sai Chau	Ms. Dora HO Tel: 2527 8285
12 THU 2:00 pm	**HKMA Structured CME Programme with Hong Kong Sanatorium & Hospital Year 2009 (III) - Update on Osteoporosis** Organised by: The Hong Kong Medical Association and Hong Kong Sanatorium & Hospital, Speaker: Dr. LO Kwok Wing, Venue: The HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road Central, Hong Kong or HKMA Wanchai Premises, 5/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Miss Viviane LAM Tel: 2527 8452 (Registration Fee is required) 1 CME Point
14 SAT 2:30 pm	**Refresher Course for Health Care Providers 2008/ 2009 - Primary Care Approach to Patients with Chest Pain** Organised by: The Hong Kong Medical Association & Our Lady of Maryknoll Hospital, Chairman: Dr. CHEUNG Mei Yee, Speaker: Dr. HUNG Yu Tak, Venue: Training Room II, 1/F., OPD Block, Our Lady of Maryknoll Hospital, 118 Shatin Pass Road, Wong Tai Sin, Kowloon	Ms. Clara TSANG Tel: 2354 2440 2 CME Points
15 SUN 3:00 pm	**Dragon Boat Practice Session** Organised by: The Hong Kong Medical Association, Venue: Sai Kung	Ms. Dora HO Tel: 2527 8285
17 TUE 8:00 pm - 10:00 pm	**FMSHK Executive Committee Meeting** Organised by: The Federation of Medical Societies of Hong Kong, Venue: Council Chambers, 4/F., Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms. Paulina TANG Tel: 2527 8898 Fax: 2865 0345
1:30 pm	**HKMA Tai Po Community Network CME - BACK PAIN: A Rheumatologist Perspective** Organised by: HKMA Tai Po Community Network, Speaker: Dr. LEE Ka Wing Gavin, Venue: Grand Capital Banquet Hall, Tai Po, New Territories	Miss Viviane LAM Tel: 2527 8452 2 CME Points
19 THU 6:00 pm - 7:30 pm	**(第二講) 更年期婦女健康與骨質疏鬆症 (Code no: SE-WHT-0209)** Organised by: College of Nursing, Hong Kong	Secretariat Tel: 2572 9255 Fax: 2838 6280 1.5 CNE points
22 SUN 12:00 pm	**HKMA Football Day** Organised by: The Hong Kong Medical Association, Venue: Football Field, The Chinese University of Hong Kong	Ms. Dora Ho Tel: 2527 8285
1:00 pm	**Kowloon East Community Network Public Education Day** Organised by: The Hong Kong Medical Association, Venue: TKO East Point City, Kowloon	Ms. Alice TANG Tel: 2527 8285
2:00 pm	**HKMA Structured CME Programme with PMH Year 2009 (2) - I) Use of Oral Hypoglycemic Agents in Type 2 Diabetes II) Primary Prevention of Type 2 Diabetes** Organised by: The Hong Kong Medical Association, Speakers: Dr. HUNG Hin Fai & Dr. CHAN Kin Wah, Venue: G8 Hall	Miss Viviane LAM Tel: 2527 8452 2 CME Points
3:00 pm *(29)*	**Dragon Boat Practice Session** Organised by: The Hong Kong Medical Association, Venue: Hong Chi Pinehill No. 3 School - Tai Po	Ms. Candy YUEN Tel: 2527 8285
30 MON 9:00 am - 5:00 pm	**ICN Leadership for Change Program** Organised by: College of Nursing, Hong Kong	Secretariat Tel: 2572 9255 Fax: 2838 6280
7:00 pm	**HKMA Choir Outreach Performance** Organised by: The Hong Kong Medical Association, Venue: Hong Chi Pinehill No.3 School - Tai Po	Ms. Candy YUEN Tel: 2527 8285

Meetings

16 May (9:00 am - 6:00 pm) 17 May (9:00 am - 1:00 pm)	**Acupuncture in Pain Management 2009** Organised by: Hong Kong Association for Integration of Chinese-Western Medicine; Hospital Authority; Guandong Provincial Academy of Chinese Medical Sciences; Guangdong Provincial Hospital of C.M; Guangdong Provincial Association of Acupuncture & Moxibustion & Guangdong Provincial Association of Chinese Medicine, Chairmen: Dr. WONG Taam Chi Woon & Prof. ZOU Xu, Speakers: Various, Venue: Hospital Authority Building, 147B Argyle Street, Kowloon, Enquiry: Miss Jessie CHOW / Miss Y.C. YEUNG, Tel: 2871 8897, 2871 8841 / 3119 1858, Fax: 2871 8898

Courses

25-26/4/2009, 12-13/12/2009	**Advanced Medical Life Support (AMLS) Provider Course** Organised by: Department of Surgery, Queen Mary Hospital & Hong Kong Chapter of the American College of Surgeons, Venue: The Jockey Club Skills Development Centre, C3, Main Block, Queen Mary Hospital, Pokfulam, Hong Kong, Enquiry: Course Administrator, Tel: 2855 4885 / 2855 4886, Fax: 2819 3416, Email: hnsrg@hkucc.hku.hk Web site: http://www.hku.hk/surgery
23&31/5/2009, 18&26/7/2009, 19&27/9/2009, 21&29/11/2009	**Pre-Hospital Trauma Life Support (PHTLS) Provider Course** Organised by: Department of Surgery, Queen Mary Hospital; Hong Kong Chapter of the American College of Surgeons & Hong Kong St. John Ambulance Association, Venue: St. John Ambulance Association, 2 Macdonnell Road, Mid-Levels, Hong Kong, Enquiry: Hong Kong St. John Ambulance Association, Tel: 2530 8020, Email: assn@stjohn.org.hk, Web site: http://www.hku.hk/surgery
14-16/8/2009, 11-13/9/2009, 20-22/11/2009	**Advanced Trauma Life Support (ATLS) Student Course** Organised by: Department of Surgery, Queen Mary Hospital & Hong Kong Chapter of the American College of Surgeons, Venue: The Jockey Club Skills Development Centre, C3, Main Block, Queen Mary Hospital, Pokfulam, Hong Kong, Enquiry: Course Administrator, Tel: 2855 4885 / 2855 4886, Fax: 2819 3416, Email: hnsrg@hkucc.hku.hk, Web site: http://www.hku.hk/surgery
11-12/9/2009, 20-21/11/2009	**Advanced Trauma Care for Nurses (ATCN) Provider Course** Organised by: Department of Surgery, Queen Mary Hospital & Hong Kong Chapter of the American College of Surgeons # The Jockey Club Skills Development Centre, C3, Main Block, Queen Mary Hospital, Pokfulam, Hong Kong Enquiry: Course Administrator Tel: 2855 4885 / 2855 4886 Fax: 2819 3416 Email: hnsrg@hkucc.hku.hk Web site: http://www.hku.hk/surgery
21-29/9/2009, 1-9/3/2010, 28/2/2011 - 2/3/2011	**ICN Leadership for Change Program** Organised by: College of Nursing, Hong Kong, Enquiry: Secretariat, Tel: 2572 9255, Fax: 2838 6280

Answer to Dermatological Quiz

Answer:

1. The elderly patient suffered from Paget's disease of breast. The well defined erythematous scaly infiltrative plaque with irregular border extending asymmetrically from the left nipple and areola area is suggestive of the malignant skin disease. Other differential diagnoses may include Bowen's disease or superficial basal cell carcinoma affecting the nipple.

2. Careful examination of both breasts and the regional lymph nodes are essential when suspecting Paget's disease affecting the breast. Underlying breast cancer, usually ductal in situ or invasive carcinoma, is reported in 92-100% of mammary Paget's disease. Among these patients, 30-50% present with clinically palpable nodule adhering to areola or more distant in the breast and are often multifocal.

3. Skin biopsy of the plaque confirms the diagnosis of Paget's disease which shows the presence of characteristic pagetoid cells, with abundant clear cytoplasm and large hyperchromatic variably atypical nuclei, arranged singly or in nests, or in all levels of epidermis (pagetoid pattern). They may form small glandular structures. The patient should be urgently referred to a breast surgeon for appropriate surgical removal of the lesion by modified radical mastectomy with lymph node excision, or wide conic excision of nipple/areola, or total mastectomy as indicated. Adjunctive radiotherapy or chemotherapy such as tamoxifen may be considered, especially in premenopausal female patients with lymph node metastasis.

   Mammary Paget's disease affecting male patients as seen in this patient is relatively rare. The mean age of onset is 61.5 years. Although the disease is clinically and pathologically similar to that of females, there is a shorter delay between onset of disease and surgical treatment. The overall five year survival rate for female and male patients are 30-50% and 20-30% respectively.

Dr. Ka-ho LAU

MBBS(HK), FRCP(Glasg), FHKCP, FHKAM(Med)
Yaumatei Dermatology Clinic, Social Hygiene Service

The Hong Kong Medical Diary

GENERAL INFORMATION

	Direct to:
Letter to the Editor	The Editor, The Hong Kong Medical Diary
Manuscript Submission	Ms. Karen Chu Executive Assistant
New Subscription Change of Address Ordering of Reprints Advertising Enquiries	Ms. Karen Chu Executive Assistant

The Federation of Medical Societies of Hong Kong, 4/F Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong. Tel: 2527 8898 Fax:2865 0345

Disclaimer

Subscription of additional copies of the Hong Kong Medical Diary is available to members at HK$250.00 per annum.

Advertising Rates

Category	HK$
4C Full Page	10,500
4C Half Page	6,300
4C 1/4 Page	3,800
4C 1/8 Page	2,200
4C 1/16 Page	1,500
Announcement in Calendar of Events	250 per 30 word unit 50 per additional 10 word unit

Note: Special rates are available to bona fide member societies. Call 2527 8898 for enquiries.

Reprints for Authors (4-colour)

No. of pages	Copies	HK$
1-2	200	1,250.00
3-4	200	2,500.00

Special rates available for 500/1,000 copies.

INSTRUCTIONS TO AUTHORS

ISSN 1812 - 1691

The Hong Kong Medical Diary is published monthly by the Federation of Medical Societies of Hong Kong (comprising of 68 ordinary, 53 associate and 2 student member.) The Federation of Medical Societies of Hong Kong was first established in 1965 and the Hong Kong medical Diary was first published in 1971. The HKMD has a circulation of 8,500 distributed to member societies, doctors, dentists, some nurses and allied health professionals. The HKMD is also available online to over 2,000 doctors / dentists at *www.fmshk.org*

EDITORIAL POLICY

To improve the healthcare of our patients through the development and education of our members and the advancement of our specialty fields.

MANUSCRIPT GUIDELINES

Papers submitted for publication are subject to review and editing by the Editorial Board and should follow the following guidelines:

1. Typed on one side of numbered A4 size papers in double line spacing with 3cm margins, and preferably submitted in the form of word file *(send to info@fmshk.org)*.
2. List of full names (both English and if Chinese applicable) of authors, giving a maximum of two qualifications and current appointment of each.
3. The principal author should give his or her address for correspondence. A passport size photo of the principal author(s) *(maximum of two photos)* can be supplied for publication.
4. Spelling should conform to the Oxford Dictionary (e.g. organise instead of organize, randomised instead of randomized). Abbreviation should be written in full when first used.
5. Both generic names and proprietary names of drugs may be used.
6. Tables and illustrations should be on separate sheets and clearly labelled.
7. Photographs should be labelled on the reverse. The Editorial Board reserves the right to print photos in black and white only. Colour illustrations or photos should be submitted in a CD-ROM.
8. References should conform to the Vancouver style and should be numbered in correct order in the text. Journal titles should be abbreviated to index medicus style.
   (e.g. 1. Ahuja A, Ying M. Sonography of neck Lymphnodes. Clin Radiol 2003:58:359-366,
   2. Van Hasselt CA, Leung S. F. Clinical Picture. In: Van Hasselt CA, (Gibb A. (eds) Nasopharyngeal Carcinoma. 2nd ed. Hong Kong The Chinese University Press; 1999:105-110).
9. Requests for reprints for a fee will be considered.
10. Correspondence should be addressed to the Editor, The Hong Kong Medical Diary, 4/F Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong. All manuscripts for publication on first of the month should reach the Editor two and a half months before the publication month.

COPYRIGHT

CATEGORIES OF ARTICLES

Medical Bulletin
Original research papers, recent advances, educational updates, review papers, discussion papers on medical topics relevant to medical practice are welcome. Articles should be between 800 and 2,400 words (one to three pages). References are encouraged but not required.

Drug Review
Articles on clinical approach to the safe use of a particular drug or groups of drugs are welcome. These articles should be from 500 to 1,000 words. (one to two pages).

Special Feature
Interviews with presidents of member societies and prominent members of the medical and health profession; publication of keynote addresses and presentations.

Clinical Quiz
Case studies in question and answer format in dermatology, radiology, medicine and surgery will be considered for publication. These articles should be under 500 words (one page).

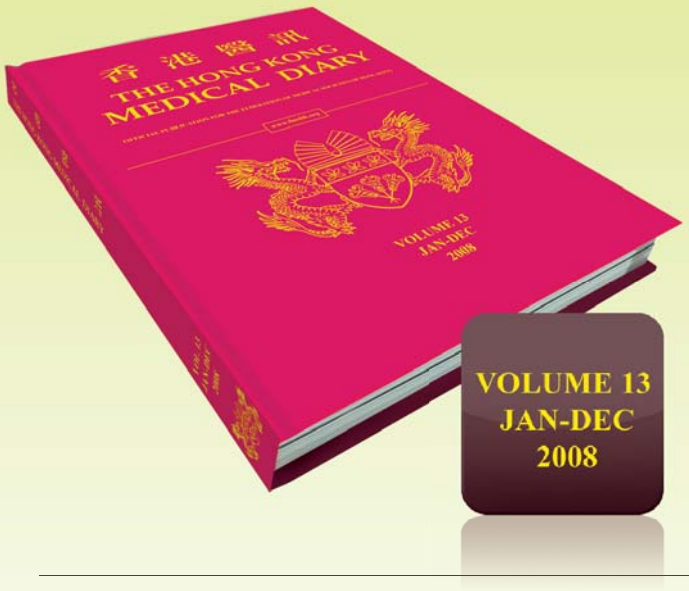
Abstracts
Selected summaries and proceedings of local, regional and overseas medical meetings will be published.

Lifestyle
Interesting articles on hobbies, sports, travel, dining, movies, investments and careers are welcome. These articles should be kept under 1,000 words (two pages).

Society News
Brief reports on news of member societies, the HKFMS Foundation Limited and the Federation of Medical Societies of Hong Kong will be printed as a service to members.

Medical Diary of the month
Medical events of the month will be printed as a service to members (all should be submitted before the 10th of the previous month.).

Calendar of Events
Future events including medical meetings, conferences and courses up to 24 months ahead will be printed as a service to members.



Stock Sale

The hard bound Medical Diary 2008 is now for sale. For $150, you can keep a collection of all 12 monthly issues of the Medical Diary for the year. Should you wish to keep a copy, please fill in the following order form and return it with a cheque to 4/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong.

Hard Bound Medical Diary 2008

Order Form

Please tick the appropriate box(es):

☐ Bound Medical Diary 2006	HK$150.00
☐ Bound Medical Diary 2007	HK$150.00
☐ Bound Medical Diary 2008	HK$150.00
Total HK$	

Name (Block letters) : _____

Correspondence Address: _____

_____

_____

Tel. No.: _____ Fax. No.: _____

Email Add: _____

Signature: _____ Date: _____

Please make cheque payable to "**The Federation of Medical Societies of Hong Kong**". Your order will be sent out by courier. Should you have any queries, please feel free to contact our Secretariat on 2527 8898 or via email info@fmshk.org.