Advances in Surgery and Transplantation for Liver Cancer (HCC)

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Hepatocellular cancer (HCC) presents a major health problem and is the leading cause of abdominal cancer death in Singapore. Our population has a high prevalence of cirrhosis and hepatitis B virus (HBV). This remains the main underlying risk factor for HCC development. As such, patients with, or at risk for hepatocellular carcinoma present a special challenge to the clinician. The primary care physician plays an important role in providing screening and prevention for HCC. However, clinical care once HCC is suspected or diagnosed is a specialized task. A multidisciplinary team of ‘liver specialists’ including a liver/transplant surgeon, hepatologist, oncologist, and liver/interventional radiologist is essential. Surgical resection and liver transplantation are today, the only potential curative treatment for HCC. Recent advances in surgical assessment and technique have expanded the criteria for surgical options and this short review will highlight the current surgical approach in the management of HCC.

Diagnosis of HCC and the role of liver biopsy

This is one of the most controversial questions in the management of HCC. Traditionally in cancer diagnosis, cytological or histological diagnosis is the gold standard. However, there is widespread acceptance amongst liver specialists for a noninvasive radiological diagnosis of HCC in the background of cirrhosis and raised alpha-fetoprotein (AFP). Hepatomas (HCC) are perfused preferentially by the hepatic artery rather than portal vein. Hence, diagnosis relies on dynamic and rapid sequence imaging that demonstrates this specific hepatic vascularization property (Fig 1). Triphasic computed tomography (CT) or magnetic resonance imaging (MRI) of the liver provides excellent diagnostic accuracy with reported sensitivity and specificity of over 95%. In addition, they also give information on liver volumes and surgical resectability.

Moreover, small lesions are suspect to sampling error or inadequate sampling. Finally, diagnostic criteria differentiating regenerative or dysplastic nodules from malignant lesions are ambiguous. Hence, a negative biopsy may not rule out a HCC. The author recommends performing a biopsy only if diagnostic doubt persists after thorough review of all non-invasive data (preferably with a second opinion from a liver specialist team) and if the result of the biopsy changes the management plan for the patient.

Surgical Assessment for Surgery and Transplant

The results for liver resection and transplantation for HCC have improved dramatically over the last decade. In our experience, both procedures carry low major morbidity rates of less than 10% and almost zero mortality rates. In liver resection, blood transfusion and the use of intensive care facilities are required in only a minority of patients. This is attributed to better patient selection and assessment using image-guided liver volumetry and liver functional reserve studies in addition to traditional Child-Pugh grading.

With such improvements, the important question once HCC is diagnosed, is whether the patient is amenable for curative treatment by surgical resection or transplantation?
This is dependent on 2 factors: (1) tumour load and location, (2) underlying liver function and reserve. There is an overlap in terms of indication for surgical treatment options and decisions are best managed by a multidisciplinary specialist team including a liver surgeon, hepatologist and medical oncologist for the best results. Ideally, the specialist should be part of a liver transplant program or have good access to one so that all options are discussed and tailored for each patient.

Role of Liver Resection

This is the treatment of choice for non-cirrhotic patients and cirrhotic patients with good liver functional reserve (Child’s A). HCC lesions resected with a clear margin in carefully selected patient groups give outcomes of up to 70% 5-year survivals. The best results are obtained for small tumors < 5cm, single lesions that lack microvascular invasion and in non-cirrhotic patients. However, tumour recurrence complicates up to 70% of patients within 5 years as most patients continue to have risk-prone livers from their underlying liver cirrhosis. These patients require close surveillance after liver resection.

The role of surgery in large tumors (> 8cm), multifocal tumors (2 or more lesions), and tumors with portal vein invasion (Fig 2) can also be carried out safely albeit with poorer results. The 5-year survival in these groups are between 20-40% and the recurrence rates are understandably high because of aggressive tumor biology. However, the role of surgery remains a cornerstone of treatment, as results for patients amenable to surgery are still much better than other non-surgical options where 5-year survivals are almost negligible. The role of surgical resection is set to increase with the introduction of neoadjuvant and downstaging techniques.

Role of Liver Transplantation

This is the ideal treatment option. It provides the widest surgical margin with no possibility of early local recurrence and it also removes the underlying liver disease without the high risk of liver failure in cirrhotic patients with portal hypertension (Child’s B and C). In doing so, all possible oncogenic foci are removed and risks of late recurrences within the liver are low. The best candidates should satisfy the ‘Milan’ criteria (1 lesion less than 5cm or 3 lesions each less than 3cm in size). These patients should also not have evidence of macrovascular invasion or extrahepatic metastases. With this selection criteria, 10-year survival exceed 70% and the recurrence at 5-years is less than 15%. These results have been duplicated worldwide and are far better than with surgical resection or local ablation therapies.

Such excellent results have prompted an expansion in the criteria for liver transplantation beyond the ‘Milan’ limits. In Singapore, the acceptable criteria have been expanded to include single HCC lesions up to 6.5cm or 3 lesions not more than 4.5 cm (up to a total diameter of 8cm). This results from comparable results from this criteria as with the conventional ‘Milan’ criteria.

However, the local problem with liver transplantation is the shortage deceased donor livers for transplant, resulting in a prolonged waiting time. Progression of HCC may occur and lead to death on the waiting list. Bridging therapies like local therapies and chemoembolization are used for disease control during this waiting period. Living donor liver transplantations (Fig 3) have recently been introduced for patients with HCC to circumvent the waiting time. Results from live donor transplants are comparable to those for cadaveric liver transplant if similar criteria for transplantation are chosen.

Currently, it is the minority of patients with HCC that are assessed for transplantation and even fewer receive this option. It has been adopted as a salvage treatment after liver resection recurrence or failure of multiple local therapies. Liver transplant should form the cornerstone of curative HCC treatment rather than just as a salvage procedure. All cirrhotic patients who are diagnosed with HCC should be evaluated for liver transplantation.
As an vitreoretinal surgeon, I get to manage the patients with the most severe stages of diabetic retinopathy. These patients have somehow been overlooked in our medical system and present very late. Often both eyes have proliferative diabetic retinopathy with one eye presenting with a vitreous hemorrhage. These are not just the old and illiterate patients, many of them are young and educated! It is this very reason that I am writing this article. It pains me to see young patients in the prime of their lives going blind. Even if they do not go entirely blind, many are so severely incapacitated that their normal work becomes impossible, as such their entire lives becomes turned upside down. There must be something we can do for them.

Is screening the answer?
It certainly helps to pick up patients early. But screening is only one part of the equation. Once we detect clinically significant disease that require treatment, there is a need for a team approach to manage these patients. No amount of laser and surgery will be able to help a patient with uncontrolled diabetes who makes no effort to control his diabetes.

So control of diabetes is the answer
Yes, but we need to ensure that patients are adequately monitored. It is very surprising to hear from my patients that they have never had any blood tests done except for the occasional finger prick random hypoglycemia. I routinely ask for and conduct my own HBA1c tests to monitor my diabetic patients. I write to their primary care physicians to ask about their patients overall control over the past few years, some never reply to my request, others quickly do a battery of tests and send them to me. Many doctors now monitor their patients better, but some doctors still rely on the random blood sugar only.

Even when faced with a poorly controlled diabetic with a very raised HBA1c, some doctors do not bother to take action. Just telling the patient that their diabetes is not well controlled and prescribing the same medication isn’t going to help the patient at all. What is needed is to have some form of family conference, diabetics that are poorly controlled need some form of family support to help them with diet, exercise and encouragement. Patient and family education is an essential part of diabetic control.

Patients are no angels
Some doctors tell me that they are doing their best but patients do not bother to come for tests except to pick up medication, if at all. Some patients tell me that they have done their very best to control their diets and exercise but to no avail, their diabetes still remain very poorly controlled. In the past, I use to sympathize with such patients, some of these patients become very angry in my clinic lamenting that they have done their utmost but the medication and diet do not work at all. Of late, I have resorted to admitting patients to the ward and checking their blood sugar control myself. It has surprised me time and time again, once admitted and on a low calorie diabetic diet, these so called uncontrolled diabetics became under control.

“Patient and family education is an essential part of diabetic control.”
The problem really still remains that medication alone really is not the cure for diabetes. Patients need to be constantly reminded about diet and the need for exercise and weight control. This unfortunately is easier said than done. I prefer working with immediate family members. Educating the patient together with the family is far more rewarding than working with the patient alone. I make it a point to review all patients with advanced diabetic retinopathy with their family members.

Early detection and good diabetic control
Often patients do not see the need to have their eyes screened. Even worse, some patients with fairly advanced disease choose not to have any laser treatment because in the patients own words: “I can still see well what!” Patients have the misconception that laser makes the eye worse, a message they get from other diabetics whom I have no doubt waited too long before treating their eyes or have not gotten their diabetes under control.

I emphasise to the patients that for diabetic retinopathy, there is a concept of the point of no return. The later you detect the disease, the worse the damage to the eyes. At some point in the disease, the diabetic retinopathy has reached such an advanced stage that despite any form of intervention patients will still end up blind. I tell that to all my patients to implore on them to control their diabetes. While I have had many successes with patients changing their lifestyle altogether and bringing their diabetes totally under control, regrettably many patients and their family only recognise the importance of good control after a major lifestyle event happens like a stroke, renal failure or amputation.

Diabetic registry to ensure we screen for all
It would be great if we can get a registry for all diabetics in Singapore. This would allow us to screen every single patient for not just diabetic retinopathy but every other potential complication from diabetes. Primary care physicians must be vigilant and insist on routine and regular HBA1c testing as well as diabetic retinal photography to pick up early disease. Once diabetic retinopathy is detected, I would like to see ophthalmologists working closely with the patient’s physician to help the patient to control their blood sugar levels.

Ultimately, the management of diabetes is still a team effort. The team comprises not just the doctors and nurses, but the patient and their family play an integral part as well. I hope we can all work together to reduce the morbidity from diabetes mellitus.

Singapore National Eye Centre is committed to the prevention of diabetes blindness by providing a diabetic retinopathy screening programme.

This involves a dilated retinal photo to be performed and these will be read by an ophthalmologist. Family Physicians may refer their patients to SNEC ophthalmic unit for the photo, at $20 (before GST) and thereafter the report will be returned to them (the family physician) for further follow-up. For appointments, physicians may contact the SNEC GPEP Hotline at 63229399 or the main appointments line at 62277266.
Mr N is a 40 year-old man who has been suffering from persistent right-sided headache for more than ten years. The headache was so severe that it disrupted his sleep every night and he was also frequently absent from work. Numerous doctors told him that he has migraine headaches. However, his headaches did not improve despite taking various medications for migraine. Another patient, Madam B, 56, was also diagnosed with migraine headaches. Her pain was localised to the left temporal and occipital region as well as the left side of the neck. Similarly, anti-migraine therapy did not help alleviate her symptoms.

These two patients sought treatment at the Singapore General Hospital (SGH) Pain Management Centre. Their symptoms were suggestive of cervicogenic headache. Both patients subsequently received a series of local anaesthetic and steroid injections into the cervical facet joints with almost complete relief of their headaches.

Causes
Cervicogenic headache is a form of headache resulting from abnormalities in the bony structures or soft tissues of the neck. The prevalence of cervicogenic headache in the general population ranges between 0.4% and 2.5%, and it is four times more prevalent in women. It commonly occurs after head or neck injury but may also occur in the absence of trauma. The diagnosis is frequently missed or under-diagnosed by doctors because the clinical features of cervicogenic headache mimic common headache disorders such as tension-type headache, migraine etc.

One of the common causes for cervicogenic headache is whiplash injury occurring after a motor vehicle accident, where bones, intervertebral discs, ligaments and muscles sustain significant trauma. Another common cause is cervical spondylisis, or degeneration occurring in the facet joints – a condition also known as facet joint arthritis.

Pathophysiology
The pathophysiology of cervicogenic headache has been debated, but the pain is likely referred from one or more muscular, neurogenic, osseous, articular, or vascular structures in the neck.

The trigeminocervical nucleus is a region of the upper cervical spinal cord where sensory nerve fibres in the descending tract of the trigeminal nerve (trigeminal nucleus caudalis) are believed to interact with sensory fibres from the upper cervical nerve roots. This functional convergence of upper cervical and trigeminal sensory pathways allows the bidirectional referral of painful sensations between the neck and trigeminal sensory receptive fields of the face and head.
Treatment
Successful treatment of cervicogenic headache usually requires a multimodal approach involving pharmacological, non-pharmacological, interventional and rarely, surgical treatment.

Simple analgesics such as paracetamol, non-steroidal anti-inflammatory drugs (NSAIDs), cyclo-oxygenase-2 (COX-2) inhibitors may be used for intermittent pain attacks. Migraine-specific abortive medications such as ergot derivatives or triptans are not effective for cervicogenic headache. In some patients with predominant neuropathic features involving the head and neck area, tricyclic antidepressants, anticonvulsants and serotonin noradrenergic reuptake inhibitors (SNRIs) may be prescribed. The use of muscle relaxants and the injection of Botulinum toxin A into muscles have been reported but further scientific evidence is needed to confirm their efficacy. Opioid analgesics are generally not recommended for long-term management of cervicogenic headache.

Physical therapy including strengthening exercises, stretching and muscle conditioning programme are important modalities for prevention as well as control of cervicogenic headaches.

Injection of small amounts of local anaesthetic and steroids into the arthritic facet joints in the cervical spine is another treatment option available. If such diagnostic blocks are successful in providing substantial but temporary pain relief, radiofrequency thermoablation of the cervical medial branch nerves can be offered to patients to extend the duration of pain relief to 12-18 months. Radiofrequency thermoablation uses high heat at a needle tip to destroy nerves that supply the affected facet joints in the neck. By doing so, the painful facet joints are denervated and pain signals from these joints are interrupted.

Surgical transection of the greater occipital nerve or occipital nerve decompression from “entrapment” within the trapezius muscle has been reported with only short-term pain relief. More recently, implantation of percutaneous leads for occipital nerve stimulation has also been reported to provide good efficacy but data is limited.

Conclusion
The presenting symptom complex of cervicogenic headache is similar to that of the more commonly encountered primary headache disorders such as migraine or tension-type headache. It is a relatively common cause of chronic headache that is often misdiagnosed or unrecognised. Primary care physicians should consider this condition in patients with headaches that persist despite adequate therapy. Early diagnosis and management through a comprehensive, multidisciplinary pain treatment program can significantly decrease disability and improve function and quality of lives of patients.

References

The Pain Management Centre at Singapore General Hospital can manage various types of somatic and neuropathic pain problems, including:
- Cancer-related pain
- Back and neck pain
- Orofacial pain
- Myofascial pain and Fibromyalgia
- Neuropathic pain syndrome
  - Trigeminal neuralgia
  - Peripheral neuropathy
- Diabetic peripheral neuropathy
- Complex regional pain syndromes
- Post surgical pain syndromes
- Post injury chronic pain
- Central pain
- Spasticity
Cytology is the study of cells. Just over half a century ago, it was widely recognised and accepted that cells shed or sampled from the surface of the cervix reflected changes in the cervical epithelium, allowing for the detection of abnormal cells that indicated preinvasive or invasive cervical disease.

Since then, cytology has been used in many countries as the major method of screening for cervical cancer. For years, the method involved collecting a sample of cells from the cervix, which was then spread directly onto a glass slide that would be immediately fixed in alcohol or with a spray fixative. This method is simple to perform but has certain drawbacks. Occasional smears are thick or show air-drying artefact or obscuring elements such as blood or inflammatory exudate. These make the smear difficult to evaluate or even unsatisfactory for assessment. Liquid based cytology is a method that has been developed to overcome some of these drawbacks.

**Liquid-based Cytology**

Basically, in liquid based cytology, the cell sample from the cervix is rinsed into a vial of liquid fixative instead of being spread onto a glass slide. Depending on the system, the sampling device may be rinsed in the vial and then discarded, or the sampling device may be detached and left in the vial. The vial is then sent to the laboratory where it is processed to make a smear. The two most widely used technologies utilise either a filter-transfer method or a density gradient method.

KK Women's and Children's Hospital has elected to use the ThinPrep system as its liquid based cytology test.

**ThinPrep system**

The ThinPrep system is a filter transfer method. In this system, the sampling device is rinsed thoroughly in the liquid fixative and then discarded. The vial is sent to the laboratory. In the laboratory, the vial is placed into a processor (the machine which prepares the smears) together with a glass slide and filter mechanism. The processor immerses the filter assembly into the vial and spins it at a high speed to ensure an even mix of the cells and to break up large cell groups. The fixative is then sucked through a filter membrane which traps the cells but allows fluid through. When an adequate number of cells have been deposited on the filter, the processor detects a drop in the suction pressure and stops drawing fluid through the filter. It then applies the filter to a specially prepared glass slide and transfers the cells across. The slide is deposited into a vial of fixative from which it is subsequently taken out and stained.

**Advantages**

There are several advantages to this system. One is that it produces a thin layer of cells which is easier to evaluate than a thick smear. The
cells are also better. In addition, the entire cell sample is captured in the fixative vial which leads to a more representative smear being prepared.

One of the most important advantages of this test is that the material that is left over after a smear has been prepared, can be used for adjunctive testing; The best known of these tests are those for HPV DNA. Under certain circumstances, a doctor may feel that knowing the HPV status of a woman with abnormal cells on cytology will help in decisions on management. With liquid based cytology, the left over material can be sent for testing (also known as reflex testing) without having to recall the patient, saving the patient time and trouble. The specimen can also be used to test for certain micro-organisms.

A further advantage is that the smears may be initially subjected to image analysis. Computer software “reads” the smears and registers the co-ordinates of the fields with what it regards as the most abnormal cells. On review the system directs the cytotechnologists to these fields where they are evaluated. This can cut down on technologists’ screening time.

Disadvantages
However, there are also some disadvantages, which include increased manpower needed to prepare the smears, and the dependence of smear preparation on the instrument.

Test of Choice
Nevertheless, liquid based cytology is being increasingly adopted worldwide as the test of choice for cervical cytology and will no doubt, in future, further demonstrate its utility in allowing a spectrum of adjunctive tests to be performed on residual material.
GPs can make direct referrals for Spirometry Lung Function test

Changi General Hospital is now making the Spirometry Lung Function test available for direct GP referral.

Spirometry is the most frequently performed lung function test. It is useful for the diagnosis; assessment of severity and the monitoring of response to treatment of asthma, COPD and many other lung related problems.

The Lung Function test report will be faxed to referring clinics within 3 working days. The full report will also be mailed to the clinic.

1. Spirometry
   *$40.66 (incl 7% gst, non resident surcharge applies)

2. Spirometry (pre & post bronchodilator)
   $70.62 (incl 7% gst, non resident surcharge applies)

For referral forms, please go to http://www.cgh.com.sg/doctor/GP_forms.asp to download.

For appointment booking, please call the *GP Hotline @ Tel: 6788 3003 from Mon to Fri: 8:30am – 8:00pm Sat and Sun: 8:30am – 12:30pm

* Prices are subjected to change without prior notice. GP hotline is exclusive to GP clinics only. If patients need to change appointments, please call the Appointment Centre Hotline at Tel: 6850 3333 instead.

Upcoming GP Seminars at CGH

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<th>GP Seminar</th>
<th>Organised By</th>
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<tr>
<td>GI UPDATE 2008</td>
<td>Gastroenterology, CGH</td>
<td>20 Sept 08 (Sat)</td>
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<tr>
<td>Latest Treatment Options for Hip &amp; Knee Pain</td>
<td>Orthopaedic Surgery, CGH</td>
<td>25 Oct 08 (Sat)</td>
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Registration details:
Please call: Ms Rozanna Mustaffa (6850 2372) / Ms Li Kedan (6850 2387), or email to CME_Admin@cgh.com.sg

CME accreditation is being finalised for these programmes
Allergic diseases and asthma are a growing health problem worldwide, with an increasing prevalence being noted especially among children. Some allergies may be fatal; others seriously compromise the quality of life.

This update on allergy management and prevention aims to provide useful information in improving the clinical care and outcomes of your patients.

<table>
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<tr>
<th>Time</th>
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<tr>
<td>12:30pm</td>
<td>Lunch &amp; Registration</td>
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<tr>
<td>2:00pm</td>
<td>Allergen Avoidance in Asthma &amp; Allergic Rhinitis</td>
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<td>Dr Tan Keng Leong, Director, Allergy Clinic, SGH</td>
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<td>Snr Consultant, Respiratory &amp; Critical Care Medicine, SGH</td>
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<td>2:20pm</td>
<td>Allergic Drug Reactions and Anaphylaxis</td>
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<td>Dr Chong Yong Yeow, Assc Consultant, Rheumatology &amp; Immunology, SGH</td>
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<td>Mr Kong Ming Chai, Snr Principal Clinical Pharmacist, SGH</td>
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<td>2:50pm</td>
<td>Allergic Skin Conditions</td>
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<td>Dr Pang Shiu Ming, Director &amp; Snr Consultant, Dermatology Unit, SGH</td>
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<tr>
<td>3:10pm</td>
<td>Question and Answer Session</td>
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<td>3:20pm</td>
<td>Tea Break and Trade Exhibition</td>
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<td>3:50pm</td>
<td>Principles of Allergy Testing and Allergen Immunotherapy</td>
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<td>Dr Phua Ghee Chee, Consultant, Respiratory &amp; Critical Care, SGH</td>
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<td>4:10pm</td>
<td>Common Food Allergies in Childhood</td>
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<td>Dr Chiang Wen Chin, Assc Consultant, Respiratory Medicine, KKH</td>
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<td>4:30pm</td>
<td>Management of Allergic Rhinitis</td>
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<td>Dr Leong Jern-Lin, Consultant, Otolaryngology, SGH</td>
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<td>4:50pm</td>
<td>Question and Answer Session</td>
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Date: 27 September 2008, Saturday  
Time: 12.30 – 5pm  
Venue: College of Medicine Building, MOH. Level 2, Auditorium  
Organised by: Allergy Clinic, SGH

Closing date: 24 September 2008

Contact:  
SGH Postgraduate Medical Institute  
Singapore General Hospital  
Block 6, Level 1, Outram Road, Singapore 169608  
Fax: 6223 9789 Email: pgmi.gpcme@sgh.com.sg  
+ Pre-registration is required.

This CME event is assessed by the College of Family Physicians Singapore to be a Core FM CME event, based on prospective information submitted.

The event is accredited by Singapore Pharmacy Board for 2 CPE points.
The pace of modern medicine is such that individual doctors, both general internists as well as cardiologists, find it difficult to keep up with the rapid explosion of knowledge generated by trials and basic research. Yet all of us need to have sufficient core knowledge of cardiology and its related medical subspecialties to practise as “safe” doctors. 3rd Cardiology Update @ Singapore 2008 fulfills this need by providing a forum that summarises key new knowledge each general cardiologist, cardiology fellow or internist must know, in a concise and usable format.

Course Directors: Dr Terrance Chua and Dr K Gunasegaran

Programme Highlights
- Acute AMI - When to Intervene?
- Role of Antiplatelets, Antithrombotics, Fibrinolytics in PCI
- Update on DES - Clearing the Air
- Diabetes & CAD: Accord or Discord?
- Advances in Cardiothoracic Surgery: Robots, LV Assist Devices – What’s Next?
- Percutaneous Valvular Interventions: What’s Here and What’s New on the Horizon?
- Advances in Echocardiography: Tissue, Contrast, 3D – What does the General Cardiologist Need to Know?
- Hypertrophic Cardiomyopathy: An Update
- Constriction vs Restriction: Pearls & Pitfalls
- Sudden Death & the Role of Cardiac Screening: How Far do We Go?
- Atrial Fibrillation – What’s New?
- The Genetics of Cardiac Arrhythmias
- Evidence Based Treatment for Pulmonary Hypertension
- The Genetics of Congenital Heart Disease
- The Pre-operative Management of Cardiac Patients: The Role of Beta-Blockers
- New Developments in Cardiac CT for the Clinicians
- Advances in Nuclear Cardiology
- Advances in Cardiac MRI: An Update
- Data Interpretations on ECG, Echocardiography, Hemodynamics, Nuclear Cardiology, Angiography & MSCT/Calcium Data Interpretation
- Others

The Organiser reserves the right to make changes without prior notice

Please revisit us at http://www.nhc.com.sg/ for the full programme

Registration Fees
Physician (2-day Pass) SGD214.00
Drs in-training (2-day Pass) SGD107.00
1-day Pass SGD107.00

For registration, please download the registration form from http://www.nhc.com.sg/

Date: 27-28 September 2008 (Sat & Sun)
Venue: National Heart Centre Singapore, Lecture Theatre, Level 3

Contact
Ms Oh Seow Fong
Course Secretariat
Tel: +65-62367420
Fax:+65-62210944
Email: nhccme@nhc.com.sg
Singapore’s 1st Liver Cancer Awareness month in September

General Practitioner Forum on “Liver Cancer & GPs - Treatment Options & Case Studies”

Topics:

- Imaging options - Ultrasound, CT, MRI or PET?
  Dr Thng Choon Hua, Oncologic Imaging Deputy Head & Senior Consultant, NCCS

- Can surgery or liver transplantations provide a cure?
  Dr Tan Yu Meng, Surgical Oncology Deputy Head & Senior Consultant, NCCS & Liver Transplant Program Surgical Director, SGH

- Light at the end of the tunnel in systemic therapy
  Dr Choo Su Pin, Medical Oncology Consultant, NCCS

- Non-surgical local therapy
  Dr Michael Wang, Radiation Oncology Associate Consultant, NCCS

- Multidisciplinary cases discussions
  Dr Thng Choon Hua, Oncologic Imaging Deputy Head & Senior Consultant, NCCS

Date: Saturday, 20 September 2008
Time: 1.00pm - 4.00pm
Venue: Sheraton Towers, 39 Scotts Road (Level 2, Ballroom 1 - 3)
Organised by: National Cancer Centre Singapore (NCCS)
Chaired by: Prof London Lucien Ooi, Deputy Director & Surgical Oncology Senior Consultant at NCCS, and Chairman, Division of Surgery & General Surgery Senior Consultant at SGH

CME point: 1

GPs may like to bring any interesting cases on HCC for discussion.

HOTLINE NUMBERS

SOC FAST TRACK APPOINTMENT CONTACT NUMBERS

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GPEP HOTLINE: 6557 2233

DIRECT WARD REFERRAL CONTACT NUMBERS

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Organised by:
National Cancer Centre Singapore (NCCS)
Chaired by:
Prof London Lucien Ooi, Deputy Director & Surgical Oncology Senior Consultant at NCCS, and Chairman, Division of Surgery & General Surgery Senior Consultant at SGH

RSVP by Wednesday, 10 Sep 2008 to Kalai / Shufen via:
- Email nsokal@nccs.com.sg / dsolsf@nccs.com.sg
- Tel 6436 8294 / 8283