

Achieving Excellent Outcomes in High-risk Pregnancies

Associate Professor Daisy Chan, Senior Consultant, Dept of Neonatal & Developmental Medicine, Singapore General Hospital

The high-risk mother potentially faces a multitude of problems during pregnancy. Apart from the nutritional demands of a growing foetus, the underlying maternal medical or surgical condition may be more difficult to control during pregnancy while conversely, the foetus may be affected by the underlying disease, its complications or treatment for it.

At the Singapore General Hospital, the high-risk obstetric clinic specialises in managing mothers with a wide variety of conditions. Management of some medical conditions requires a multidisciplinary team of doctors and nurses to optimise the underlying medical or surgical condition while the growing foetus is being monitored. Coordination of care is facilitated by the various medical specialties at the Singapore General Hospital, managing in tandem with the obstetrician and neonatologist. These complicated cases are discussed at regular perinatal meetings attended by obstetricians and neonatologists to enable a comprehensive plan for management to be formulated.

During a high-risk consultation early in the first trimester, parents may require information on how the underlying medical/surgical condition affects the unborn foetus and, conversely, how pregnancy impacts on the medical/surgical condition. The obstetrician will need to discuss with parents the advantages and disadvantages of normal birth, or instrumental / Caesarean delivery (see following article) if normal birth is impossible or ill-advised. Mothers who have had bad obstetric histories (for example, delivery of repeated stillbirths) would naturally be extremely anxious



Co-ordination of care for high-risk mothers involves a team of multidisciplinary doctors at SGH.

about the outcome of the pregnancy, so early discussion alleviates anxiety and prepares the couple psychologically for delivery outcomes.

At the time of delivery, a team of trained, experienced neonatologists must be present to provide appropriate resuscitation. Following resuscitation, the neonate may require intensive care because of severe prematurity, severe intra-uterine growth restriction,

emergency management of a birth defect or difficulty in adaptation to extra-uterine life. The neonatal intensive care environment provides the best chance for a critically ill neonate to receive optimal care while recovering.

When the mother has fluctuating blood sugar levels from uncontrolled diabetes mellitus, the infant's blood sugar levels must be closely monitored for hypoglycaemia.

Where mothers are known to have Graves' disease, there are risks of miscarriage, pregnancy-induced hypertension, congestive heart failure and thyroid storm. The foetus of a mother with Graves' disease will be at risk for intra-uterine growth restriction and thyrotoxicosis arising from placental transfer of thyroid receptor antibodies. The newborn may then require anti-thyroid medication, since raised thyroid hormone levels can result in poor weight gain, heart failure and premature fusion of the skull sutures.

The mother who suddenly discovers the presence of a tumour mid-way in pregnancy may be depressed, have concerns for the well-being of the foetus and show anxiety over the side-effects of chemotherapy treatment on the developing foetus. In such cases, the

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mother is best managed by a team consisting of the oncologist, radiation therapist, gastro-enterologist, pharmacist and obstetrician, so that she receives appropriate advice on the best options for early yet safe delivery, in order that she can begin chemotherapy treatment immediately after the delivery.

Regardless of the medical condition involved, we believe the key to successful management of these pregnancies is to involve the different relevant disciplines early in the course of the pregnancy. Apart from ad hoc consultations, a number of joint clinics are also in place which enable members of different medical specialities to see these patients together. Examples of such clinics in SGH are the gestational diabetes joint clinic and the cardiac disease in pregnancy clinic.

From The Uterus To The Newborn (Intensive) Care Environment

The baby of a high-risk pregnancy is often born earlier than the expected date because of maternal obstetric complications (such as pre-eclampsia), maternal medical conditions (such as heart failure, SLE), severe intra-uterine growth restriction or non-reassuring foetal status. Placental complications (such as placenta accreta, increta and percreta) may preclude normal vaginal birth and require the collaboration of a team of specialists such as the interventional radiologist, haematologist, obstetrician and neonatologist. Assisted reproduction techniques are associated with an increased risk of multiple (twin or higher order) pregnancies, many of which may develop preterm labour. The increasing age of the Singapore obstetric population may be associated with an increasing risk of birth defects.

The preterm baby requires the expertise of a tertiary care neonatal team, such as the SGH Neonatal team, for optimal care. The immature lung of the preterm baby is deficient in surfactant, preventing adequate alveolar expansion and leading to respiratory failure. The ductus arteriosus is oftentimes patent with left to right flow, resulting in pulmonary oedema and heart failure. The immature gastro-intestinal tract will not be ready for digestion and absorption. The relatively immature kidneys face challenges in filtration and excretion of waste. The immature brain is prone to intra-ventricular bleeding. The neonatal intensive care unit is thus an important environment to assist the vulnerable preterm neonate to effect the transition to extra-uterine life while promoting growth and homeostasis. In babies with a birth defect, an accurate diagnosis must be made early so that parents can understand the implications of the defect on the child's health, growth and development.

Before the discharge of a high-risk baby from SGH, some parents naturally feel anxious about their parenting skills. It is not uncommon for parents to express uncertainty over how to recognise the type of baby's cries. Thus parents of high-risk infants about to be discharged will be taught basic parenting skills, like infant bathing, breastfeeding, massage therapy and basic resuscitation. Routine screening is undertaken to ensure that treatable conditions such as jaundice secondary to G6PD deficiency, congenital hypothyroidism, hearing impairment and metabolic diseases are detected and managed appropriately. Babies who are born with very low birth weight (below 1500 gram) automatically qualify to join the "Light Weight Club" where they can receive guidance, advice and emotional support in coping with and caring for the formerly 'light-weight' family member.

As outpatients, the high-risk baby has access to the full range of ambulatory care, including follow-up of growth, tracking of developmental milestones, provision of vaccinations, advice on age-appropriate diets and management of medical conditions. In particular, the baby born with very low birth weight will be seen till school-going age to detect developmental and learning difficulties early through multi-disciplinary follow-up.

With the highly coordinated, holistic care of the high-risk baby, favourable outcomes can now be achieved for both parents and baby, offering much hope for the future.



The annual SGH Light-Weight Club party organised for children born with very low birth weight (<1500 grams).

The Classical Caesarean Section in the Management of High-risk Pregnancies

Dr Devendra Kanagalingam, Senior Consultant, Dept of Obstetrics & Gynaecology, Singapore General Hospital

It is a commonly held belief that the caesarean section, one of the most frequently performed operations today, was named after Julius Caesar because the great emperor of ancient Rome was himself delivered by caesarean section. In fact, this is a myth. The caesarean section probably got its name from a law passed in Roman times which required women who died while pregnant to have their dead foetuses removed and buried separately. It is believed that the original operations were performed to fulfil this obligation. In subsequent practice, the caesarean section became an operation which was performed as a desperate measure to save a mother, often when the baby was already dead. This would occur, for instance, in obstructed labour and would only be undertaken after days of labour when it became clear that the fetus could not be delivered vaginally.

It is fascinating to consider how rapidly the caesarean section has evolved into what it is today – a routine operation which is performed for maternal and fetal benefit. These developments are largely a result of asepsis and the development of anaesthesia and surgical techniques. The early operations were termed classical caesarean sections and involved making a vertical, midline incision into the upper segment of the uterus.

In the mid 20th century, the lower segment caesarean section was devised. As the name suggests, this involves making a transverse incision into the lower segment of the uterus. To do this, the obstetrician must first mobilise the bladder away from the lower segment because in its natural state, the lower segment is covered by the bladder. It is now established that the lower segment operation results in less blood loss as the lower segment is thinner and less vascular. It is also established that the risk of uterine rupture in a subsequent pregnancy is higher with a classical caesarean section as compared to the lower segment operation. This resulted in the classical operation quickly falling out of favour. Today, the classical operation is rarely done and many obstetricians have never performed or even observed one.

There remain valid clinical indications to perform a classical caesarean section. Obstetric textbooks often state that the classical section can be considered when there is an anterior low lying placenta (placenta praevia major) with a vascular lower segment or if access to the lower segment is difficult due to pathology like uterine fibroids. It is useful in the case of foetal transverse lie with the foetal back inferior or if a carcinoma of the cervix is diagnosed during pregnancy. Clearly, these conditions are relatively infrequent and many of these indications for a classical section are relative rather than absolute.

Rapid developments in obstetrics and neonatal medicine have resulted in an additional two indications for the classical caesarean section. The first is the increased incidence of placenta accreta, increta and percreta. These conditions, collectively, termed morbidly-adherent placenta, result from invasion of the placenta into the myometrium. In these conditions,

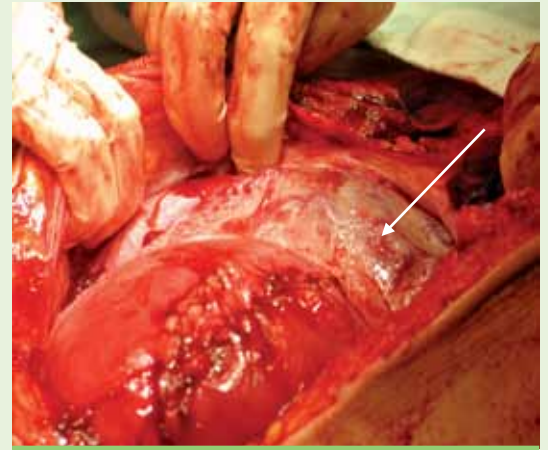


Figure 1. A case of placenta percreta managed using a classical caesarean section in SGH. Note the large blood vessels over the surface of the bladder (arrowed) as a result of placental invasion. The classical incision through which the baby was delivered is also seen.



Figure 2. Large blood vessels over the lower segment in another woman with placenta percreta.

placental removal following delivery is not possible. In the most severe variety, placenta percreta, placental invasion through the entire myometrium and into adjacent organs such as the bladder may occur (see figures 1 and 2). If attempts are made to remove such a placenta at caesarean section, torrential bleeding will occur and maternal death as a result of postpartum is not uncommon. Current management of this condition involves delivery of the baby and leaving the placenta in-utero for it to undergo autolysis. Placenta percreta typically occurs in women who have had a previous lower segment

caesarean section in whom the placenta in a subsequent pregnancy attaches to the scarred lower segment. Performing a classical caesarean section is essential in a case of placenta percreta as the obstetrician must avoid cutting through the low lying placenta if it is to be left in-utero.

The other newer indication for performing a classical caesarean section is a direct result of improvements in neonatal salvage for babies who are extremely premature. Frequently delivery is mandated in these pregnancies as a result of medical or obstetric complications such as preterm pre-labour rupture of membranes (PPROM), pre-eclampsia, systemic lupus erythematosus and intrauterine growth restrictions. We are seeing an increasing number of such pregnancies at the Singapore General Hospital because such women require management by a multi-disciplinary, tertiary level institution. When delivery is undertaken at these early gestations, typically 24 to 27 weeks, the lower segment is not yet formed and access to the fetus through a transverse incision is difficult owing to the small uterus. We have used the classical caesarean section to good effect in these cases and have found that delivery of these small babies is both easier and less traumatic with the classical incision.

A common misconception held not only by lay persons but also by some healthcare workers is that the abdominal incision in a caesarean section reflects the type of uterine incision. The midline vertical incision in a classical caesarean section refers to the incision made on the uterus. The corresponding skin incision can be either a transverse incision or a midline incision. We have found that a classical caesarean section can be done with a lower transverse skin incision, particularly when we are operating on women with premature foetuses. The common skin incisions used in a caesarean section are shown in figure 3. Of the two transverse incisions shown, it is now more common to perform a Cohen incision than the older Pfannenstiel incision. The Cohen incision is a horizontal skin crease incision while in the Pfannenstiel incision, the edges of the incision curve upwards.

We believe that familiarity with the classical caesarean section is an important obstetric skill as the need for the procedure is increased in modern obstetrics. While only one classical caesarean section was performed in SGH between 2000 and 2004, 24 classical operations have been performed over the last 6 years. Surgeons-in-training are always taught that selection of the appropriate skin incision is an essential step in ensuring a successful operation. In obstetrics and caesarean sections, success must surely depend on both the choice of skin as well as uterine incision.

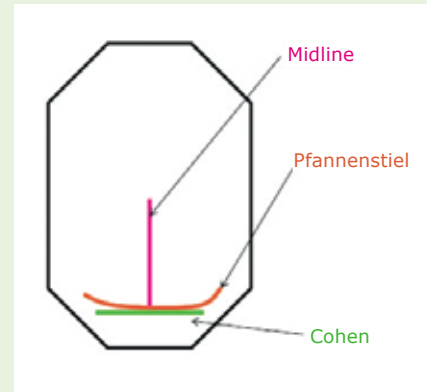


Figure 3. Commonly used skin incisions for caesarean sections.

It is fascinating to consider how rapidly the caesarean section has evolved into what it is today – a routine operation which is performed for maternal and fetal benefit. These developments are largely a result of asepsis and the development of anaesthesia and surgical techniques.

Endoscopic Management of Early Cervical Cancer

Dr Timothy Lim Yong Kuei, Consultant, Dept of Gynaecological Oncology, KK Women's & Children's Hospital

Globally, cervical cancer is the second most common cancer affecting women. It is a major cause of gynaecological deaths with a death rate of 250,000/year. In Singapore, it is now the sixth most common women's cancer and its incidence is decreasing as a result of our improving economic status, Pap smear screening and early treatment of pre-invasive disease. About 200 cases of cervical cancers are diagnosed locally every year, of which about 120 cases are seen in KK Women's & Children's Hospital (KKH).

/// The five-year survival rate in Singapore is about 80% for early stage cervical cancers. This is comparable to the international FIGO statistics. However for advanced cancers, the survival is less than 20%. Fortunately, many patients do present at preinvasive or early stages resulting in a better outcome. ///

The most common presenting symptom is abnormal vaginal bleeding e.g. postcoital bleeding, intermenstrual or postmenopausal bleeding. However, in the dysplasia (precancer) stage and very early cancer, there are usually no symptoms. In the advanced cases, patients may present with other symptoms such as foul smelling vaginal discharge or even vaginal passage of urine or faeces.

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Traditional Surgical Management

Surgery is generally reserved for medically fit patients with cancers up to FIGO Stage IIA. Concurrent Chemo-radiation is used as a standard form of treatment for locally advanced cervical cancers. For decades, the standard surgical management of early cervical cancer has been via laparotomy to perform the radical hysterectomy (Wertheim's procedure). This involves surgical removal of the uterus, cervix, the supporting ligaments and the upper vagina, together with removal of the pelvic lymph nodes and sometimes the para-aortic lymph nodes (See Figure 1). This procedure is associated with the risk of injury to the ureter, bladder, rectum and pelvic blood vessels. Often the patient may require blood transfusions because of intra-operative blood loss. Post-operatively, there is usually bladder dysfunction requiring an in-dwelling catheter for up to 3 weeks.



Figure 1. Radical Hysterectomy specimen

Laparoscopic Surgical Management

The use of laparoscopy in the treatment of gynaecological cancers was first reported in Europe twenty years ago. However, it has only been accepted as a standard of care in the last five years. The technique of total laparoscopic radical hysterectomy and systematic pelvic lymphadenectomy for early cervical cancer is now well described in medical literature.

Western clinical studies have shown that this approach reduces blood loss, hospital stay, ileus, wound pain and wound infection when compared to the traditional laparotomy approach. More importantly, it is not inferior in terms of long-term survival and prognosis when compared to the traditional approach.

In Singapore, this novel approach was introduced to patients at KKH's Gynaecological Cancer Centre around end of last year. Total laparoscopic radical hysterectomy and pelvic lymphadenectomy is currently indicated for early stages of cervical cancer (up to Stage IB1), where the tumour is less than 4cm and there is no clinical evidence of metastatic spread. Since November 2009, seven patients with early cervical cancer have had this surgery.

"Even when performed via laparotomy, it is a technically challenging operation requiring the expertise of a gynaecological oncology surgeon with a good knowledge of the pelvic anatomy. For the laparoscopic alternative, it is preferable that two oncologic surgeons operate in tandem to achieve the same oncologic clearance as a laparotomy case. The procedure is technically demanding as it requires multiple dissections around major blood vessels and key organs such as the ureter, rectum, urinary bladder, which commands high-precision laparoscopic manipulation," said Dr Chia Yin Nin, Consultant, Head of Gynaecological Cancer Unit, KKH.

"The seven patients who underwent the procedure recovered well and were discharged between three and five days. This compares to about five to eight days of hospital stay with abdominal surgery," said Dr Timothy Lim Yong Kuei, Consultant Gynaecological Oncologist, KKH.

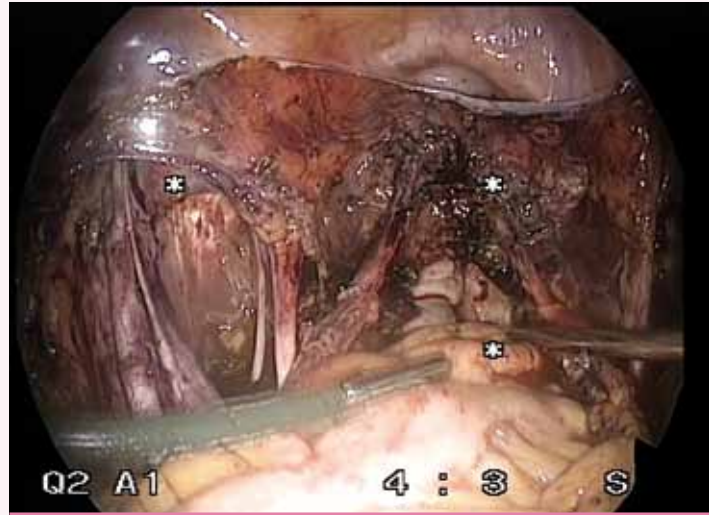


Figure 2. Laparoscopic view of the pelvis after radical hysterectomy and pelvic lymphadenectomy.

"Another major benefit of laparoscopic radical hysterectomy is the superior visualisation of pelvic anatomy through high definition optical magnification (See Figure 2). This is especially so in the recognition of fine pelvic innervation which can lead to nerve sparing techniques. This may confer a reduction in bladder dysfunction which is a norm after a radical hysterectomy," added Dr Lim.

"Laparoscopy has been increasingly used worldwide as an alternate route of surgery in the practice of oncology. The advantages of less pain and less wound infection associated with small abdominal incision are beneficial to patients suffering from gynaecological cancer without compromising survival outcomes. However, not all cases of early stages of cervical cancer are suitable for laparoscopic surgery and they must be counselled regarding the benefits and the complications of the surgery," said A/Prof Phillip Yam, Head and Senior Consultant, Department of Gynaecological Oncology, KKH.

"We will continue to evaluate the role of laparoscopy in the management of gynaecological cancers to increase options for our patients and enable them to make informed choices about their preferred route of surgery," said Dr Lim.

The Gynaecological Cancer Centre at KKH is a recognised subspecialty training centre of the Royal Australian–New Zealand College of Obstetrics & Gynaecology for Gynaecologic Oncology.

Implantable Hearing Devices now available at Changi General Hospital

Most people with hearing loss can benefit from the use of hearing aids amplification. With the introduction of digital technology and advanced signal processing the outcome of hearing aid rehabilitation has improved significantly over the years. In order to benefit from hearing aid amplification, the impaired ears must have some residual hearing to process the amplified sound. As a result, for patients with severe to profound hearing impairment hearing aids may become inadequate. Patients with single-sided deafness and those with chronic ear infections may also find little benefit from the use of conventional hearing aids. In view of the increasing needs for various advanced implantable hearing technologies, the ENT department in Changi General Hospital has introduced a full range of implantable hearing devices for adult patients.

1. Cochlear Implant: Hearing solution for severe to profound hearing loss.

For severe to profound hearing impaired individuals, hearing aids are of limited benefit as the cochlea is unable to process sound. A cochlear implant bypasses the damaged part of the ear and stimulates the hearing nerve directly. Cochlear implant systems convert everyday sounds into coded electrical pulses and stimulate the hearing nerve. The brain then interprets them as sound. Hearing through a cochlear implant is different from normal hearing and takes time to learn and relearn. However, with the advancement in implant technology many people with severe to profound hearing loss can once again have the ability not only to understand environmental sounds, but also to enjoy a conversation and participate in daily activities.

The cochlear implant system consists of an external speech processor that sits behind the ear and a second portion that is surgically placed under the skin.

How a cochlear implants works:

1. The microphone in the external speech processor picks up sounds from the environment.
2. The speech processor analyses the sound and converts it to digital signal.

3. The digital signals are sent to the coil and transmitted across the skin to the implant.
4. The internal implant in turn sends the signal to the electrodes, which stimulate the hearing nerve directly bypassing the damaged cochlea.
5. The brain recognises these signals as sound.

Adults with acquired bilateral severe to profound deafness who have little or no benefit from high power digital hearing aids are suitable candidates for cochlear implant as speech and language have already been developed. Better outcomes are achieved for patients who have shorter periods of hearing loss and who use hearing aids early.



Patients with severe hearing loss can now hear again with a cochlear implant.

2. Hybrid Cochlear Implant: Hearing solution for high frequency profound hearing loss.

Patients with mild to moderate low frequency (1 KHz and below) hearing loss and profound loss in the high frequency often complain of hearing difficulty even with hearing aids on. With only low frequency sound information being available alone, speech understanding is undermined. Currently, this group of 'less profound' hearing loss patients can be considered for cochlear implant. A new cochlear implant technology combining electrical stimulation (cochlear implant), and acoustic amplification (hearing aid amplification) has been developed for this group of patients. This so-called 'hybrid' implant system uses a shorter and more flexible electrode and allows electric stimulation of

the basal cochlea for high frequency information, without damaging apical cochlear structures that transmit low frequency acoustic information.

Patients with potential useful low frequency hearing loss but significant losses in the mid to high frequencies can now benefit from both cochlear implant and digital hearing aid technologies without damaging the residual hearing.

3. BAHA (Bone Anchored Hearing Aid): Hearing solution for those with conductive/ mixed or single-sided hearing loss.



allows the ear to dry out and reduce the further incidence of recurrent ear infections while still providing amplification.

4. Middle-Ear Implant (Vibrant Soundbridge): Hearing solution for adults with mild to severe sensorineural hearing loss, mild to moderate conductive and mixed hearing loss.

The Vibrant Soundbridge consists of an external audio processor and an implanted portion. The externally worn audio processor contains the battery, a microphone and a high performance digital signal processor. The audio processor picks up sounds and transfers the digitised signals to the implant. The implant unit consists of a hermetically sealed implanted coil, a conductor link and Floating Mass Transducer (FMT). The FMT is attached to one of the ossicles with a titanium clip. The Vibrant Soundbridge produces vibration, not sound. To compensate for the loss in sensitivity of the impaired inner ear, the vibrations on the ossicles are amplified the FMT, which enhance the signal to the cochlea. The Vibrant Soundbridge was initially designed for adults with mild to severe sensorineural hearing loss in both ears. With the new development of the alternate surgical

position within the middle ear of the implant mechanical drivers, the Vibrant Soundbridge can now be used for the treatment of conductive and mixed hearing losses. This development has allowed the FMT to be placed on any suitable vibratory structure in the middle ear including oval window, round window and in conjunction with partial or total ossicular prostheses or on the head of the stapes. Patients with mixed hearing loss can now be considered for both BAHA system and middle ear implant system.

Sound can reach the inner ear through two paths. Firstly by air conduction via the ear canal and middle ear to the inner ear. Secondly by bone conduction where vibration bypass the outer and middle ear and conduct to the inner ear directly. BAHA system uses a process called direct bone conduction. A small titanium implant is placed in the bone behind the ear where it osseointegrates with living bone. This implant procedure is performed in a single stage in adults. Once osseointegration has taken place, a sound processor is clipped on. Sound is picked up by the external processor and is conducted directly through the bone to the inner ear.

For patients with single-sided hearing loss, the BAHA system is placed on the deaf side and the device picks up sound and conducts it to the working cochlea of the good ear. This allows patients with single-sided hearing loss to hear sound from both sides where previously he can only hear it on one side. Recent studies confirm the efficacy of the BAHA in adults with single-sided deafness for recognition of speech in noise and improvement in directionality of sound. Since the BAHA system does not have any component in the ear canal, for those with recurrent ear infections it can leave the ear canal open which

Our otology and audiology team at Changi General Hospital:

- Tan Boon Hai – Principal Audiologist
- Savitha Kamath – Audiologist
- Dr Yuen Heng Wai – Otologist & Implant surgeon

For more information or consultation, please call for an appointment at **6850 3333**.

Treatment for Polycystic Ovary Syndrome (PCOS) at Changi General Hospital



Since June 2010, Changi General Hospital's Division of Endocrinology has started a dedicated clinic for women with problems in gynaecology-endocrinology, polycystic ovarian syndrome (PCOS) & osteoporosis, under Dr Cho Li Wei, Consultant, Division of Endocrinology. These clinics accept both private & subsidised patients, weekly.

Type of patients to refer:

- amenorrhoea or oligomenorrhoea
- Hirsutism
- premature ovarian failure
- osteoporosis, especially young ones
- galactorrhoea
- prolactinoma
- women with metabolic syndrome
- other general endocrine disorders

How to suspect if someone has PCOS

Polycystic ovary syndrome (PCOS) is a common endocrine disorder with a prevalence of 6-7% of women in the reproductive age. It is characterised by chronic anovulatory infertility and hyperandrogenism with the clinical manifestation of oligomenorrhoea/amenorrhoea, hirsutism and acne. Many women are obese, have difficulty in losing weight and carry an increased risk of developing gestational diabetes and type 2 diabetes.

For appointments, please call Tel : **6850 3333**.

NCCS Successfully Treats Rare Neurological Complications from Cancer

Two young patients suffering from paraneoplastic encephalitis, an inflammation of the brain associated with ovarian tumours, were successfully treated with aggressive chemotherapy, at the National Cancer Centre Singapore (NCCS).

In the management of these two cases, NCCS highlighted in medical journals the importance of prompt and aggressive chemotherapy in the treatment of this unusual and disabling, yet potentially reversible problem, in young women, in addition to conventional surgery.

Paraneoplastic encephalitis, an acute inflammation of the brain is the result of the presence of cancer in the body causing the immune system to mistakenly attack the brain through an antibody called the anti-NMDA antibody. For both patients, who were referred to NCCS, the cause was tumours in the ovaries.

Dr Tan Min-Han, Associate Consultant, Dept of Medical Oncology, NCCS noted, "It is important to recognise this severe inflammation of the brain in young women, where neurological symptoms can be easily mistakenly attributed to many other causes rather than ovarian tumours or cyst. With prompt treatment, the chance of a complete recovery is high."

Three years ago, Ms Dewi Hermawati came down with a bout of fits, fever and confusion, which persisted after a month of investigation and therapy for multiple possible causes. After a cyst in the left ovary was found, a presumptive diagnosis of encephalitis was made and surgery recommended.

As her symptoms continued for weeks after surgery, doctors at NCCS decided to proceed with aggressive chemotherapy even though all tumours had been removed by surgery. Ms Dewi's condition improved rapidly upon administration of the first cycle. Twenty days after the start of chemotherapy, she regained orientation and responded appropriately to questions and was well enough to return to work, after four months, upon completion of chemotherapy. Today, she is completely cured of her condition.



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ALLERGY GP CME/ Pharmacist CPE Update 4th Allergy Partners in Care

Organised by the Multidisciplinary Allergy Clinic, Singapore General Hospital and supported by Pharmaceutical Society of Singapore

Date : 18 September 2010 (Saturday)
Venue : Postgraduate Medical Institute,
Singapore General Hospital
Fax : 6223 9789
Email : pgmi.gpcme@sgh.com.sg

Closing date for registration : 10 September 2010

CME points pending

Speakers' Details

Dr Tan Keng Leong:
Senior Consultant, Dept of Respiratory and Critical Care Medicine, Singapore General Hospital

Dr Phua Ghee Chee:
Consultant, Dept of Respiratory and Critical Care Medicine, Singapore General Hospital

Dr Chong Yong Yeow:
Consultant, Dept of Rheumatology & Immunology Singapore General Hospital

Dr Chiang Wen Chin:
Consultant, Dept of Paediatrics, Allergy Service, KK Women's and Children's Hospital

Dr Pang Shiu Ming:
SC/Dir Dermatology, Dept of Dermatology, Singapore General Hospital

Mr Kong Ming Chai:
Senior Principal Clinical Phar, Pharmacy-Outpatient, Singapore General Hospital

Dr Leong Jern-Lin:
Consultant, Dept of Otolaryngology, Singapore General Hospital

Time	Programme
1230	Lunch & Registration
1400	Allergy Concepts: Ig E, Atopy and Sensitisation By Dr Tan Keng Leong
1410	Aeroallergens in Asthma and Allergic Rhinitis & Principles of Allergy Testing By Dr Phua Ghee Chee
1430	Approach to Penicillin and Aspirin/NSAID Allergies By Dr Chong Yong Yeow
1450	Case Study in Childhood Food Allergy By Dr Chiang Wen Chin
1510	Question and Answer Session
1520	Tea Break and Trade Exhibition
1550	Eczema, Urticaria-angioedema & Contact Dermatitis By Dr Pang Shiu Ming
1610	Anaphylaxis-diagnosis, Management & Action Plan By Dr Chong Yong Yeow & Mr Kong Ming Chai
1630	Evaluation and Management of Allergic Rhinitis By Dr Leong Jern-Lin
1650	Question and Answer Session
1700	End

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Aescapulus Undergoes Review

Aescapulus was launched almost six years ago as part of our suite of services to promote engagement with our GPEP members. Over the years, we have been gratified by the positive feedback that we have received. While minor adjustments to the newsletter have been made over the years based on your valuable feedback, we feel that, after five years, it is timely for us to conduct a major review of the newsletter. So this issue will be the final issue for this year.

Thank you for your support and feedback. If you have any further suggestions or feedback, please email us at marcom@singhealth.com.sg. Meanwhile for the latest SingHealth news and medical updates, visit www.singhealth.com.sg.

Calling GPs

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If you would like to be our expert for the month and be part of the buzz in this web

community, drop us your name, contact details and the topic you would like to host to marcom@healthxchange.com.sg and we will be in touch shortly.

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GPEP HOTLINE : 6557 2233

SOC FAST TRACK APPOINTMENT CONTACT NUMBERS

 SGH Singapore General Hospital	6321 4402	 NHCS National Heart Centre Singapore	6436 7848
 KKH KK Women's and Children's Hospital	6294 4050	 NNI National Neuroscience Institute @ SGH	6321 4402
 CGH Changi General Hospital	6788 3003	NNI National Neuroscience Institute @ TTSH	9637 9718
 NCCS National Cancer Centre Singapore	6436 8288	 SNEC Singapore National Eye Centre	6322 9399
 NDC National Dental Centre Singapore	6324 8798		

DIRECT WARD REFERRAL CONTACT NUMBERS

 SGH Singapore General Hospital	6321 4822	 CGH Changi General Hospital	6850 1648
 KKH KK Women's and Children's Hospital	6394 1183		

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