

**SYMPOSIUM 1 – TRANSPLANT MEDICINE
(Inflammation/Immunology/Infectious Disease/
Transplant Medicine)
Friday, 21 April 2006, 1040–1210hrs
Auditorium, College of Medicine Building,
Ministry of Health**

S1(1)
Immunosuppression in Transplant Medicine – State
of the Art
*A/Prof A Vathsala, Renal Medicine, Singapore
General Hospital*

S1(2)
Treatment of Opportunistic Infection in Transplant
Patients
*Dr Tan Ban Hock, Internal Medicine, Singapore
General Hospital*

S1(3)
Oral Manifestations of Graft versus Host Disease (GVHD)
*Dr Poon Choy Yoke, Oral and Maxillofacial Surgery,
National Dental Centre*

S1(4)
Mixed Chimerism and Transplantation Tolerance
*Dr Toh Han Chong, Medical Oncology, National
Cancer Centre*

**SYMPOSIUM 2 – PREVENTION
(Metabolic Disorders)
Friday, 21 April 2006, 1040–1210hrs
SGH Postgraduate Medical Institute, Singapore
General Hospital, Blk 6 Level 1**

S2(1)
Identification of the High Risk Individual for
Diabetes and Cardiovascular Disease
*Dr Tai E Shyong, Endocrinology, Singapore General
Hospital*

S2(2)
Lifestyle Modification for the Treatment and
Prevention of Obesity and Diabetes
*Dr Jason Chia, Changi Sports Medicine Center,
Changi General Hospital*

S2(3)
Exercise Prescription as an Adjunct Treatment
for Diabetes
*Ms Cindy Ng, Physiotherapy, Singapore General
Hospital*

**SYMPOSIUM 3 – CANCER SCREENING
AND PREVENTION
(Oncology)
Friday, 21 April 2006, 1040–1210hrs
National Cancer Centre Singapore, Level 4**

S3(1)
Role of CT Scan, CT Colonoscopy and PET Scan:
Where Are We Now?
*Dr Thng Choon Hua, Oncologic Imaging, National
Cancer Centre, Singapore*

S3(2)
Genetic Testing of Hereditary Breast Cancer in
Singapore
*Dr Ann Lee, Medical Sciences, National Cancer
Centre Singapore*

S3(3)
Economics of Cancer Screening: Cost-Effectiveness
& Implications for Health Insurance
*A/Prof Li Shu Chuen, Pharmacy, National University
of Singapore*

**SYMPOSIUM 4 – DETECTION,
PREDICTION AND PREVENTION
(Degenerative Disorders)
Friday, 21 April 2006, 1040–1210hrs
Singapore National Eye Centre, Level 4**

S4(1)
New Modalities for Imaging Coronary Artery Disease
Dr Tan Ru San, Cardiology, National Heart Centre

S4(2)
Functional Imaging of the Ageing Brain
*A/Prof Michael Chee, Cognitive Neuroscience
Laboratory, Singapore Health Services*

S4(3)
Sleep Disorders Associated with Ageing and
Neurodegenerative Diseases
*Dr Lim Li Ling, Neurology, National Neuroscience
Institute*

S4(4)
Age-related Macular Degeneration: Genetics and
Therapeutic Options
*Dr Ranjana Mathur, Vitreo-Retina Service, Singapore
National Eye Centre*

SYMPOSIUM 5 – PROFESSIONALISM AND DEVELOPMENT

(Education in Healthcare)

Friday, 21 April 2006, 1040–1210hrs

Singapore General Hospital, Lecture Theatre, Blk 6 Level 9

S5(1)

Professionalism in Education

Prof Ng Han Seong, Division of Medicine, Singapore General Hospital

S5(2)

Mentoring and Preceptoring: Are We Doing it Right?

Dr Lee Ee Lian, Psychiatry, Singapore General Hospital

S5(3)

Continuing Professional Development

A/Prof Ho Lai Yun, Associate Dean's Office, Singapore General Hospital

SYMPOSIUM 6 – INFLAMMATION AND IMMUNOLOGY

(Inflammation/Immunology/Infectious Disease/ Transplant Medicine)

Saturday, 22 April 2006, 1100–1230hrs

Auditorium, College of Medicine Building, Ministry of Health

S6(1)

What's New in the Research of Rheumatoid Arthritis?

A/Prof Fong Kok Yong, Rheumatology and Immunology, Singapore General Hospital

S6(2)

Advances in Surgery for Ulcerative Colitis and Crohn's Disease

Dr Ooi Boon Swee, Colorectal Surgery, Singapore General Hospital

S6(3)

Uveitis – Pathophysiology and Treatment

Dr Lim Wee Kiak, Ocular inflammation and Immunology, Singapore National Eye Centre

S6(4)

Pharmacy Counselling in Inflammatory Bowel Diseases – SGH's Experience

Mr Lim Teong Guan, Pharmacy, Singapore General Hospital

S6(5)

Occupational Therapy in Inflammatory Joint Disorders

Ms Therma Cheung, Occupational Therapy, Singapore General Hospital

S6(6)

Healing Chronic Wounds

Ms Sivagame Maniya, Nursing Division, Vascular Surgery, Singapore General Hospital

SYMPOSIUM 7 – PATHOPHYSIOLOGY (Metabolic Disorders)

Saturday, 22 April 2006, 1100-1230hrs

SGH Postgraduate Medical Institute, Singapore General Hospital, Blk 6 Level 1

S7(1)

An Update on the Pathophysiology of Diabetes Mellitus

Dr Stanley Liew, Medicine, National University Hospital

S7(2)

Pathophysiology and Prevention of Microvascular Complications of Diabetes

A/Prof Lim Su Chi, General Medicine, Alexandra Hospital

S7(3)

Early Retinal Vascular Changes in Diabetes: Insights into Pathophysiology

A/Prof Wong Tien Yin, Singapore Eye Research Institute

S7(4)

Animal Models for New Therapies: Metabolic Disorders

A/Prof Pierce Chow, Experimental Surgery, Singapore General Hospital

SYMPOSIUM 8 – DEVELOPMENTAL THERAPEUTICS AND TARGETED THERAPY (Oncology)

Saturday, 22 April 2006, 1100–1230hrs

National Cancer Centre Singapore, Level 4

S8(1)

Radiolabelled Anti-CD 20 Antibody for the Treatment of Non-Hodgkin's Lymphoma

Dr Susan Loong, Radiation Oncology, National Cancer Centre Singapore

S8(2)

Targeted Therapy: A New Era in Cancer Therapeutics

Dr Tan Eng Huat, Medical Oncology, National Cancer Centre Singapore

S8(3)

Functional Analysis of p53 Codon 72 Polymorphism: Implications on Cancer Susceptibility

A/Prof Kanaga Sabapathy, Cellular and Molecular Research, National Cancer Centre Singapore

SYMPOSIUM 9 – HELP AND RELIEF (Degenerative Disorders)

Saturday, 22 April 2006, 1100–1230hrs

Singapore National Eye Centre, Level 4

S9(1)

End-stage Heart Failure: What are the Options?

Dr Chuang Hsuan Hung, Cardiology, National Heart Centre

S9(2)

Minimally Invasive Joint Replacement for Degenerative Joint Disorders
Dr Yeo Seng Jin, Orthopaedic Surgery, Singapore General Hospital

S9(3)

Communicating with People with Dementia Disease
Ms Rachel Marie Towle, Alice Lee Institute of Advanced Nursing, Singapore General Hospital

S9(4)

Urological Problems in the Elderly
Dr Ng Lay Guat, Urology, Singapore General Hospital

S9(5)

Where's Help?
Ms Molly Koh, Medical Social Services, Singapore General Hospital

SYMPOSIUM 10 – TECHNOLOGY AND RESEARCH

(Education in Healthcare)

Saturday, 22 April 2006, 1100–1230hrs
Singapore General Hospital, Lecture Theatre, Blk 6 Level 9

S10(1)

Distance Learning in Medical Education: Does Distance Really Matter?
Prof C Franklin Starmer, Learning Technologies, Duke-NUS Graduate Medical School

S10(2)

E-learning in Healthcare and Education
Prof Lee Seng Teik, Plastic Surgery, Singapore General Hospital

S10(3)

Research in Education – How it Differs from Research in Medicine
A/Prof David A Kandiah, Internal Medicine, Griffith University, Australia

SYMPOSIUM 11 – INFECTIOUS DISEASE (Inflammation/Immunology/Infectious Disease/Transplant Medicine)

Saturday, 22 April 2006, 1400–1530hrs
Auditorium, College of Medicine Building, Ministry of Health

S11(1)

An Alphabet Soup of Resistance
Dr Asok Kurup, Internal Medicine, Singapore General Hospital

S11(2)

Update on Diagnostics and Treatment of Viral Hepatitis
A/Prof Chow Wan Cheng, Gastroenterology, Singapore General Hospital

S11(3)

Role of Viruses in Carcinogenesis
Dr Leonard Tan, Pathology, Singapore General Hospital

S11(4)

Hospital-wide Influenza Immunisation Programme in an Acute Tertiary Hospital
Ms Wong Yin Yin, Infection Control Unit, Singapore General Hospital

SYMPOSIUM 12 – TREATMENT AND EMERGING THERAPIES (Metabolic Disorders)

Saturday, 22 April 2006, 1400–1530hrs
SGH Postgraduate Medical Institute, Singapore General Hospital, Blk 6 Level 1

S12(1)

New Pharmacological Treatments for Diabetes Mellitus
Dr Peter Eng, Endocrinology, Singapore General Hospital

S12(2)

Endoscopic and Surgical Treatment of Morbid Obesity
A/Prof Wong Wai Keong, General Surgery, Singapore General Hospital

S12(3)

How Can We Prevent the Loss of the Foot to Diabetes Every 30 Seconds?
Mr Jasper Tong, Occupational Therapy, Singapore General Hospital

SYMPOSIUM 13 – HOLISTIC AND SUPPORTIVE CARE (Oncology)

Saturday, 22 April 2006, 1400–1530hrs
National Cancer Centre Singapore, Level 4

S13(1)

Perceptions of Quality of Life of Cancer Retreat Participants in Singapore
Ms Huang Der Tuen, Community, Occupational and Family Medicine, National University of Singapore

S13(2)

Enteral Nutrion: Getting the Most Out of It!
Mr Tan Lee Boo, Dietetics and Nutrition Services, Singapore General Hospital

S13(3)

Role of Parenteral Nutrition in Cancer
Ms Janet Chong, Nursing Division, Singapore General Hospital

S13(4)

Patient Oncologic Practice Initiatives: The NCC, Ambulatory Treatment Unit's (ATU) Experience
Ms Mag Tan, Ambulatory Treatment Unit, National Cancer Centre, Singapore

**SYMPOSIUM 14 – UNDERSTANDING AND
TREATING THE AETIOLOGICAL PROCESS
(Degenerative Disorders)**

Saturday, 22 April 2006, 1400–1530hrs
Singapore National Eye Centre, Level 4

S14(1)

Atrial Fibrillation: New Insights on Management of
an Old Problem

Dr Hsu Li Fern, Cardiology, National Heart Centre

S14(2)

Parkinson's Disease: Developing Therapeutic
Strategies from Understanding Pathophysiology

*Dr Lim Kah Leong, Neurodegeneration Research
Laboratory, National Neuroscience Institute*

S14(3)

Advances in the Understanding of Pathogenesis and
Treatment of Dry Eyes

*Prof Roger Beuerman, Singapore Eye Research
Institute*

S14(4)

Degenerative Disorder of the Temporomandibular
Joint

*Dr Asher Lim, Oral and Maxillofacial Surgery,
National Dental Centre*

**SYMPOSIUM 15 – ADVANCED
HEALTHCARE TRAINING
(Education in Healthcare)**

Saturday, 22 April 2006, 1400–1530hrs
**Singapore General Hospital, Lecture Theatre,
Blk 6 Level 9**

S15(1)

Directions in Postgraduate Training and Education
*A/Prof Chan Yew Weng, SGH Postgraduate Medical
Institute, Singapore General Hospital*

S15(2)

Florence Nightingale: Educational Strategies to
Broaden and Redefine Her Role in Modern
Medical Care

*Tan Siok Bee, Nursing Division, Singapore General
Hospital*

S15(3)

Allied Healthcare Education: Challenges, Directions
and New Developments

*Dr Celia Tan, Postgraduate Allied Health Institute,
Singapore General Hospital*

S15(4)

Overseas Training Opportunities: Opening Doors

*Prof Edward Buckley, Undergraduate Medical
Education, Duke University Medical School*

S1(1)**IMMUNOSUPPRESSION IN TRANSPLANT MEDICINE - STATE OF THE ART**

A Vathsala

Renal Medicine, Singapore General Hospital

A successful immune response eliminates the inciting foreign antigen; immunosuppression in solid organ transplantation (Tx) is needed to prevent rejection of the allograft, so as to permit optimal graft survival. A fundamental knowledge of immune responses is necessary to gain understanding of the role of various immunosuppressants in Tx. The allo-immune response is comprised of two arms, namely the afferent arm by which the recipient immune system recognises foreign antigens and becomes activated and the effector arm by which the activated immune system eliminates the foreign antigen. Antigen presenting cells present alloantigens shed by the transplanted organ to recipient T lymphocytes in the regional lymph nodes of the recipient. These T lymphocytes become fully activated when the antigenic signal is delivered with a Co-Stimulatory signal. Activated T lymphocytes transduce a signal to their nucleus, where cytokine (eg. Interleukin 2) gene transcription is initiated. Cytokines so generated then trigger clonal proliferation of specific allo-reactive T lymphocytes. Activated T lymphocytes then provide help to cytotoxic T lymphocytes, B lymphocytes and non specific inflammatory cells such as macrophages to effect graft destruction through hyperacute, acute or chronic rejection. In current clinical practice in transplantation, strategies are aimed at modifying both the afferent and efferent arms of the alloimmune response. Although optimal Human Leukocyte Antigen (HLA) matching will limit the degree of antigenic disparity between recipient and donor, the introduction of many new classes of immunosuppressants allow transplantation across HLA-mismatched donor-recipient pairs. These immunosuppressants affect different phases of the immune response. Calcineurin inhibitors such as cyclosporine and tacrolimus inhibit cytokine synthesis and are the mainstay of initial and maintenance immunosuppression in most solid organ Tx. Mycophenolate or azathioprine inhibit clonal expansion of activated T lymphocytes are also important components of initial and maintenance immunosuppressive regimens. Although monoclonal antibodies directed against the Interleukin 2 receptor are primarily useful in reducing rejection in the immediate peri-transplant period, lymphocyte depleting polyclonal and monoclonal antibodies can be used to prevent rejection as in induction therapy and for the treatment of rejection. mTOR inhibitors such as sirolimus or everolimus which prevent cell cycle progression and inhibit smooth muscle proliferation are effective not only as immunosuppressants but also prevent chronic vascular damage associated with ischaemia and calcineurin inhibitors. Although high doses of immunosuppression are required in the early period post transplant, with adaptation post Tx, immunosuppressant drug doses can and should be reduced so as to avoid the adverse consequences of excess immunosuppression such as infections and malignancy. Moreover, the non-immunosuppressive toxicities of immunosuppressive drugs remain the Achilles heel of transplant immunosuppression. Thus the search for newer immunosuppressants that are more specific in their effects and tolerogenic regimens continues. Recent trials with agents that block co-stimulation or those that prevent homing of lymphocytes to the allograft hold the promise of better outcomes. Understanding the immunological basis of transplantation thus offers opportunities to optimise outcomes post RTX.

S1(2)**TREATMENT OF OPPORTUNISTIC INFECTION IN TRANSPLANT PATIENTS**

Tan Ban Hock

Internal Medicine, Singapore General Hospital

Abstract not available at time of printing.

S1(3)

ORAL MANIFESTATIONS OF GRAFT VERSUS HOST DISEASE (GVHD)

CY Poon

Department of Oral & Maxillofacial Surgery, National Dental Centre, Singapore

Definition: GVHD is a common complication of allogeneic hematopoietic stem cell transplantation (HSCT). GVHD occurs when transplanted donor's immune cells (graft) react to patient's tissues (host) and tries to destroy them. Acute GVHD (aGVHD) occurs within three months of transplantation and chronic GVHD (cGVHD) usually develops after the third month. Patients may develop one, both or neither reaction.

Epidemiology: Incidence of GVHD varies considerably according to immunologic risk factors such as HLA disparity, age, sex and parity of donor, type of GVHD prophylaxis and history of recipient herpes virus infection. Range of incidence of aGVHD is 30% to 75% and cGVHD is 25% to 70%. Oral involvement occurs in 60% to 70% of patients with Grade III to IV aGVHD and 80% of patients with cGVHD. The oral cavity may be the primary or only site of cGVHD.

Diagnosis: In oral GVHD the target tissues are oral mucosa and minor salivary glands. Oral lichenoid lesions cannot be distinguished clinically or histologically from oral lichen planus. A past history of HSCT is key. Studies have shown that only the presence of oral lichenoid lesions is statistically significant to the diagnosis of cGVHD. Xerostomia, decreased saliva flow and other findings were not significant. As the clinical criteria for oral GVHD becomes clearer, dependence on buccal mucosa and labial salivary gland biopsies have lessened.

Treatment: Oral aGVHD responds to systemic immunosuppression, opiates for pain control and local palliative measures like saline rinses, steroid elixirs and topical anaesthetic gels. Treatment of oral cGVHD consists of combined systemic and topical steroids, salivary substitutes for xerostomia and antimicrobials to control herpes simplex and candidial infections. Proper oral hygiene is critical to prevent infection and dental caries.

S1(4)

MIXED CHIMERISM AND TRANSPLANTATION TOLERANCE

Toh Han Chong

Medical Oncology, National Cancer Centre

Abstract not available at time of printing.

S2(1)**IDENTIFICATION OF THE HIGH RISK INDIVIDUAL FOR DIABETES AND CARDIOVASCULAR DISEASE**

Tai E Shyong

Department of Endocrinology, Singapore General Hospital

Diabetes mellitus and cardiovascular disease are major sources of morbidity and mortality in developed countries. Appropriate intervention before the onset of disease can prevent both diabetes mellitus and cardiovascular disease. To maximize the benefit of interventions to prevent these chronic diseases, it makes sense to provide the most intensive interventions to those at the highest risk. Both diabetes mellitus and cardiovascular disease are multifactorial disorders. While single markers do identify those at higher risk, better discrimination is achieved using several markers that jointly affect risk. For example, a logistic regression model combining several risk factors for diabetes mellitus better identifies those at risk of diabetes mellitus than a measurement of blood glucose alone. These predictive functions can be developed based on data from cohort studies. In the absence of high quality data from cohort studies, it is also possible to modify predictive functions developed in other populations for use in our own population. As an example, we have been able to recalibrate the Framingham predictive function for the assessment of coronary artery disease risk for use in Singapore. The identification of novel biomarkers of risk and careful assessment of their ability to improve the discrimination offered by adding them to existing predictive functions form an important aspect of research required to improve the utility of these functions.

S2(2)**LIFESTYLE MODIFICATION FOR THE TREATMENT AND PREVENTION OF OBESITY AND DIABETES**

Chia Kok Kiong, Jason

Changi Sports Medicine Center, Changi General Hospital, Singapore

Introduction: Obesity is a prevalent public health problem and is associated with co-morbidities, such as diabetes mellitus, hypertension. The multi-factorial nature of the problem as well as its chronicity of the problem poses a therapeutic challenge for the physician. The problem that underpins obesity is that of an imbalance of dietary energy intake versus energy expenditure through discretionary exercise as well as habitual physical activities. Hence the mainstay of treatment is that of lifestyle modification.

Scope: The talk will look at the exercise recommendations and lifestyle modification for obese patients as well as diabetics, the health and fitness-related benefits of exercise as well as some of the pitfalls to exercise prescriptions to these patients.

S2(3)

EXERCISE PRESCRIPTION AS AN ADJUNCT TREATMENT FOR DIABETES

Cindy Ng

Department of Physiotherapy, Singapore General Hospital

Type 2 diabetes mellitus (T2DM) is characterised by a defect in glucose utilisation in the skeletal muscles. This may be due to impaired insulin secretion from the beta cells or insulin resistance in the tissues (Beamer, 2000). Insulin resistance may be due to an abnormal insulin receptor or a defect in the glucose transporter, namely glucose transporter 4 (GLUT-4) (Roach & Benyon, 2003). Exercise has been said to be the 'best insulin sensitizer on the market; better than any medication we currently have available' by Tom Bartol (2002), a recognised nurse practitioner expert in the field of diabetes in the States (Wojtaszewski, et al., 2003). It acutely lowers plasma glucose levels and tissue stores, improves insulin sensitivity and glycemic control even without any weight loss (Beamer, 2000). Exercise results in translocation of GLUT-4 to the plasma membrane of skeletal muscles; similar to the effects induced by insulin (Roach & Benyon, 2003). However, evidence suggests that the signals used by exercise are not similar to those utilised by insulin (Wojtaszewski, et al., 2003). Adrenergic stimulation via exercise may enhance insulin action in isolated muscle due to the beta-adrenergic-induced glycogen depletion (Wojtaszewski, et al., 2003). In T2DM subjects, a 45 to 60 minutes cycle exercise at 60% to 70% VO₂max increased the GLUT-4 content of the muscular plasma membrane by about 70% above resting levels and increased muscular glucose uptake (Perez_Martin, et al., 2001). An insulin independent pathway activates the exercise-induced GLUT-4 translocation in working muscle (Perez_Martin, et al., 2001). According to American Diabetes Association (ADA) position statement (2002), regular exercise training have a beneficial effect on carbohydrate metabolism and insulin sensitivity which can be maintained for at least 5 years. However, 4 months of moderate-intensity aerobic exercise performed by previously sedentary men and women enhanced muscle mitochondrial function but did not improve insulin sensitivity in older people (Short, et al., 2003). Advancing age is associated with the decline in insulin action and this is associated with an increased rate of atherosclerotic vascular disease, through related metabolic disorders like hypertension (Clevenger, et al., 2002). Thus exercise is a useful adjunct for the treatment of diabetes. The frequency, intensity and mode are important variables used in the prescription of effective exercises to treat diabetes. A preliminary study done on 60 local subjects recruited showed that 2 months of either aerobic and resistance training helped to reduce HbA_{1c}, but greater reduction is seen in the resistance group (doubled). This implies that resistance training has a role to play in the treatment of diabetes especially in the elderly.

S3(1)

ROLE OF CT SCAN, CT COLONOSCOPY AND PET SCAN: WHERE ARE WE NOW?

Choon Hua Thng

Dept of Oncologic Imaging, National Cancer Centre, Singapore

Low dose CT thorax is able to detect more early stage lung cancer compared to chest x-rays. As such there is recent enthusiasm for its use in screening. However, detection of early stage disease may not translate to screening efficacy because of lead time, length time, overdiagnosis and volunteer bias. A nodule is expected to be detected in 24 to 48% of the screening population but only 1.3 to 3.1% of the screened population will have cancer. The radiation risk of LDCT translates to 0.85% chance of radiation induced cancer if a patient were to be annually screened from age 50 to 75. The enthusiasm for CT colonography stems from mortality benefits shown in case-control studies of flexible sigmoidoscopy and understanding of the biology of polyps and cancer. Although CT colonography has been shown in some studies to be effective in detecting polyps greater than 1cm, other studies are disappointing. There are no randomized trials to show mortality reduction. The examination may result in detection of incidental abnormalities that require additional work up in 27% of the screened population of which only 2% will benefit the patient. The patient should also be informed of the risks of air insufflation perforation (1 in 10 000), radiation induced cancer (1 in 4000), intravenous contrast (1 in 40 000) and extravasation (0.2%). There are no studies to support efficacy of PET screening although descriptive studies have been published from Japan and Taiwan.

S3(2)**GENETIC TESTING OF HEREDITARY BREAST CANCER IN SINGAPORE**ASG Lee¹, P Ang²¹ Division of Medical Sciences and ² Department of Medical Oncology, National Cancer Centre, Singapore

Increased susceptibility for breast cancer is usually associated with deleterious mutations of the breast cancer susceptibility genes *BRCA1* and *BRCA2*, particularly when there is ovarian cancer in the family as well. Other susceptibility genes for breast cancer include *TP53*, *CHEK2*, *PTEN*, *ATM* and *LKB1*. In *BRCA* mutation carriers, the lifetime risk for breast cancer could be increased from 5% for the general population to 60–85% or from 2% in the general population to 10–26% for ovarian cancer. Genetic testing should be recommended for subjects at increased risk following risk assessment, pedigree analysis and genetic counselling. Computational tools such as the BRCAPRO program can aid in predicting the risk for *BRCA* mutations by analysing the family history of cancers reported. Genetic testing involves mutation screening of all the coding exons of the *BRCA1* and *BRCA2* genes using techniques such as the polymerase chain reaction (PCR), direct DNA sequencing, protein truncation test (PTT) and multiplex ligation-dependent probe amplification (MLPA). It is important to note that not all women with a family history of breast and/or ovarian cancer will have a *BRCA* mutation and that not all women with such mutations will develop cancer. This lecture will provide an overview of who, why, how and where to have genetic testing for hereditary breast cancer in Singapore. The study of these susceptibility genes has shed light on pathways of carcinogenesis and could lead to improved clinical therapeutics in the future.

S3(3)**ECONOMICS OF CANCER SCREENING: COST-EFFECTIVENESS & IMPLICATIONS FOR HEALTH INSURANCE**

Li Shu Chuen

Department of Pharmacy, National University of Singapore

With increasing incidence of various cancers and related mortality in Singapore over the years, cancer screening as a preventive measure would be an attractive option. This is further supported by overseas reports of significant reduction in cancer related mortality especially in countries where population or mass screening for cervical or breast cancers are being practiced. Nevertheless, the effectiveness of screening for certain types of cancers, let alone their cost-effectiveness, have been clearly resolved for all age groups. In order to optimally utilize healthcare funds and resources, it would be desirable to have a clear concept as to what would constitute cost-effective cancer screening. This is of particular interest from the perspective of health insurance as the return from investment in disease prevention is always controversial and problematic, which is by and large, an issue of cost-effectiveness. However, no cost-effectiveness analysis can be attempted if there is no evidence of effectiveness for the screening program. In assessing the effectiveness (and therefore cost-effectiveness) of any cancer screening, many factors would be contributing. First and foremost would be the purpose of screening, followed by disease factors, program factors and technical factors. From existing evidence, it is unlikely that screening for risk factor for cancer would be a cost-effective option from the perspective of public health or health insurance. For population (or mass) screening and opportunistic screening, a careful consideration of the other factors would be important in deciding on their cost-effectiveness.

Symposia

S4(1)

NEW MODALITIES FOR IMAGING CORONARY ARTERY DISEASE

Tan Ru San

Cardiology, National Heart Centre

Abstract not available at time of printing.

S4(2)

FUNCTIONAL IMAGING OF THE AGEING BRAIN

Michael Chee

Cognitive Neuroscience Laboratory, Singapore Health Services

Abstract not available at time of printing.

S4(3)**SLEEP DISORDERS ASSOCIATED WITH AGEING AND NEURODEGENERATIVE DISEASES**

Lim Li Ling

Neurology, National Neuroscience Institute

Sleep patterns, including sleep requirement and proportion of different stages of sleep, change from infancy through childhood to adulthood. Normal sleep architecture comprises light sleep, deep sleep and REM (or “dream”) sleep. With normal aging, sleep efficiency declines. There is increased light sleep, and decreased deep sleep and REM sleep. Overall sleep quality deteriorates, with more frequent arousals, advancing sleep phase, and increased difficulty coping with sleep phase shifts. Sleep disorders such as sleep apnoea, insomnia, restless legs syndrome may be more common. Comorbid conditions affecting sleep, such as depression and anxiety, and multiple drug therapy affecting sleep, are often seen in the elderly population. Neurodegenerative diseases are also commonly associated with a range of sleep disturbances. REM behaviour disorder, restless legs syndrome, periodic limb movements in sleep, insomnia, excessive daytime sleepiness and sleep attacks can all be seen in Parkinson’s disease. Sleep problems have also been seen in a variety of conditions associated with dementia: Alzheimer’s disease, vascular dementia, dementia with Lewy bodies, Creutzfeldt-Jakob disease, Huntington’s disease and frontotemporal dementia. Sleep is fragmented, with more frequent awakenings. Sleep stages may have less well defined typical features such as sleep spindles, K-complexes and rapid eye movements. Patients with dementia may manifest nocturnal agitation, sleep related breathing disorders and periodic limb movements of sleep. Sleep disturbances typically worsen with progression of the underlying neurodegenerative disease. Pathophysiology and management of sleep disorders associated with aging and neurodegenerative diseases will be discussed.

S4(4)**AGE-RELATED MACULAR DEGENERATION: GENETICS AND THERAPEUTIC OPTIONS**Ranjana Mathur^{1,2}¹ Singapore National Eye Centre, ² Singapore Eye Research Institute

Age-related macular degeneration (AMD) is the major cause of severe and irreversible vision loss in patients older than 60 years in the developed world. The proportion of aging population is on the rise in most developed countries and so has the prevalence of AMD. The methods of AMD evaluation and treatment have changed dramatically over the last decade. Emergence of fluorescein angiography and the development of laser photocoagulation, photodynamic therapy has substantially altered clinical practice. Several promising pharmacological interventions are now being assessed in various clinical trials. Genetics, smoking, cardiovascular disease, dietary history, sunlight exposure, and other possible risk factors are being extensively studied and reported by a number of investigative groups. With rise in the aging population and lack of highly effective treatments, despite plethora of clinical trials being conducted worldwide and emerging novel therapeutic options, management of AMD remains elusive.

S5(1)

PROFESSIONALISM IN EDUCATION

Ng Han Seong

Division of Medicine, SGH

Professionalism requires that one strive for excellence in the following areas which should become part of one's attitudes, behaviours and skills – altruism, accountability, knowledge, excellence, duty, honour, integrity, respect for others and commitment to life long learning. The American Association of Medical Colleges cites qualities eg. knowledge, skills, altruism and dutifulness as professional qualities in Medicine. The American Board of Internal Medicine define professionalism as constituting these attitudes and behaviours that serve to maintain patient's interest above that of physician's self interest. Professionalism is also about setting standards and complying with them. Proper professional behaviours require mentoring and guidances. Medical students and residents can identify seniors who embody these attributes, and learn from them, and identify unique ways of being self-aware. Values are absorbed from role models, and their acquisition (values and behaviours) occurred largely through an informal process, rather than from formal teaching. Realising that there is a gap in the teaching of professionalism in medicine, didactic teaching and formal course work now form part of the medical curriculum. Equally important, we need to have a 'culture of professionalism' in our milieu to provide the correct learning climate to support and to re-enforce the values that medical educators impart. A lack of this culture in our milieu is harmful and makes learning difficult. We must also be able to define and measure the knowledge, skills, attitudes and values that every doctor must demonstrate. Medical educators/faculty must be focused on student's learning, and be engaged in faculty development and continuous improvement. They must be good role models. Behaviours such as – being late, tardiness, use of cellphones, sleeping in class, eating in class by students should not be tolerated. Recent changes in healthcare systems eg. Managed care, block budget, cost containment, resource allocation, reimbursement, etc have changed the healthcare landscape and have created tensions within and erosions of medical professionalism. These have tremendous impact on the attitudes and behaviours of senior doctors and teaching faculty, which in turn affect the professional development of medical students and residents, and is not helpful in promoting altruism and idealism amongst them. The medical profession is traditionally respected in society. While knowledge and technology are crucial, it is also important to be mindful of cost and to practise evidence-based medicine. We must also possess humanistic qualities which are core to medical professionalism. We need a balance to gain and enhance our patient's trust and to preserve the good image of the medical profession.

S5(2)

MENTORING AND PRECEPTORING: ARE WE DOING IT RIGHT?

Lee Ee Lian

Psychiatry, Singapore General Hospital

Abstract not available at time of printing.

S5(3)**CONTINUING PROFESSIONAL DEVELOPMENT**

HO LAI YUN

Associate Dean's Office, Singapore General Hospital

Health care delivery and the practice of medicine are expected to look fundamentally different in the 21st century. Medicine has to be conducted in a changed socio-economic world. The changing health care environment places increasing emphasis on standards, outcomes, and accountability. Change is inevitable and doctors must adapt to meet the changes. They must do so in a positive way and wherever possible take the lead in shaping the health care of the future. To face the challenges, all doctors must redouble their commitment to professionalism. It is a commitment to the highest standards of excellence in the practice of medicine and in the generation and dissemination of knowledge; a commitment to the attitudes and behaviours that sustain the interests and welfare of patients above self-interest; and a commitment to be responsive to the health needs of the society. The values of the future are those of the past; though the setting and context may be quite different. Demonstrating quality is a critical part of our profession's societal obligation. Achieving this sends a respectful message to our patients about how the profession sets standards and upholds public expectations. Continuing Medical Education (CME) is perceived to focus only on updating medical knowledge and to do nothing else for skills, competence and quality of care. Continuing Professional Development (CPD), on the other hand, is the development of competencies relevant to the practice profile of a practitioner that may change over the years, and professional development endeavours are directed at enhancing the quality of specialty care. It is the educative means of updating, developing and enhancing knowledge, skills and attitudes required in the working lives of doctors. CPD involves life-long learning and improvement of all aspects of practice that contributes to professionalism. CPD is therefore the key step in the maintenance of standards of practice including knowledge, skills, attitudes, quality healthcare, as well as the reputation of the profession and accountability to the public. CPD is an essential element in Maintenance of Certification. To be effective, CPD must be able to meet educational and developmental needs in all domains, both clinical and non-clinical, requiring a comprehensive range of events and products. It should be available to all practicing doctors following the completion of training. It should be accessible and timely to meet the needs of the doctors' professional development. It should also be of high educational quality, supported by a robust approval process, and the systematic use of feedback. It should be verifiable using appropriate audits of attendance. Its effectiveness should be demonstrable in terms of the performance and change in performance of doctors. Self-directed CPD is encouraged, as only individual doctors know their own needs. The challenge ahead is not only promulgating the concept of CPD and lifelong learning, but also striving to improve CPD programmes to ensure that they are of standard and serve the purpose of professional development. The ultimate goal is to benefit the public and the profession by enhancing healthcare for society. This is the next lap in continuing professional development and professionalism.

S6(1)**WHAT'S NEW IN THE RESEARCH OF RHEUMATOID ARTHRITIS?**

Fong Kok Yong

Department of Rheumatology and Immunology, Singapore General Hospital

Rheumatoid arthritis (RA) is a chronic, deforming arthritis affecting up to 1% of the world's population. Long-term outcomes of previous treatment regimens are usually dismal. However recent understanding of the pathogenesis of this inflammatory condition had opened up a wide area of research and therapeutics. Pro-inflammatory cytokines like Interleukin-1 (IL-1), Interleukin-6 (IL-6) and Tumor Necrosis Factor-alpha (TNF- α) play important roles in the acute inflammatory process. IL-18 may be involved in the chronic phase of the disease. Research in the use of anti-cytokine therapy as a treatment modality has now established their place in RA management. Currently available agents include adalimumab, anakinra, etanercept, infliximab. However many more clinical trials using humanised anti-cytokine monoclonal antibodies, to reduce loss of efficacy, are in the pipeline. B-cell targeted therapy had also been shown recently to be efficacious in the treatment of those who fail TNF-blocker therapy. Other potential anti-B cell therapy trials include Anti-CD 22 and anti-BlyS. Recent research in animal models had shown the therapeutic potential of activating a subset of immunoregulatory T cells which release IL-10. However a recent first-in-man study using a humanised agonistic anti-CD28 monoclonal antibody (TeGenero CD28-SuperMAB®) resulted in tragic consequences. Apart from research in therapeutics, accurate and early diagnosis of erosions have resulted from the judicious use of ultrasound and magnetic resonance imaging of affected joints. In addition, recent studies have established that the presence of anti-CCP (cyclic citrullinated peptide) antibodies is a sensitive diagnostic and predictive marker for RA. Anti-CCP antibodies have been found to predate the onset of RA by several years. Future research direction may be focussed on preventive measures like the development of vaccines to pre-empt the onset of RA in susceptible individuals.

S6(2)

ADVANCES IN SURGERY FOR ULCERATIVE COLITIS AND CROHN'S DISEASE

BS Ooi

Department of Colorectal Surgery, Singapore General Hospital, Singapore

Approximately 75% of all patients with inflammatory bowel disease (IBD) need surgery at some points in their lives. Patients with IBD requiring surgery are best managed under the joint care of colorectal surgeons and gastroenterologists with interest in IBD. All patients should be counselled regarding the natural history, treatment and surgical options. Surgery should be regarded as part of the continuum of care in patients with IBD. Although surgery may not provide a cure, it can conserve bowel and alleviate the complications of IBD. Surgery for IBD continues to evolve with the advent of new techniques and stapling instruments. Restorative Proctocolectomy (RP) and stapled Ileopouch Anal Anastomosis (IPAA) for ulcerative colitis (UC) is now the preferred technique compared to handsewn anastomosis. Recently, this procedure has been performed using the laparoscopic technique with improved cosmesis and postoperative outcome. In some carefully selected patients undergoing RP and IPAA, omission of diverting ileostomy is a safe procedure that does not lead to an increase in septic complications or mortality. Surgery for Crohn's disease (CD) should be limited to macroscopic disease and bowel economy is vital as patients with CD tend to require multiple surgery in their lifetime. When the small bowel is affected by CD with a stricture, a less invasive surgery as in strictureplasty is preferred to a formal resection where a considerable length of bowel is removed. Following proctocolectomy for UC and CD, creation of a continent ileostomy is one of the surgical options where a previous IPAA has failed or when an ileoanal anastomosis is contraindicated. The traditional continent pouch (Kock or Barnett pouch) with an intussuscepted bowel segment as valve mechanism have an unsatisfactory high complication rate. T-pouch as a continent stool reservoir has been recently adapted as a significant improvement over the Kock pouch.

S6(3)

UVEITIS – PATHOPHYSIOLOGY AND TREATMENT

Lim Wee Kiak

Ocular inflammation and Immunology, Singapore National Eye Centre

Non-infectious, autoimmune uveitis accounts for up to 15% of blindness in USA despite of treatment. To treat this disease, we need first to understand the pathophysiological mechanisms that drive the disease. The experimental autoimmune uveitis mice and rat models have been useful in dissecting the immune mechanisms involved. The animal models have also been instrumental in evaluating new therapeutics including new immunomodulators and more recently, the biologics. We have shown subcutaneous administration of interleukin-1 receptor antagonist can suppress uveitis in EAU and the use of intra-vitreous interleukin-1 receptor antagonist injection in EAU in rats demonstrated similar efficacy.

S6(4)**PHARMACY COUNSELLING IN INFLAMMATORY BOWEL DISEASES – SGH'S EXPERIENCE**

Lim Teong Guan

Department of Pharmacy, Singapore General Hospital

Inflammatory Bowel Disease is a disease that causes so much suffering to patients and yet many patients do not know the nature of the disease, its complications and management. This is especially so for the newly diagnosed patients. Due to their busy schedule, physicians are usually not able to spend sufficient quality time with patients to help them understand the disease nature and management. The SGH IBD centre was set up in July 2005. The Pharmacist run IBD clinic is a component of the SGH IBD centre and serves to complement clinics run by the physicians. The objectives of the clinic are to enable patients to have a better understanding of their disease state, disease management, non-drug therapy, improve compliance as well as to prevent long term complications.

S6(5)**OCCUPATIONAL THERAPY IN INFLAMMATORY JOINT DISORDERS**

Therma Cheung

Occupational Therapy Department, Singapore General Hospital

Introduction:

The roles of Occupational Therapy for patients with inflammatory joint disorders include 1. Patient education on self management strategies (joint protection, energy conservation, appropriate use of physical modalities with exercises/rest) 2. Provision of splints. A research was conducted in 2000 to explore and describe the major concepts of a satisfying, useful and meaningful rehabilitation program as perceived by people with Rheumatoid arthritis (RA) in Singapore. Three major themes emerged from the results of this study. They are personal control, relevance to valued occupational roles and social support. These themes were also found to be appropriate to patients with other inflammatory joint disorders.

Occupational Therapy in Inflammatory disorders – the challenge:

Patient compliance is a major challenge for this patient group. To ensure patient compliance, the themes of personal control, relevance to valued occupational roles and social support will need to be strongly incorporated into the intervention. Application of joint protection, energy conservation principles and exercise regime normally means inconvenience. Patient's personal control and thus compliance can only be ensured through involving the patients in the decision making process. Although there are plenty of resources for patient education (especially in joint protection and energy conservation), many of them are not necessarily relevant to patients' valued roles in Singapore context. Occupational therapists need to adapt resources to match the needs of the patients and real life daily examples need to be provided. Therapists will also need to accept certain compromise in applying these management strategies and not forcefully impose their perceived ideal ways on the patients. As all inflammatory disorders involve lifetime management strategies, patients need to be empowered to become active patients or expert patients. This can be achieved through providing resources on appropriate support groups and associations. While uncertainty of the future compromise patients' sense of personal control, careful education on prognosis, possible cost, health outcomes and future intervention can enhance it thus reducing anxiety.

S6(6)

HEALING CHRONIC WOUNDS

Sivagame Maniya

Nursing Division, Vascular Surgery, Singapore General Hospital

Chronic wounds most commonly include lower extremity, diabetic, pressure ulcers and surgical wounds. They may persist for weeks and months or even a lifetime. In an ageing population like ours, the explosion of chronic wounds may be expected and this can be a costly affair. A group of specialty nurse clinicians in our hospital were consulted for about 590 chronic wounds in the year 2005. The goal of caring for a chronic wound include wound healing with stability; improve the quality of life; return to optimal function with minimal pain and cost effective management. The chronic wound has to be managed more holistically. There is a need to identify the numerous possible factors that could delay healing; addressing each patient's unique needs with the knowledge of both art and science and the integration of an interdisciplinary care team. The new paradigm in chronic wound care management involves the principles of wound bed preparation – treating the cause, applying local wound care and addressing patient's centred concerns. These principles were explored in 17 chronic wounds consulted for wound care management. In the 17 wounds, the concepts of debridement, bacterial balance and moist interactive healing were actively approached. Bacterial burden were assessed through appropriate tissue or quantitative swab cultures. The bacterial burden was managed through topical antibacterial dressings and/or intravenous antibiotic. Patients were administered adequate analgesic to allow them to participate in rehabilitation exercises. Patients with lower extremity ulcers were also given pressure off-loading footwear to enhance wound-healing process. Vacuum Assisted Closure therapy was applied on these wounds for a minimum period of two weeks. Subsequently 5 patients underwent split skin grafting with good uptake. 11 patients were discharged with smaller and healthier wound beds. 1 patient did not show signs of healing. In healable chronic wounds, clinicians must actively use the concepts of wound bed preparation and interdisciplinary team collaboration. Adjunct therapy modalities can be considered as an option in accelerating the wound healing process.

S7(1)

AN UPDATE ON THE PATHOPHYSIOLOGY OF DIABETES MELLITUS

SCF Liew

Division of Endocrinology, Department of Medicine, National University Hospital

Aims: Insulin resistance and insulin deficiency are the main underlying defects of type 2 diabetes mellitus (T2DM). We investigated these two central elements in glucose-tolerant subjects in order to better understand the pathophysiology of T2DM. We were particularly interested in the ethnic differences of insulin action and secretion, as Asians are more susceptible to the development of T2DM and cardiovascular disease (CVD), which is not explained by conventional risk factors.

Methods: Fasting glucose, oral glucose tolerance test, frequently-sampled intravenous glucose tolerance test and euglycaemic clamp were used.

Results: Indians have lower insulin sensitivity with compensatory hyperinsulinaemia compared to Caucasians.

Conclusion: Our finding of healthy glucose-tolerant Indians having relatively higher insulin resistance compared to Caucasians may help explain their predisposition to the development of both T2DM and cardiovascular disease.

S7(2)**PATHOPHYSIOLOGY AND PREVENTION OF MICROVASCULAR COMPLICATIONS OF DIABETES**

Lim Su Chi

General Medicine, Alexandra Hospital

Diabetes is a common metabolic disease. Since the discovery of insulin, the short term survival of individual with diabetes has improved markedly. However, the morbidity and mortality of long term diabetic vascular complications begin to take centre stage. Traditionally, diabetic vascular complications can be broadly classified as macro-angiopathy (i.e. cardiovascular disease) and micro-angiopathy (retinopathy, nephropathy and neuropathy). The pathophysiology of diabetic micro-angiopathy is complex and incompletely understood. It is likely to involve the intricate interactions between genetic, metabolic, hemodynamic and environmental factors. One of the hall marks of diabetes is hyperglycemia. It is believed that hyperglycemia induces vascular injury through four main mechanisms: (1) increased polyol pathway flux; (2) increased advanced glycation end-product (AGE) formation; (3) activation of protein kinase C (PKC) isoforms; and (4) increased hexosamine pathway flux. In addition, the over-driven glycolytic pathway and down-stream mitochondria inner membrane respiratory chain induce the production of reactive oxygen species, which contribute powerfully to vascular injury. In subject with type 2 diabetes, the added burden of adiposity associated insulin resistance further aggravates vascular injury. Recent data suggested that adipose tissue is not simply an inert storage depot for lipids but is also an important endocrine organ that plays a key role in the integration of endocrine, metabolic, and inflammatory signals for the control of energy homeostasis. By secreting a wide array of adipokines, the adipocytes play pivotal role in orchestrating metabolic processes, which include insulin action. The resultant insulin resistance aggravates global dysmetabolism (e.g. dyslipidemia). Recent data also suggested a close cross-talk between adipocytes and monocytes (which has been observed to densely infiltrate adipose tissue) thereby further strengthening the link between altered immune function and augmented inflammation in the presence of adiposity. All these factors corroborate and profoundly upset vascular homeostasis and in the long run causes vasculopathy. Major advances in the prevention of diabetic micro-angiopathy have been made. Optimal glycemic control remains the corner stone. Multiple new anti-hyperglycemic agents have become available. Treatment targeted at the rennin-angiotensin aldosterone system (RAAS) has been found to be particularly efficacious in retarding the progression for diabetic nephropathy. In addition to pan-retinal photo-coagulation, protein Kinase C b Inhibitor shows promise in retarding the progression of diabetic retinopathy. Nevertheless, the best prevention of diabetic micro-angiopathy lies with the prevention of diabetes itself.

S7(3)**EARLY RETINAL VASCULAR CHANGES IN DIABETES: INSIGHTS INTO PATHOPHYSIOLOGY**

Wong Tien Yin

Singapore Eye Research Institute

The retinal blood vessels, accessible by non-invasive visualization, allow one to investigate the structure and pathology of the microcirculation and its relationship to diabetes and its complications. Recent development of retinal photography and computer digital imaging has enabled accurate assessment of early retinal vascular changes, such as arteriolar narrowing, venular dilation and isolated retinopathy signs. These retinal microvascular changes have been shown to be related to elevated blood pressure, inflammation, and endothelial dysfunction, and to independently predict long-term risks of type 2 diabetes in non-diabetic persons, components of the metabolic syndrome (e.g., obesity, dyslipidemia) and macro- and micro-vascular complications of diabetes (e.g., nephropathy, stroke, cardiovascular mortality). These associations suggest that microvascular mechanisms play an important role in the pathogenesis of diabetes. Thus, an assessment of early retinal vascular changes may be useful for understanding the how vascular processes influence the natural history and pathogenesis of diabetes and its complications.

S7(4)

ANIMAL MODELS FOR NEW THERAPIES: METABOLIC DISORDERS

Pierce Chow

Dept of Experimental Surgery

Crucial to the development of the scientific method has been the concept of models – systems meant to be a mimic or a surrogate to allow understanding and investigations. This has been no less true in biomedical science. While there have been many types of models in biomedical research (both living and non-living), the use of animals as models of the human biological system, has irrefutably been responsible for the rapid development of new therapies in human diseases. Vertebrate animals have in particular been extremely important in the investigations of new drugs and medical devices to improve human health, due mainly to the high conservation of DNA between homologous genes and similar physiological characteristics. Examples of animal models in metabolic disorders will be used to illustrate the concept and practical aspects of using animal models to investigate potentially new therapies. In particular, animal models of diabetes mellitus and thyroid disease, especially those developed and applied in Dept of Experimental Surgery will be discussed in detail.

S8(1)

RADIOLABELLED ANTI-CD 20 ANTIBODY FOR THE TREATMENT OF NON-HODGKIN'S LYMPHOMA

S Loong¹, SP Yap¹, CB Goh¹, D Ng³, KM Lee^{1,5}, S Yu³, LC Lim⁴, M Tao², ST Lim²

¹ Departments of Radiation Oncology and ²Medical Oncology, National Cancer Centre, ³ Department of Nuclear Medicine and ⁴Haematology, Singapore General Hospital, ⁵ Department of Radiation Oncology, The Cancer Institute, National University Hospital

The incidence of Non-Hodgkin's Lymphoma (NHL) is on the increase. With the mainstays of treatment, that is, chemotherapy and radiotherapy, patients with intermediate- and high-grade NHL can be cured. Low-grade or indolent NHL is rarely cured; as a group, they are often associated with generalized disease at presentation. The indolent NHLs express the mature surface antigens, viz, CD 19, CD 20 and CD 22. Rituximab is a chimeric monoclonal antibody against CD 20 that has been approved for used in relapsed CD positive low grade NHLs. In this setting, 4 weekly doses produced a response rate of 48% with median time to progression of 13 months. Radio-immunotherapy (RIT) involves the conjugation of a radioisotope to a monoclonal antibody reactive with a cell surface antigen. The aim is to selectively target radiation to tumour sites while sparing normal tissue. This can be achieved if the tumour associated antigen is minimally or not expressed by other tissues, a criteria that is fulfilled by the CD 20 cell surface antigen. As NHLs are radiosensitive tumours, the use of anti-CD 20 RIT can be expected to be an effective treatment for relapsed CD 20 positive NHLs. This strategy has been tested in phase II studies using tositumab (a different monoclonal antibody against CD 20) labeled with iodine-131. With a total-body radiation dose of 75cGy, a response rate of 79% was achieved in patients with relapsed or refractory B-cell NHL. For the responders, the median progression-free survival was 12 months. Since 2002 till the present, a study is underway to determine the efficacy and toxicity of Iodine – 131 conjugated Rituximab in an Asian cohort of patients with relapsed or refractory B cell NHL. Here we present our initial experience and the toxicity data for our first 12 patients.

S8(2)**TARGETED THERAPY: A NEW ERA IN CANCER THERAPEUTICS**

Tan Eng Huat

Department of Medical Oncology, National Cancer Centre

Targeted therapy is defined unofficially as treatment that acts on target(s) that is found predominantly in cancer cells. As such, one can expect that such treatment will have a more favourable therapeutic index. While targeted agents have not replaced the traditional treatment modalities such as cytotoxics, surgery and radiation, they are resulted in a significant improvement in survival outcome in various solid tumour subtypes. Targeted therapy serves a complimentary function in enhancing treatment outcome of cancer patients when used in conjunction with these established treatment modalities. Prime examples of targeted treatment that has found their place in the therapeutic armamentarium and obtained FDA approval include Herceptin, Gleevec, Tarceva, Rituxan, Sutent, Avastin, and Nexavar. We can definitely expect more to be added to this list before this decade ends. While the advent of targeted therapy spells new hope to cancer sufferers, it has added new impetus to the already fast escalating health-care cost. Nevertheless, the next decade will see tremendous progress made in the knowledge of cancer pathways and therapeutics aimed at hindering or stopping them altogether.

S8(3)**FUNCTIONAL ANALYSIS OF p53 CODON 72 POLYMORPHISM: IMPLICATIONS ON CANCER SUSCEPTIBILITY**

Kanaga Sabapathy

National Cancer Centre

The single nucleotide polymorphism at codon 72 of *p53* results in either the arginine (72R) or proline (72P) form of *p53*, whose functional significance in carcinogenesis is controversial. We have thus been investigating the functional relevance of these polymorphic variants, with respect to cancer predisposition and biological activity. We found that the expression of these *p53* polymorphs is selectively regulated at the mRNA level. Healthy heterozygote Chinese were found to preferentially express the 72P allele whereas the heterozygote Polish preferentially express the 72R allele. On the contrary, about 75% of the heterozygote Chinese breast cancer patients preferentially expressed the 72R allele. Moreover, although the 72P allele was expressed in heterozygote healthy normal breast tissues, histologically normal tissues from breast cancer patients showed selective expression of the 72R allele, suggesting that the expression status may influence cancer risk. Investigation of the biological properties of these variants revealed that the 72P form is more efficient than 72R in specifically activating several *p53*-dependent DNA-repair target genes in several cellular systems. Using isogenic cell lines and several DNA-repair assays, we show that 72P cells have a significantly higher DNA-repair capacity than the 72R cells. Furthermore, 72P-expressing cells exhibit reduced micronuclei formation compared to 72R-expressing cells, suggesting that genomic instability is reduced in these cells. Together, the data suggest that expression of the *p53* polymorphs is selectively regulated in different ethnic populations, and may influence cancer risk. Thus, the expression of the polymorphic variants may serve as a marker for predicting cancer susceptibility.

S9(1)

END-STAGE HEART FAILURE: WHAT ARE THE OPTIONS?

Chuang Hsuan Hung

Cardiology, National Heart Centre

Abstract not available at time of printing.

S9(2)

MINIMALLY INVASIVE JOINT REPLACEMENT FOR DEGENERATIVE JOINT DISORDERS

Yeo Seng Jin

Orthopaedic Surgery, SGH

Minimally invasive total knee arthroplasty has evolved because of perceived benefits of improved cosmesis, less blood loss, less postoperative pain and accelerated rehabilitation. However, a different set of problems has arisen using this technique. These are due to the decreased exposure and difficulty visualizing the entire operative field. These include mistaking anatomical landmarks resulting in malaligned prostheses, cutting important structures and leaving loose bodies or retained cement. Thus using computer navigation with minimally invasive arthroplasty (CAS MI TKR) would solve some of the problems with decreased visualization. We have performed a prospective randomized control trial with one hundred consecutive patients being randomized into CAS MI TKR or standard total knee arthroplasty. We used the CI system with PFC cruciate-retaining total knee system. Incision size and blood loss was less for the CAS MI TKR group but operative time was longer by an average of 20 minutes. Pain relief was significantly less after 48 hours in the CAS MI TKR group and this resulted in earlier performance of straight leg raise exercises and earlier discharge from hospital by 1 day. By 1, 3 and 6 months, symptoms and functional performance were similar. Assessment was performed on the postoperative full-length radiographs. Sagittal and coronal alignment of the femoral component was significantly more accurate in the CAS MI TKR group. This was reflected in the improved achievement of normal mechanical alignment of the lower limb in the CAS MI TKR group. Thus computer navigation combined with minimally invasive total knee arthroplasty affords early clinical and radiological improvements over standard total knee arthroplasty.

S9(3)**COMMUNICATING WITH PEOPLE WITH DEMENTIA DISEASE**

Rachel Marie Towle

Alice IAN, SGH

Introduction:

Communication involves a two way process of sending and receiving messages using a mixture of verbal and non-verbal communication skills. It is more than the transmission of information, it also involves the exchange of feelings, emotions and empathy. A positive nurse-patient relationship is essential for the delivery of quality nursing care.

Barriers to communication:

Nurse constraints and patients are two simple examples. Common barriers are nursing time constraint, workload, cultural beliefs, perceptions and knowledge. Patients too can present as barriers to good communication. Sensory changes in aging, make communication a little harder. Another challenge is a decline in cognition, such as in Alzheimer's disease. People with dementia have difficulty with communicating their needs and wants, they may present themselves with behavioral symptoms such as apathy, agitation, aggression and irritability.

How to start a conversation in a positive way:

There are four ways that we could learn to communicate better with our elderly patients, especially those with cognitive impairment. Let the patient know that you are there. Don't surprise them from behind. Approach from the front and let him see you coming. Start a conversation using the patients' family name, rather than his given name. Introduce yourself and explain the purpose of your visit. Give them extra time, repeat once or twice if you have too. Rushing or hurrying them will only make them more frustrated and they'll have more trouble expressing themselves. Talk to the patient at face level. Don't stand above them. Likewise, don't turn your back on them. If he has a slight hearing problem, he may rely on lip reading to understand what you are saying to him.

How to be more clear in what we want to communicate:

When you need to communicate a message, use short sentences. Repeat once or twice or try to rephrase it using a different word if they don't understand you. Avoid open ended questions. People with dementia may not have any idea what their choices or options are and they can get frustrated or angry or even embarrassed if they are unable to answer. Limit your choices or preferably ask yes / no questions. How to better communicate our emotions:

Communication depends on how we say something, rather than what we say. People with dementia listen to our tone of voice and can understand how we are feeling, but not the words that we are saying. They can pick up a lot about what we are feeling and our attitudes. What we say with our body language and tone of voice can really make a difference about how someone responds to us.

Paying attention:

The most important thing is just paying attention; listen to their words, their feelings and their body language. With dementia, they may know what to say, but just can't find the words to say it.

Conclusion:

Communication is the basis of all of our relationship. It provides us with the ability to interact with each other.

S9(4)**UROLOGICAL PROBLEMS IN THE ELDERLY**

LG Ng

Department of Urology, Singapore General Hospital, Singapore

Patient in the elderly age group have higher than their fair share of urological problems. Broadly speaking, besides having a higher risk of malignancies in the urological organs eg prostate and bladder, the benign conditions can be separated conveniently into the male and female problems. Among the urological problems of the elderly males, lower urinary tract symptoms (LUTS) occupy the highest incidence. This is mainly although not entirely due to benign prostatic enlargement. Assessment of LUTS, diagnostic tools such as staging and grading of BPH as well as specific assessment of nocturia, will be discussed. Secondly the issue of erectile dysfunction and 'andropause' will also be addressed. With regards to the female elderly, the biggest problem lies in urinary incontinence. In this section, assessment of the various types of incontinence, urodynamic studies and treatment regimes will be deliberated. Problems with urinary retention and bladder outlet obstruction in the female patient will also be discussed. Last but not least the issue of urinary tract infection in the elderly and the issues surrounding asymptomatic bacteruria etc will also be discussed.

S9(5)

WHERE'S HELP?

Molly Koh

Medical Social Services Department, Singapore General Hospital

This session provides an overview of the existing community services available in Singapore at this point in time. Many people seek medical attention at the hospital and it is at the hospital where many of their concerns are surfaced. With age catching up and as a result health on the decline, many people go to develop problems in many other areas, such as financial, care and psychosocial issues. At the Medical Social Services Department, we receive many referrals from other healthcare professionals. MSWs extend the necessary assistance to patients, work together with other community services and institutions to ensure that patients's care is optimised and refer them appropriately to community service providers thereafter for follow-up.

S10(1)

DISTANCE LEARNING IN MEDICAL EDUCATION: DOES DISTANCE REALLY MATTER?

C Franklin Starmer

Duke-NUS Graduate Medical School

One of the advantages of a Graduate Medical School is that students (who I refer to as junior learners) have already mastered certain core concepts and established a foundation for self study. But training a physician is more than simply mastering core concepts. When I visit my doctor, he knows that I am unlike any other patient he has ever seen. I am a product of my genetic makeup as well as family and environmental influences. Consequently, the practice of medicine, particularly chronic medicine requires strong problem solving skills and a realization that each patient is different. Because patients are different, practice is required to recognize what is important and what can be overlooked. In developing a learning strategy within the Singaporean culture, what role does distance play in the concept arena and the practice arena? Duke has been exploring a sort of backward distance learning. Each lecture is recorded as video and made available to students. When offered the option of attending a 1 hour lecture in the classroom or staying at home and watching the lecture, many students opt for the stay-at-home approach. With the video, they can view it at 2x speed, compressing 1 hour of lecture into 30 min. But if there is a concept they do not understand, they can back up, stop, slowly move forward – or whatever is required to adapt the student's speed of learning to the presentation of the material. The practice part of learning requires a mentor or a facilitator. Here, distance plays a major role. In Singapore, we have the opportunity to explore several different modes of learning because of the geographic nature of Singapore. The success of our program will be known only after graduation where self-motivated continued learning is essential and help us identify where distance creates an obstacle and where distance is no obstacle for learning.

S10(2)**E-LEARNING IN HEALTHCARE AND EDUCATION**

Lee Seng Teik

Plastic Surgery, Singapore General Hospital

The vision of e-Learning in SingHealth is to become a center of excellence, to transform what we have today to that of a Cyber-Medical Campus, where knowledge and skills in medical and nursing education can be accessed anytime, anywhere.

In our e-Learning journey, 4 important initiatives have been rolled out.

1. Smart Classroom

The Smart Classroom located at SGH PGMI has state-of-the-art audio/video equipment to capture training sessions and classroom presentations as courseware contents. It also caters for online video-conferencing activities such as conducting interactive online classes simultaneously with local and overseas institutions.

2. Content Development

The different e-Learning modules (HO Orientation and Procedure Modules, BCLS – Adult, Child & Infant Modules) encourage continual upgrading/education for our medical and nursing staff.

3. Learning Management System (LMS)

The LMS helps to manage and deliver the e-Learning coursewares. In addition, it also tracks, monitors and reports on the learners' progress.

4. SHS One-Stop CME Portal

The portal serves as a one-stop repository for busy doctors to search and register for CME events conducted by the various institutions.

Our 3-year e-Learning experience has shown us that there are 3 major drivers in bringing e-Learning to all our SingHealth employees. Firstly, it is easy accessibility through good IT support, secondly it is the quality and variety of the created content and lastly, it is the gradual acceptance and mindset change that e-Learning is the way to the future in education and life-long learning.

S10(3)**RESEARCH IN EDUCATION – HOW IT DIFFERS FROM RESEARCH IN MEDICINE**

David A Kandiah

Griffith University, Australia & Gold Coast Hospital, Queensland Health, Australia

Research in medical education needs studies exploring how the design and conduct of programs affect the clinical outcomes produced by doctors. We need to ask the question “What do we know about the link between what doctors are taught and how they perform?” To make medical education research studies worthwhile, they need to have thorough definitions of the predictor and criterion variables and an adequate sample size to conduct statistical analysis. In an analysis of the most positive reasons why research in medical education had succeeded as measured by publications, the important factors were that the manuscripts were important, timely, relevant, and critical and addressed prevalent problems in medical education. The studies were well-designed with the problems well-stated and the sample size sufficiently large. The data analysis was easily understood and interpretations took into account the limitations of the study. A clear, logical and straightforward manuscript needed to contain a thoughtful, focused and up-to-date review of the literature. The conclusions needed to be practical and have useful implications. (Bordage G. Reasons reviewers reject and accept manuscripts: the strengths and weaknesses in medical education reports. *Academic Medicine*, 2001; 76(9): 889-896.). Health service researchers who are experienced in conducting outcomes research are often the best people to provide advice on the design and implementation of the study. Appreciation that any change in effects of a curricular or educational programme may not be seen for a number of years is important. Unlike research in medicine where the effects of a drug or surgical procedure can be measured within seconds, minutes, hours or days, research in medical education takes years to determine if the intervention has been successful. The outcomes include superior doctors' performances, which however can be confounded by other factors including the quality of intern, resident and registrar training programmes. Research in education needs to be conducted at all levels so that any changes implemented in undergraduate education can be measured considering postgraduate education and training. Racial and cultural diversity are some of the factors that need to be considered when designing, implementing and analysing research in education. Conduct of all research now requires Institutional Review Board assessment, and members of these boards need to be cognisant of the study design, ethical issues and outcome measures which are fundamentally different from research in medicine. Properly conducted research in medical education is important for all the stakeholders including the government, health departments, communities, hospitals, departments, and individual patients. Outcomes research can improve delivery of health care compatible to the expectations, technological advancements and satisfaction of both the health care teams and consumers.

S11(1)

AN ALPHABET SOUP OF RESISTANCE

A Kurup

Infectious Diseases Unit, Department of Internal Medicine, Singapore General Hospital

ESBL (extended- spectrum beta lactamase) producing Enterobacteriaceae and MRSA (methicillin-resistant *staphylococcus aureus*) are examples of acronyms for bacteria, which are 'ingredients' in the 'alphabet soup' of antibiotic resistance. Apart from some Scandinavian countries, and perhaps Western Australia, rates of infections due to these organisms are steadily rising globally including in Singapore which has unfortunately one of the highest rates. Vancomycin-resistant enterococcus (VRE) has now reared its ugly head locally. The impact of infections due to some of these organisms is substantial in terms of cost, need for aggressive infection control measures, mortality, and the potential for prompting litigations. Few new antibiotics in the pipeline means having to use toxic drugs like polymyxin or even no drugs at all to treat infections due to organisms like pan-resistant PA (*pseudomonas aeruginosa*), multi-drug resistant AB (*Acinetobacter baumannii*) or carbapenem-resistant *klebsiella* sp. The sharing of resistant determinants through mobile resistant elements called plasmids has led to the evolution of vancomycin-resistant *staphylococcus aureus* (VRSA). The specter of the latter is real given co-colonisation of patients with both VRE and MRSA. The community is not spared with the emergence of PRSP (penicillin-resistant *streptococcus pneumonia*) and CA-MRSA (community-acquired methicillin-resistant *staphylococcus aureus*). Although the development of antibiotic resistance is multifactorial, it has mainly been propelled by decades of antibiotic pressure and inadequate infection control practices in particular hand hygiene. A robust multi-pronged strategy to control antimicrobial resistance incorporates resistance surveillance, active surveillance cultures, antibiotic stewardship, and vigilant infection control measures. Prevention of infection in the first place, proper use of antibiotic prophylaxis, prompt and judicious treatment of infections, and appropriate removal of long-lines are other important measures.

S11(2)

UPDATE ON DIAGNOSTICS AND TREATMENT OF VIRAL HEPATITIS

Chow Wan Cheng

Gastroenterology, Singapore General Hospital

Abstract not available at time of printing.

S11(3)

ROLE OF VIRUSES IN CARCINOGENESIS

LHC Tan

Department of Pathology, Singapore General Hospital, Singapore

Aims: To provide an overview of how latent viral infections may contribute towards multistep carcinogenesis.

Methods: The concept of multistep carcinogenesis is reviewed, with emphasis on genetic mechanisms, to set the stage for consideration of the various modes by which viruses may contribute toward the overall effect of this process, eg tampering with the host genome and dysregulating genetic control of growth. The literature is reviewed for associations between types of neoplasia and viral agents as well as their carcinogenic mechanisms, with emphasis on *Herpesviridae*, particularly EBV in lymphomagenesis as an illustrative model, tempered by data gleaned from immunosuppressed patients, including those afflicted by AIDS/HIV, as well as in the post-transplantation setting.

Results: In multistep carcinogenesis, viruses may participate in *initiation* of carcinogenic genomic instability (mutagenesis) by integrating into the host genome. More generically, however, they induce *promotion* of carcinogenesis by stimulating cell proliferation through various mechanisms, including molecular mimicry of cellular oncogenes such as growth factors and their receptors, signal transducers, transcription factors and antiapoptosis proteins, or by inhibition of tumour suppressor genes that regulate the cell cycle, such as p53 and Rb. In addition, chronic, latent viral infections may stimulate immune cell proliferation by non-specific antigenic persistence, fertilizing the soil for lymphomagenesis.

Conclusion: The role of any single viral agent in carcinogenesis depends on its immune balance with the host, as the study of EBV and related viruses has clearly demonstrated that the same agent may contribute – to varying degrees – to the genesis of completely different neoplasia in hosts that have correspondingly different degrees of immune impairment. This realisation has an important impact in individualisation of therapy, not just against the neoplasm and its associated viral agent, but also by way of host immune reconstitution.

S11(4)

HOSPITAL-WIDE INFLUENZA IMMUNIZATION PROGRAMME IN A ACUTE TERTIARY HOSPITALYY Wong¹, KY Tan¹, K Rubiyah¹, LC Lee¹, PC Low², ML Ling²¹Infection Control, Singapore General Hospital, Singapore, ²Department of Quality Management, Singapore

Aims: The study aimed to evaluate the effectiveness of hospital-wide immunization programme in reducing the URTI (Upper respiratory tract infection) incidence among employees in a tertiary hospital.

Methods: A retrospective study of employees' flu vaccination and absenteeism for URTI from 2004 to 2005 was carried out. The employees were categorized to five major groups. These included administration, ancillary, medical, nursing and paramedical. An independent samples t-test and test of 2 binomial proportions were used to compare the incidence of vaccination and URTI respectively.

Results: There was a significant increase in vaccination in three groups, i.e., nursing, paramedical and administration groups ($p < 0.05$). The mean incidence of reported URTI among employees was 16.7 per 1000 employees and 20.1 per 1000 employees in 2004 and 2005 respectively ($p = 0.1$). The increase in vaccination rate and reporting of URTI among employees are probably due to the increased awareness in employees the importance of vaccination and early treatment of URTI and flu. This could result from world-wide alert of pandemic flu, hospital-wide educational programme, easy access to flu vaccination and support from administrators.

Conclusion: This study demonstrated the success of a vaccination program in a hospital.

S12(1)

NEW PHARMACOLOGICAL TREATMENTS FOR DIABETES MELLITUS

PHK Eng

Department of Endocrinology, SGH

With worldwide diabetes prevalence exploding dramatically, research and development of new pharmacological treatments for diabetes has likewise increased rapidly over the last few years. For decades, sulphonylureas and metformin were the only treatments for type 2 diabetes while conventional insulin was the only treatment for type 1 diabetes. In the past 15 years, 3 new classes of oral hypoglycaemic agents: alpha glucosidase inhibitors, meglitinides and thiazolidinediones have changed the landscape of treatment for type 2 diabetes. Meanwhile insulin analogues have greatly improved the management of type 1 diabetes. Last year, 2 novel injectable agents, pramlintide and exenatide have been approved for use in type 1 and type 2 diabetes respectively while inhaled insulin has just received regulatory approval this year. Another novel class of oral hypoglycaemic agents, the DPPIV inhibitors is now pending regulatory approval. Inhaled insulin offers the promise of greatly reduced number of injections for patients with type 1 diabetes. The other new agents offer novel mechanisms of actions, the possibility of weight loss, and perhaps a chance of preserving pancreatic beta cell function. The safety, appropriate use and potential benefits of these novel agents will need to be carefully assessed in the coming years. Hopefully these and other new therapies will enhance treatment and retard progression of diabetes in the future.

S12(2)

ENDOSCOPIC AND SURGICAL TREATMENT OF MORBID OBESITY

Wong Wai Keong

Department of General Surgery, Singapore General Hospital

Obesity is becoming one of the greatest healthcare challenges worldwide and Singapore is no exception. It is associated with a wide range of diseases including ischaemic heart disease, hypertension, diabetes, osteoarthritis and many others. Increased mortality is also noted in patients with obesity. The 1998 National Health Survey in Singapore revealed 24.4 % of adults aged between 18 to 65 were overweight and 6.0% were obese. Substantial weight reduction has been shown to improve patients' well being, with majority of patients able to reverse their disease state. Sixty percent of patients with obesity-associated hypertension revert to normal blood pressure without medication and two third of diabetics(type II) no longer need treatment. Quality of life improves in significant number of patients. Conservative and medical treatment often give inconsistent and unstained result. Intra-gastric balloon placement by endoscopic technique also fails to show lasting effect. Surgical treatment (bariatric surgery) remains the only treatment proven to achieve major and durable weight loss. In fact bariatric surgery has been the most rapidly growing surgical procedure in recent years reflecting its effectiveness and safety. This is further encouraged by the use of minimally invasive surgery. Essentially there are two types of surgery, restrictive procedure(laparoscopic adjustable gastric banding) and bypass procedure(Roux-en-Y gastric bypass, biliopancreatic diversion). The effectiveness, side effects and safety of each procedure will be discussed.

S12(3)**HOW CAN WE PREVENT THE LOSS OF THE FOOT TO DIABETES EVERY 30 SECONDS?**

JWK Tong

Podiatry Unit, Singapore General Hospital

The lifetime risk in developing a foot ulcer for a person with diabetes has been reported to be 15%. This is a high figure since we know that foot ulcers are the pre-cursor for most non-traumatic lower limb amputation. Alarmingly, The Straits Times 27 Oct 2005 reported that 1 person in the world has lost a foot to diabetes every 30 seconds. Therefore, it is imperative that healthcare professionals involved in the care of the diabetic foot be well versed with measures that can potentially reduce these drastic figures effectively. Essentially, causative factors for foot ulceration must be identified and these include peripheral neuropathy, excessive plantar loading pressure, and repetitive trauma. Other contributory factors that can inhibit the healing of an ulcer are peripheral vascular disease, wound healing deficits, skin perturbations, poor quality of life, poor vision and obesity. An effective and efficient foot screening should be done to identify if these factors are apparent in any person with diabetes. Thereafter, risk categorization may be helpful to indicate the type and frequency of interventions needed. Amongst many interventions, it has been shown that optimizing glycaemic control, smoking cessation, intensive podiatric care and debridement of calluses are important in reducing foot ulceration. Providing appropriate foot care and footwear education has only shown modest reduction in foot ulceration and amputation. Similarly, the value of prescription footwear is still fairly uncertain. However, evaluation for prophylactic foot surgery may be indicated although no conclusive evidence exhibits a reduction in amputation incidence.

S13(1)**PERCEPTIONS OF QUALITY OF LIFE OF CANCER RETREAT PARTICIPANTS IN SINGAPORE**

DT Huang, G Fan

Department of Community, Occupational and Family Medicine, National University of Singapore

Aims: This study aims to explore how a cancer centre in Singapore utilizes a weekend live-in cancer retreat program to enhance appropriate coping and self-management of the disease, and to widen patients' supportive network of cancer survivors.

Methods: The gathering of information utilized two approaches, quantitative and qualitative. Quantitative data was obtained through the use of pre, post-retreat questionnaires and evaluation of the three small group sessions. While the methods of participatory observation and interview of key informants were used for the qualitative approach.

Results: Findings from this study showed that 1) patients awareness about mortality was heightened while embracing hope; 2) family and social support is vital; 3) having paid or unpaid work is essential and 4) having a religion helps with coping.

Conclusion: In conclusion, this study was able to measure participants inclination for change, revealed what are the essential elements in a cancer retreat program and that retreats have a role as an alternative form of therapy.

S13(2)

ENTERAL NUTRITION: GETTING THE MOST OUT OF IT!

Tan Lee Boo

Dietetics and Nutrition Services, Singapore General Hospital

Studies report that 40% to 80% of cancer patients have malnutrition. Malnutrition in cancer patients is associated with decreased performance status, reduced quality of life, and increased morbidity and mortality. Cancer patients are frequently malnourished because of direct or indirect tumor effects, the effects of surgery, radiation therapy or chemotherapy and psychological factors, which are the contributing factors to reduction of food intake.

Enteral nutrition is defined as provision of nutritional formulas into the gastrointestinal tract orally or by means of feeding tubes. It is indicated when the cancer patient has difficulty swallowing, an unintentional weight loss (usually of 10% or more of their body weight) which is not helped by dietary supplements, has been unable to eat or drink enough for a period of time. The health professionals should work with the cancer patient and family or caregivers to establish nutrition priorities appropriate for the patient's current circumstances. New goals might include striving for adequate caloric intake, preserving functional status (including weight, skeletal muscle mass and activity living) and achieving adequate total nutrient intake. When nutritional goals are not being met, options for nutritional management should be provided. If at all possible, oral feeding should be attempted with either six small, nutrient-dense drinks to augment meals. When oral intake is inadequate regardless of attempts to achieve reasonable intake, then enteral nutrition should be recommended before further deterioration occurs.

The general advice to physicians is that patients fed enterally will benefit the most. The enteral route is the preferred route for the provision of nutrition support in any patient. It offers several advantages over parenteral nutrition because of easy administration and better tolerance. Hypothetically it promotes gut mucosal growth and development, and the maintenance of barrier function of the gastrointestinal tract might remain intact. Enteral nutrition is more physiologic in terms of nutrient use, is associated with fewer metabolic disturbances, and is considerably less expensive than parenteral nutrition. Studies have shown tube feeding and standard care are associated with a lower risk of infection than is parenteral nutrition. Enteral tube feedings should always be considered as specialised nutrition support in head and neck, esophagus cancer when the gastrointestinal tract is functional. Enteral nutrition support for the terminal cancer patient has to be discussed openly and honestly with the patient and the primary team taking care of the patient. Patients who are expected to receive additional therapy or continue to have options should be evaluated for specialized nutrition support and are candidates for nutrition intervention.

S13(3)

ROLE OF PARENTERAL NUTRITION IN CANCER

Janet Chong

Division of Nursing, Singapore General Hospital, Singapore

Total parenteral nutrition (TPN) is often used as an adjunct to cancer therapy. Malnutrition and cachexia is by far the commonest problem of cancer patient. Approximately 60% to 80% of cancer patients suffer from weight loss associated with alterations in oral intake, absorption and nutrient used. Decreased appetite secondary to tumour burden and chemotherapeutics causing nausea, vomiting, mucositis, gastrointestinal toxicities and food aversion increase the difficulty in provision of nutrition. TPN can deliver nutrients efficiently into the blood stream and totally bypass the guts. Hence, it is often a clinician's option for supportive care when enteral route is not permissible or unable to provide sufficient nutrients adequately to meet daily requirements. It aims to minimise weight loss; optimise nitrogen balance to preserve lean body mass; maintain strength and energy and maximise quality of life. Following which, TPN is gradually withdrawn and discontinued when patient is able to consume 50% to 75% of estimated needs. TPN can be life saving and life sustaining for some patient. However, its role remains controversial and is emotionally charged when used on patient with advanced-stage and incurable cancer. Immuno-compromised patients are highly susceptible to line sepsis and metabolic complications; electrolytes imbalance, glucose intolerance, hepatic dysfunction and elevated triglycerides. The decision for TPN support must take into account the view of patients and family concerning the importance of receiving nutrition in-end-of life situation. There are no clear indicators of who will benefit from TPN and every patient should be considered individually. The potential risks and benefits should be vigilantly discussed with patients and caregivers. In this setting, improving quality of life becomes the therapeutic goal that shapes decision about the nature of nutritional intervention.

S13(4)**PATIENT ONCOLOGIC PRACTICE INITIATIVES: THE NCC, AMBULATORY TREATMENT UNIT'S (ATU) EXPERIENCE**

Mag Tan, GP Chua, CF Chiew

ATU, National Cancer Centre, Singapore

Aims: We are living in an exciting era where the demand for best practice and efficient service is very real. Designing new work processes to meet expectations and provide quality care is always a challenge. Three initiatives were initiated at the Ambulatory Treatment Unit (ATU), NCC to meet patients' satisfaction and improve outcomes.

Methods and Results: Firstly, to improve patients' waiting time and maximize manpower and resource utilization, an electronic chemotherapy appointment was implemented. With its implementation, it has significantly reduced waiting time. Nurses also expressed there was an equal distribution of workload, hence enabling them to spend quality time in patient care. Secondly, the group teaching on side effects of chemotherapy and its management to patients and their caregivers was commenced to provide a conducive learning environment and to ensure uniformity of information dissemination. Individual teaching at the commencement of treatment maybe ineffective as patients would have difficulty absorbing information due to the fears of treatment or are sedated. Chemotherapy can have many adverse effects and these may not manifest immediately. Creating a support system after treatment can help patients better managed their symptoms. The 3rd initiative is the Follow-Up Telephone Call Post 1st Chemotherapy Treatment. Besides assisting patients in managing side effects, it also helps to reassure patients that they are not left alone after their first treatment. Very positive feedback were also received from patients with this initiative.

Conclusion: The goals of these initiatives are to improve quality, safety, efficiency and effectiveness of care for patients. Nurses, being the largest group of healthcare providers, are in a critical position and play an important role in improving the care delivery to our patients.

S14(1)**ATRIAL FIBRILLATION: NEW INSIGHTS ON MANAGEMENT OF AN OLD PROBLEM**

LF Hsu

Department of Cardiology, National Heart Centre, Singapore

Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia, affecting up to 1% of the general population. It constitutes up to 30% of all hospital admissions for rhythm problems. Overall, it accounted for 5% of all admissions to the National Heart Centre from 1999–2001, with a mean length of stay of 5 ± 3 days. AF increases the risk of stroke at least sixfold and is associated with a twofold increase in mortality, which remains higher than the normal population even after adjusting for co-morbidities caused predominantly by cerebrovascular events, progressive ventricular dysfunction, and increased coronary mortality. The adverse haemodynamic effects of AF are well described and relate not only to loss of atrial contraction, but also to the accompanying rapidity and irregularity of ventricular contraction. Although AF may be asymptomatic, up to two thirds of patients experience a significant reduction in their quality of life. In addition, the treatment of AF and its associated complications creates a significant and increasing economic burden. The management of AF is complex and many aspects remain controversial, some unresolved. This lecture addresses the current issues dominating the management of AF, focusing on the relations between mechanisms and therapy, the roles of rhythm and rate control, the need for early cardioversion to prevent remodeling, the selection of patients for long-term oral anticoagulation, the roles of novel drugs for long-term anticoagulation, the potential role of adjuvant therapy targeting substrate development, and curative catheter ablation therapy.

S14(2)

PARKINSON'S DISEASE: DEVELOPING THERAPEUTIC STRATEGIES FROM UNDERSTANDING PATHOPHYSIOLOGY

Kah-Leong LIM^{1,2}

¹ Neurodegeneration Research Laboratory, National Neuroscience Institute, Singapore, ² Dept of Biological Sciences, National University of Singapore

Parkinson's disease (PD) is a common and disabling neurodegenerative disease attended by major motoric difficulties that ultimately lead to near total immobility and even death. Originally described as "The Shaking Palsy" in 1817 by the British physician, James Parkinson, it took more than a century later before the central pathological feature of PD was clarified. Following Arvid Carlsson's 1958 discovery of dopamine in the mammalian brain, the pace of PD research accelerated and culminated with the discovery that striatal dopamine deficiency as a result of dopaminergic neurodegeneration in the substantia nigra pars compacta of the midbrain is responsible for the major symptoms of PD. The understanding of this subsequently led to the development of pharmacological treatment strategies as well as surgical modalities for the PD patient. Unfortunately, although these treatment options provide the much-needed symptomatic relief for the patient, they do not impede, halt or reverse disease progression. To circumvent the neurodegenerative process, current endeavors are largely directed at developing neuroprotective and/or neurorestorative therapies for the PD patient. Recent novel insights into the molecular pathophysiology of PD have provided useful directions aimed at neuroprotection. For example, a PD-linked genetic player known as parkin appears to function as an important neuroprotectant in the brain. Accordingly, parkin gene therapy could represent a means to mitigate the progression of PD. Alongside with this development; the advent of stem cell research is also providing a powerful engine to drive experimental cell-based PD therapies. Indeed, the PD field is currently undergoing a second revolution, one that will hopefully, like the first, translate into revolutionary medicine for the PD patient.

S14(3)

ADVANCES IN THE UNDERSTANDING OF PATHOGENESIS AND TREATMENT OF DRY EYES

Roger Beuerman

Singapore Eye Research Institute

Abstract not available at time of printing.

S14(4)**DEGENERATIVE DISORDER OF THE TEMPOROMANDIBULAR JOINT**

AAT Lim

Oral and Maxillofacial Surgery, National Dental Centre

Recent research has provided a better understanding of the molecular basis of degenerative joint disease processes. Based on molecular studies, 3 models of degenerative temporomandibular joint (TMJ) disorder have been proposed: the direct mechanical trauma model, the hypoxia-reperfusion model, and the neurogenic inflammation model. Pathogenesis of TMJ degenerative disease is influenced by the host adaptive remodeling capacity; functional or dysfunctional and mechanical stress.

Epidemiological studies of TM degenerative joint disease reflect the fact that diagnoses are frequently guided by the presence or absence of non-specific signs and symptoms. Management of TMJ degenerative disorder is challenging in current clinical practice, illustrated with clinical cases.

S15(1)**DIRECTIONS IN POSTGRADUATE TRAINING AND EDUCATION**

Chan Yew Weng

SGH Post-Graduate Medical Institute

The scope of postgraduate training and education is expanding as medical roles and practices are evolving and becoming more diverse and specialised. The health care sector, especially restructured hospitals, is also under considerable pressure in trying to balance service commitments and training requirements. These challenges will involve changes in the organization of medical work, medical staffing, recruitment, deployment, training and continuing education in our hospital to better reflect the needs of patients, doctors and the health system in general. Since its establishment in 1994, the Postgraduate Medical Institute (PGMI) in the Singapore General Hospital is committed to work with clinical departments to facilitate high-value continuing medical education programs and skills training workshops for our local medical officers, trainees and specialists; external general practitioners and healthcare industry partners; and overseas clinical and research fellows. We uphold the institute's motto – "*Melius, Medicus, Scientius*" – (The better doctor is the learned one). The SGH-PGMI Office of Medical Pedagogy and the Office of Healthcare Management Development were instituted last year to train our doctors how to teach effectively, and to groom them to be clinician-leaders in hospital administration.

Today, SGH-PGMI aligns her activities in three focus areas, namely:

1. Meeting Learning Needs through Lifelong Learning
2. Opening Doors to Training Opportunities
3. Building Bridges for Knowledge Transfer

The future directions in postgraduate training and education can be many or few. They depend on how 'big hairy audacious dreams' we have for our Education pillar, one of the three mission pillars of our hospital and campus. To turn dreams into reality, we need strong leadership, continuing institutional support and passionate program champions who are committed to transforming our hospital and campus into a learning organization. I welcome all to listen and share in some of my dreams during this presentation.

S15(2)

FLORENCE NIGHTINGALE: EDUCATIONAL STRATEGIES TO BROADEN AND REDEFINE HER ROLE IN MODERN MEDICAL CARE

Tan SB

Nursing Division, Singapore General Hospital, Singapore

Florence Nightingale is the founder of modern nursing. She transformed nursing into a respectable profession and set the standards for clean, safe hospitals in the world. She is honoured as the first great nurse of the world. During her era, nurses learned through experience, not through training. Florence thought nurses should learn through both experience and training. In 1860, Florence opened the first training school for nurses. It was called the Nightingale Training School, and the nurses were called Nightingale Nurses. Florence created high standards for the nursing profession. These standards helped to transform nursing into a respectable profession we know today. With continued technological advances; increased complexity of health services; structural changes in health care delivery and changing health care needs, nurses' education has to be structured to meet the needs. A better-educated nurse, will create a more efficient workforce. An improved environment for nursing practice increases nurses' productivity and retention. The nursing profession has been promoting education for nurses beyond the diploma level. This is to equip nurses to be a skilled provider, designer, manager, and coordinator of care. Nurses must make quick, sometimes life-and-death decisions; understand a patient's treatment, symptoms, and life-threatening signs; supervise other nursing personnel; coordinate care with other health providers; master advanced technology; guide patients through the maze of health resources in a community; and teach patients how to comply with treatment and adopt a healthy lifestyle. In Singapore, nursing has come a long way from the time nurses have to take boat rides to visit patients, to the use of computers as part of nursing care. We have made leaps and bounds in improving our profession.

S15(3)

ALLIED HEALTHCARE EDUCATION: CHALLENGES, DIRECTIONS AND NEW DEVELOPMENTS

Celia Tan

Postgraduate Allied Health Institute, Singapore General Hospital

The last 20 years have seen an unprecedented development in allied healthcare professionals in Singapore. The Allied Health professionals account for a small proportion, 14%, of the total healthcare workforce in Singapore. At last count, there were more than 45 different allied healthcare professionals working in the health care industry. The task of providing continuing and upgrading skill development for each and everyone of these allied health professions is a formidable task, not only in Singapore but all over the world. One of the challenges that has and will continue to shape the training of allied health care professionals, especially those in the rehabilitation arena are the changing population demographics of the Asia pacific region. The ageing populations, changing social structures, the burden of chronic diseases, the increase in motor vehicle and industrial or wartime accidents and emerging epidemiological diseases are all critical factors that needs to be taken into consideration in the training of health care professionals for the future. Advanced technology and skill specialisation will ultimately influence the way allied health professionals function within the medical team, in terms of greater autonomy and responsibility. In addition, training programmes should also accommodate the shift in emphasis from treatment-centred care to patient-centred services where the patients and other health care team members are now more discerning in what works and what does not. The above are some of the issues that will be reviewed in this paper. In particular, this paper will track the challenges and new developments that will shape the way allied health care professionals are trained, how they will function in the medical team and the types of health care services provided by a highly qualified and specialised allied health professional.

S15(4)

OVERSEAS TRAINING OPPORTUNITIES: OPENING DOORS

Edward Buckley

Duke University Medical School

Abstract not available at time of printing.

S15(4)

OVERSEAS TRAINING OPPORTUNITIES: OPENING DOORS

Edward Buckley

Duke University Medical School

Abstract not available at time of printing.