SIR JOSEPH HOTUNG CENTRE FOR MUSCULOSKELETAL DISORDERS

NEWSLETTER – SPRING 2007

CENTRE UPDATE...

The Sir Joseph Hotung Centre has continued to flourish in the past year. This newsletter will give you an update of how the Centre has grown and developed, with increased clinics, further research development and continued teaching – both undergraduate and postgraduate.

All at the Centre were delighted that our Centre Director, John Axford, was made Professor at the beginning of last year and he very successfully gave his Inaugural Lecture on 16th March 2006 entitled 'Rheumatology Innovation: At the Cutting Edge Again'.

Professor John Axford gives his Inaugural Lecture

VISIT THE WEBSITE

Please visit The Hotung Centre Website at www.hotungcentre.sgul.ac.uk

CENTRE STAFF...

Many congratulations to our staff who have been busy producing future Rheumatologists!!!
Welcome to the 'New Arrivals'
Rachel Satchell (Clinical Assistant) – baby boy;
Pam Peterson (Clinical Research Fellow) – baby girl;
Katie Moss (Rheumatology Consultant) – baby boy;
Julie Mann (Physiotherapist) – baby boy.

There have also been a few changes of staff……
Welcome to:
Dr Jonathan Kerr (Senior Lecturer in Inflammation) and his team – Beverley Burke, Lakshmi Deepika Devanur and Robert Petty. Also Owen Fraser has joined the Research Team as Research Assistant working alongside Azita Alavi investigating Glycobiology and Inflammatory Disease.

Also welcome to Dr Virinderjit Sandhu who has joined us from University College, London, as Consultant Rheumatologist, as a replacement for Dr Donnelly's post. Welcome too, to Margaret Sibley who has joined us as a Specialist Research Nurse (more about her role later in the newsletter).

Sadly we have had to say goodbye to Dr Luay Zebouni (Locum Consultant) who was temporarily covering for Dr Donnelly – our thanks and best wishes from all the staff at The Hotung Centre.

Dr Luay Zebouni with Professor John Axford at one of our Departmental parties.

RESEARCH UPDATE...

Neuropsychiatric Lupus

Research in the unit continues. Lupus based research is focusing on MRI scanning in Neuropsychiatric Lupus.

We have been using two new MRI based techniques to assess patients with neurological complications of Lupus. In particular, we wanted to look at patients with normal MRI scans to see if these techniques would show changes in the brain that were not obvious on a the currently used standard MRI scan.

The first of the techniques is known as Magnetic Resonance Spectroscopy (MRS) which allows us to examine biochemical changes in brain tissue by carrying out a scan without the need for sampling brain tissue.

The second is known as Diffusion Tensor Imaging (DTI), another MRI based technique, which measures damage to the white matter tissue of the brain.

We are also planning further research to look at MRI changes in antiphospholipid syndrome and possible other connective tissue diseases.

Myositis Care

…two simple exercise tests may improve Myositis care….

A report by Drs Sangita Agarwal and Partick Kiely was published online at the beginning of this year in *Rheumatology* [Rheumatology (Oxford). 2006 Jan 31]. This report gave details about two simple tests of muscle function in the upper and lower limbs which can be readily used to monitor disease activity in patients with idiopathic inflammatory myositis. The main advantages of the '1-kg arm-lift' test and the '30-second chair-stand' test are that they provide a numerical score – a number you can write in the notes.

The two isontonic tests had excellent test-retest reliability and the additional advantage of measuring both slow twitch type I fibres and fast twitch type II fibres. Both tests are responsive to changes in disease activity, offer physiological and practical advantages over existing tests of muscle function and are suitable for use in clinical practice.

RESEARCH UPDATE...

Exploring the Gene Scene

Jonathan Kerr, Senior Lecturer, and his team are making strides studying the genes of Chronic Fatigue Syndrome (CFS) patients to understand the causative mechanisms, develop a diagnostic test and identify treatments. His pilot study was undertaken to see if there was any evidence that the white blood cells of CFS patients exhibited a specific signature of gene activity, as has been shown for several other diseases. Encouragingly, this pilot study published last year in the Journal of Clinical Pathology, revealed reproducible differences in gene expression in CFS patients.

Following a successful application for a large grant from the CFS Research Foundation, the pilot study was expanded. The principal goals of their current research program is to gain a clear understanding of the genes associated only or mainly with CFS and to identify protein biomarkers in the serum of CFS patients, which can be used to develop a diagnostic test. In addition, based on the genes shown to be associated with CFS, Jonathan Kerr's team will identify and perform clinical trials of new and established pharmaceutical drugs in order to identify one or more treatments for the illness.

To date the genes identified in CFS suggest a complex picture of disease mechanisms. However, certain themes of gene activity are emerging of which "immunity and defense" is the most prominent. This supports previous findings on the role of the immune system in the maintenance of this disease.

Based upon the results of our current gene expression studies, a clinical trial using an experimental immunomodulating drug is planned for 2007 at St George's University of London. We anticipate this will be the first of several trials utilizing the gene expression findings.

In the near future we can expect a diagnostic test for CFS, an understanding of the mechanisms of the disease and treatments that will work for specific subsets of this tragic and all-too-common illness.

The results of our Research are regularly presented at the two prestigious annual meetings of the British Society for Rheumatology (BSR) and the American College of Rheumatology (ACR).

RESEARCH UPDATE...

Glycobiology and Inflammatory Disease

The glycobiology research unit, managed by Azita Alavi (Research Fellow) and Dr Owen Fraser (Research Assistant) under the tutelage of Prof J Axford is continuing with its research into the role of glycans (sugars) in health and disease, with special focus on the impact of glycosylation changes on the mechanism of diseases such as rheumatoid arthritis and Crohn's disease.

Glycobiology (the study of the structure and biological function of sugars attached to various glycosylated molecules) is an emerging important field in medical research which is now being extensively researched both in relation to the production of better and more effective new Biologics (e.g. Pharmacological antibodies used to target various molecules such as cytokines and their receptors) and, importantly from our point of view, in relation to unraveling the structural frameworks and recognition strategies of sugar-based interactions in biolgical systems that relate to both health and disease.

Glycosylation is one of the most complex major post translation modification steps, which occurs within all cells and is used to diversify and modify our, otherwise relatively limited, protein repertoire both in response to normal physiological changes as well as in relation to disease. As such most proteins in our system are glycosylated and exist as a population of different glycoforms. These include almost all of the immunologically important proteins including all five classes of immunoglobulins (antibodies) and their receptors, almost all cytokines and their receptors, various hormones and their receptors, as well as almost all cell surface proteins, where sugars have a critical role in cell-cell and cell-matrix interactions; regulating various cellular functions. The most important of which is the recruitment and infiltration of cells to different sites in both normal physiology and during various stages of disease e.g. during inflammation.

Following a successful application for a research grant from a US based company; Mannatech, our latest venture has been to develop a technique, called Sugar Profiling, to quickly and efficiently identify and characterize disease (contd.)

RESEARCH UPDATE...

Glycobiology and Inflammatory Disease (Contd.)

specific glycosylation changes in glycoproteins derived from serum or urine samples. Having successfully, in previous published studies, demonstrated the application of Sugar Profiling as a Biomarker Test for the diagnosis and differentiation of RA and various other rheumatologic diseases, we are currently exploring the hypothesis that other inflammatory disease (e.g. infection, Chronic Fatigue Syndrome, inflammatory bowel disease) can be detected and diagnosed by serum and / urine Sugar Profiling. The current work is being carried out in collaboration with Dr Edward Tarelli (St George's Biomics Centre) who is an expert in the field of both Proteomics and Glycomics. Other clinical collaborators include Prof P Kumar (consultant physician and gastroenterologist at St George's) and Prof**.** S Krishna (Professor of Molecular Parasitology and Medicine at St George's). Our research has progressed to the point where we have submitted a patent application, and prospective clinical trials are ongoing.

In addition, we are currently carrying out collaborative research with 1) Prof. C Sewell (Lincoln University Centre for Immunoglobulin Therapy) looking into the relationship between IgG sialylation and efficacy of Intravenous immunoglobulin (IVIG), widely used to treat a number of inflammatory diseases, and 2) Prof. Oliver Fitzgerald (University College Dublin) and Prof. Pauline Rudd (Oxford University and the National Institute for Bioprocessing Research and Training in Dublin) to expand our research into Sugar Profiling of rheumatic diseases.

Osteoarthritis, Pain and Depression

Original data produced as a result of an ARC funded trial for the treatment of Osteoarthritis (OA) indicated that depression and pain was a cause of considerable morbidity. A more detailed cross sectional study has now been completed and the data indicates significant mental health morbidity associated with OA. A clinical trial is now at the design stage to test the effects of reducing depression in patients with OA.

RESEARCH UPDATE...

Research Database Development

The Sir Joseph Hotung Centre has implemented WinDIP Enterprise as a research tool. The WinDip Enterprise core product has been implemented with the additional Data Analysis module. Record structures have been defined and data can be captured in the form of images, generated from paper or film. Subsequent discussions between St George's and Gateway Computing have now taken place regarding the expansion of this system to provide a more complete research tool.

The Hotung Database will be a generic programme that will enable everyone to collect patient data, whether it is lupus and Rheumatoid Arthritis (RA) activity scores, pelvic fracture outcome or patient statistics and the data to be collected will include: RA disease assessment + Disease Activity Score (DAS) score; Lupus assessment and British Lupus Integrated Prospective System (BLIPS); immunopathology; orthopaedic data and pelvic images; ultrasound images and reports and Picture Archive and Communication System (PACS) images.

The funding for initiating and developing this database has been provided through donation by Sir Joseph Hotung.

RA lipid audit

Professor Axford's RA patients are being routinely checked for abnormal cholesterol levels following the latest research revealing a possible increased risk of developing Chronic Heart Disease (CHD) amongst this group of patients. All patients are invited to attend regular talks (see under *Patient Education*) given at the Hotung Centre by the dietician Catherine Collins. Results will be analysed at the end of the year. We anticipate that 100% of our patients will have been checked and results will be sent to their GP for follow-up.

Lupus Lipid / CAD Study

We are currently undertaking a study "Coronary artery disease in patients with systemic lupus erythematosus". Patients with systemic lupus erythematosus are sometimes at risk of developing coronary artery disease. Experiments in our laboratories have shown that patients without lupus who have angina have increased numbers of a type of white blood cell. These cells are very low in number in healthy (contd.)

RESEARCH UPDATE...

Lupus Lipid / CAD Study (Contd.)

individuals. Our objective is to find out whether patients with lupus have increased numbers of cells and if so whether the increased numbers correlate with the presence of coronary artery disease.

The study involves taking a blood sample for the white cells and other markers associated with heart disease. Ultrasound scans are performed to assess the function of the heart and to look at the elasticity of the blood vessels.
The study will allow us to evaluate whether the presence of these cells may increase the risk of coronary artery disease.

We have had 17 volunteers and still looking for an additional 30 patients. Preliminary results of the study will be published shortly.

Introducing our new Specialist/Research Nurse

Margaret Sibley is now the Specialist Research Nurse in The Hotung Centre and is contactable on ext. 6812 or by email: Margaret.sibley@stgeorges.nhs.uk

I joined the Hotung Centre in November 2006 and previously worked in the Rheumatology Department at St George's for 10 years, the past 5 years as a Nurse Specialist.

My new post at the Hotung Centre, as a Specialist/Research Nurse is made up of 2 roles. The fist role as Specialist Nurse involves running my own nurse led clinics were I look after the physical, emotional and social needs of patients with arthritis. I see them on a regular basis where I monitor their disease activity, ensuring they are taking their medications as prescribed and educating them about the long term problems that are associated with a chronic disease such as pain management and disability.

My role as the research nurse involves initiating any research that is taking place in the Hotung Centre, recruiting patients and collecting analysing/data. A new project is set to begin soon looking into the effectiveness of a new intravenous drug in patients with Lupus.

Education...

Undergraduate

The Musculoskeletal Clinical attachment now has a permanent teaching administrator, **Lea Stock**. Lea is contactable on ext: 6808 or on email: Lstock@sgul.ac.uk.

So far, 168 students have been through the MSSII attachment and by April 2007 a further 33 students will have been taught giving a total of 201 since September 2006. Also, there have been 8 SSM students with 3 left to see giving a total of 11 SSM students in the period October 2006 up to July 2007.

Last year MSSII welcomed in excess of 150 students over 6 firms, each firm lasting up to 5 weeks, we can probably expect the same amount this year. The first week of firm, is called the introductory week. This year, the first day will be slightly different as we will have all the students on the attachment from St Georges and St Heliers meeting at the Hotung Centre Seminar room, so that they can get to know the consultants, the Teaching administrator and the Clinical Teaching Fellows. The rest of the week consists of all the students attending, Anatomy Revision, Joint Injection workshops and the much talked about Patient Partners, where students get to meet Patients who are coping every day with Rheumatoid Arthritis. The following weeks see the students split into smaller groups and work on weekly rotations consisting of, Trauma Week, Elective Week, Rheumatology week and a week at South West London Elective Orthopaedic Centre (SWELOC). At the end of the Firm, the students have to produce a portfolio, consisting of a number of Clerkings, a Reflective Practice Document, a Rehabilitation Study and have to sign off for examinations, such as hand, hip and knee. Students then attend a Formative written exam and OSCE. Once the Portfolio has been marked and returned to the student, they will then be signed off of the firm.

Education...

Undergraduate

Summer School

A week long summer school was again successfully held at The Hotung Centre. This has now become *THE* most popular University of London course!! Forty 17-18 year old AS & A level students attended this five day course covering the scientific basis of medicine. Students also had the opportunity to see the library, join a ward round and watch an orthopaedic procedure by live link to the theatres. The topics covered were numerous and ranged from rheumatology to pregnancy, forensic medicine and physiotherapy as well as receiving information on applying to St George's, filling in the UCAS form and attending interviews. The feedback from this course was very positive from both students and lecturers and will be held again this year between 9th – 13th July 2007.

Postgraduate

Henry Fuller Lecture

The 15th Henry Fuller Lecture took place on 12th October 2006 and was extremely well attended with only standing room left.

Professor Graham Hughes, Lupus Unit, St Thomas' Hospital was this year's Henry Fuller Lecturer.

Professor Hughes' Lecture was entitled "Antiphospholipid Syndrome: 20 years on". This was followed by a Science Update with talks from Dr Andrew Cope from the Kennedy Institute of Rheumatology and Professor Julian Ma and Azita Alavi from St George's University of London.

PLEASE NOTE IN YOUR DIARIES THE NEXT HENRY FULLER LECTURE - THIS IS A POPULAR MEETING, SO MAKE A NOTE NOW!

Thursday, 20th September 2007

Henry Fuller Lecturer to be
Baroness Estelle Morris of Yardley

Education...

Postgraduate

GP Update

This was a one day educational event for General Practitioners, Occupational Therapists, Physiotherapists and Rheumatology Nurse Specialists. It was held on 24th May 2006 and was a great success with very positive feedback and was the best attended in the past three years. The programme included the popular Meet the Consultant session together with sessions on Innovation in Musculoskeletal Disease Patient Care, Pain Management and the opportunity to practice joint injection and aspiration techniques using joint injection models.

Weekly Rheumatology Meetings Programme

Weekly Postgraduate meetings continue to take place in The Hotung Centre with Clinical Case and Journal Club sessions followed by either an internal or external speaker. These are held most Wednesdays starting with tea and biscuits at 3.45 p.m. At the Hotung Centre, over the past academic year, a total of 25 Clinical Case and 21 Journal Club sessions have been held. We have also had 11 internal speakers either from St George's Healthcare Trust or from St George's University of London. There have been 6 external speakers who have come from Hospitals such as Birmingham Childrens' Hospital, Imperial College of Science, Technology and Medicine, King's, Charing Cross and Ashford Hospital. Please see following programme for the period February – April 2007.

2007 RHEUMATOLOGY MEETINGS
to be held in The Sir Joseph Hotung Centre
unless otherwise indicated
St George's Hospital, Blackshaw Road, London,
SW17 0QT TEL: 020 8266 6807

Mar 14

3.45 – 4.00 p.m.	Tea
4.00 – 4.30 p.m.	Clinical Cases – Dr Claire Crabtree
4.30 – 5.00 p.m.	Journal Club – Dr Pamela Peterson
5.00 – 6.00 p.m.	Talk "Juvenile Myositis – novel insights from a novel model system" Dr Lucy Wedderburn, Honorary Consultant, Centre for Paediatric & Adolescent Rheumatology, Institute of Child Health

Mar 21

3.45 – 4.00 p.m.	Tea
4.00 – 4.30 p.m.	Clinical Cases – Professor John Axford
4.30 – 5.00 p.m.	Journal Club – Dr Azita Alavi-Sadrieh
	[N.B. SpR Training Day at St Peter's Hospital]

Education...

Postgraduate

Mar 28

4.00 – 5.00 p.m.	Histopathology Meeting Dr Jade Chow To be held in: Department of Histopathology

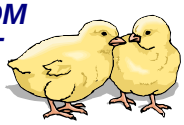
Apr 04

3.45 – 4.00 p.m.	Tea
4.00 – 4.30 p.m.	Clinical Cases – Dr Piero Reynolds
4.30 – 5.00 p.m.	Journal Club – Dr Vinod Ravindram
5.00 – 6.00 p.m.	Talk "Fitness to Practise" Professor Jane Dacre, Academic Centre for Medical Education, Wittington Hospital NHS Trust

Apr 11

No Meeting at The Hotung Centre
Break for Easter

HAPPY EASTER FROM ALL THE STAFF AT THE SIR JOSEPH HOTUNG CENTRE



Future Events

Please put in your diary now.....

8th – 11th May 2007
BSR Annual Meeting to be held in Birmingham

23rd May 2007
GP Rheumatology Update Meeting for the Primary Care Physician and other Healthcare Professionals.
[For further information please contact Caroline Cooper on 020 8266 6802]

9th – 13th July 2007
Summer School
[For further information please contact Caroline Cooper on 020 8266 6802]

18th - 20th Sept 2007
BSR Core Course
[For further information please contact Caroline Cooper on 020 8266 6802]

20th Sept 2007
Current Concepts in Rheumatology – 16th Henry Fuller Lecture
[For further information please contact Caroline Cooper on 020 8266 6802]

21st – 24th 2007
Jenner 8 Meeting to be held in Dublin.

6th – 11th Nov 2007
ACR Annual Meeting to be held in Boston, MA

Patient Education...

Healthy Bones Class - 2007

Patients (especially those who have been diagnosed with Osteoporosis) are being invited to attend an education session from the Physiotherapy and Dietetics Departments.

These are held in The Sir Joseph Hotung Centre at lunchtime on the first Wednesday of each month. Topics discussed during these sessions include risk factors and the role of exercise and diet in bone health.

These sessions are being held in the Seminar Room in The Hotung Centre on the following dates:

ALL SESSIONS HELD BETWEEN 1.30 – 3.00 P.M.

Wednesday	10th	January	2007
Wednesday	7th	February	2007
Wednesday	7th	March	2007
Wednesday	4th	April	2007
Wednesday	2nd	May	2007
Wednesday	6th	June	2007
Wednesday	4th	July	2007
Wednesday	1st	August	2007
Wednesday	5th	September	2007
Wednesday	3rd	October	2007
Wednesday	7th	November	2007
Wednesday	5th	December	2007

Lipid Talks

As already mentioned under the RA Lipid Audit section, patients who have been tested for abnormal cholesterol levels are invited to talks given by the Dietician, Catherine Collins. These talks are aimed at advising patients on reducing their lipid levels through diet.

Talks will be given in the Seminar Room at The Hotung Centre on the following dates:

ALL SESSIONS HELD BETWEEN 1.30 – 2.30 P.M.

Wednesday	28th	March	2007
Wednesday	25th	April	2007
Wednesday	30th	May	2007
Wednesday	27th	June	2007
Wednesday	25th	July	2007
Wednesday	26th	September	2007
Wednesday	31st	October	2007
Wednesday	28th	November	2007

Clinic Update...

Increase in Clinic Usage...

There has been an increase in clinic usage over the past year with a total clinic usage being at 80%. Out of this percentage, 20% of the clinics are research based and 80% are NHS clinics.

The latest clinics to be added to the timetable include a further Orthopaedic Clinic run by Mr Adrian Day (Orthopaedic Clinics are therefore now held on both Mondays and Thursdays on alternate weeks) and an adult soft tissue knee clinic alternating with a paediatric clinic run by Mr Neil Mohan (Orthopaedic Consultant) on a Wednesday afternoon. As well as the Rheumatoid Arthritis clinics held on a Tuesday and some Fridays, more specialised clinics such as Paediatric Rheumatology (alternate Thursdays) and Lupus clinics (1st & 2nd Fridays) are also held. Other specialised clinics include Vasculitis, Special Interest Clinic in Myositis, Nurse-Led Clinics, Osteoporosis, Bone Densitometry, Physiotherapy, Dietetic Podiatry and Ultrasound.

We are looking forward to welcoming Julie Mann back after her maternity leave and the Physiotherapy clinics probably restarting on a Tuesday afternoon at the beginning of April.

A total of 15,429 NHS patients have been seen across the various clinics held at the Hotung Centre since the start of clinics in November 2002 up until June 2006. Over the same time period, 280 private patients have been seen.

Further Research Update...

Rotator Cuff Studies

We are delighted that Dr Jeremy Lewis will be joining the Centre to carry out two studies using the Ultrasound Machine starting April 2007. One study is a randomised single-blinded placebo-controlled clinical trial investigating the role of polyunsaturated fatty acids and anti-oxidants in addition to exercise in the management of rotator cuff tendinopathy and the second is a pilot study, investigating whether angioneogenesis is present in patients diagnosed with rotator cuff disease of the shoulder.