

# Cascade

Issue Number: 3

July 2008

## In this month's issue:

**'Lupus Anticoagulant Detection – our extended repertoire'** – A look into the extensive repertoire of testing our laboratory can perform for the detection of Lupus Anticoagulation. Written by Dr Gary Moore.

**'New direction'** – Introducing our newly appointed director of services for the Centre for Haemostasis and Thrombosis – Dr David Bevan.

**'Training and Development'** – A wrap up of our successful 2 day course "Current Practice in Thrombosis", and a look at further education activities offered by the Centre for Haemostasis and Thrombosis.

**'2008 User Reference Guide'** – For information and quick reference guide to the services provided by the department

Centre and Laboratory Contact Details

Editorial Team Contacts

## Lupus anticoagulant detection – an extended repertoire

Antiphospholipid syndrome (APS) is defined by the persistent presence of antiphospholipid antibodies (APA) in association with arterial or venous thrombosis or pregnancy morbidity. APA such as anticardiolipin antibodies (ACA) and anti- $\beta_2$ GPI antibodies are detected by solid-phase immunoassays and lupus anticoagulants (LA) are detected in coagulation assays.

LA have a stronger association than ACA with the clinical signs and symptoms of APS so accurate detection is of diagnostic and prognostic importance. Whilst a degree of standardisation exists for solid-phase immunoassays the heterogeneity of LA and variability of coagulation assays makes their detection an interesting diagnostic challenge. Consequently, expert guidelines recommend use of at least two assays, of differing analytical design, to maximise detection rates. Some LA react better in one type of test than another and others are detectable by only one type of test.

The most commonly used assays in the UK for LA are dilute Russell's Viper venom time (DRVVT) and activated partial thromboplastin time (APTT), a pairing recognised as having high detection rates if the APTT reagent is LA sensitive. However, variation exists in diagnostic performance between apparently identical reagents from different manufacturers, particularly for APTT. Our Haemostasis Laboratories employ DRVVT & dilute APTT for first-line screening using reagents that are recognised as some of the most sensitive available. All positive screening tests receive confirmatory tests to demonstrate phospholipid dependence and inhibition that maximise diagnostic specificity, and are accompanied with a result interpretation by specially trained scientists.

Most laboratories employ just DRVVT + APTT or similar tests. Recent research, which includes our own, has shown that some LA will not be detected by conventional assays and that second line tests have a role in APS diagnosis. One such test, the activated seven lupus anticoagulant (ASLA) assay, was developed in our Haemostasis Laboratories and has been shown to identify clinically significant antibodies undetectable in standard assays. The ASLA is a novel, new generation assay that works by activating factor X with recombinant activated factor VII in a reaction mixture containing calcium ions and, as with most other assays, dilute phospholipid to accentuate the competitive inhibition of LA antibodies. ASLA can be requested as a separate test when first line screening is negative.

Detecting LA in warfarinised patients is difficult because the oral anticoagulant effect can compromise standard assays. Some snake venoms can overcome the oral anticoagulant effect and pairing Taipan snake venom time (TSVT) with the Ecarin time (ET) was developed in this department.

Taipan venom activates factor II in a phospholipid and calcium dependent manner whereas Ecarin venom, from the Saw-scaled viper, does so independently of calcium and phospholipid. Thus, an elevated TSVT with a normal ET indicates the presence of a LA. These tests are routinely available for warfarinised patients and can also be used to detect LA that do not manifest in standard assays.



If you have any queries about LA testing, please contact Dr Gary Moore, Principal Biomedical Scientist in the Haemostasis Laboratories, on +44 (0) 20 7188 2797

## A new direction

Introducing Dr David Bevan – Head of Department for the Centre for Haemostasis and Thrombosis.

David Bevan started as Director of the Centre for Haemostasis and Thrombosis in April 2008 but is no novice, having been consultant haematologist at St George's Hospital, Tooting, for twenty years. He has been a South Londoner for most of his life, despite beginning it in Wales and training as a doctor in Newcastle-upon-Tyne. His experience in treating people with bleeding and thrombotic disorders was gained at the medium-sized centre at St George's, and the main reason for his moving to work at GSTT was the wonderful opportunity to work with staff and service users at one of the biggest centres in Europe. His main research interests are genotype-phenotype relations in haemophilia and thrombophilia, and coagulation activation in sickle cell disease. His main task will be to sustain and expand the Centre and its services, including research, during rapid changes in the funding and delivery of Haemophilia care in London - and to engender as much intellectual fun as possible while doing so."

In September, Dr. Savita Rangarajan, who was interim Head of Department also takes a new direction.

Savita has been appointed as the Director of the Haemophilia Centre in Basingstoke and will be working from this base for three days a week. The rest of the time she will be at St. Thomas' focussing on the laboratory and research.

This is an exciting time for the Centre and we hope that these changes will further enhance our service and bring added benefits to our users.

Centre for Haemostasis and Thrombosis  
[www.c4ht.com](http://www.c4ht.com)

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## Contact Us

Centre for Haemostasis and Thrombosis  
Guy's and St Thomas' NHS Foundation Trust  
1<sup>st</sup> Floor, North Wing, St Thomas' Hospital  
Westminster Bridge Road  
London SE1 7EH  
ph +44 (0) 20 7188 2781  
fax +44 (0) 20 7401 3125

## Training and Development

The Centre for Haemostasis and Thrombosis held its bi-annual 2 day training course on the 28<sup>th</sup> and 29<sup>th</sup> of April 2008.

The course, entitled "Current Practice in Thrombosis" attracted a varied audience of specialist registrars, biomedical scientists, consultants, nursing and other medical trainees.

The course was presented by leading experts in the field of Thrombosis gathered from both within Guy's and St Thomas' NHS Foundation Trust and throughout the United Kingdom. Case presentations were also highlighted to give a real life experience to the information given to participants.

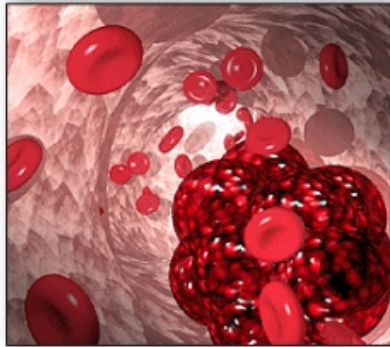
The course location once again proved to be an attraction in itself, with many participants taking advantage of the sweeping 360° views of London from the 29<sup>th</sup> Floor of Tower Wing at Guy's Hospital.

The Centre for haemostasis and Thrombosis will be holding bi-annual 2 day courses which focus on both clinical and laboratory aspects of Haemostasis and Thrombosis. The next 2 day event is scheduled for 3<sup>rd</sup> and 4<sup>th</sup> November 2008, bookings for participant places can be made through the Centre for Haemostasis and Thrombosis by contacting Jackie Smith on +44 (0) 20 7188 2794 or email [Jackie.smith@gstt.nhs.uk](mailto:Jackie.smith@gstt.nhs.uk).

Continuing on the theme of education Dr. Bella Madan is organising a multidisciplinary course for 27<sup>th</sup> November entitled "Working Together to Improve Women's Health: Focus on Bleeding Disorders". This day course is aimed at Consultants, Specialist Registrars, medical and nursing staff from Haematology, Gynaecology and General Practice and will cost £50. If you are interested in attending this course please contact Marcia Milne Tel: +44 (0)2071882789 or email [marcia.milne@gstt.nhs.uk](mailto:marcia.milne@gstt.nhs.uk)

More information and registration packs for both courses will be available shortly on the department website, [www.c4ht.com](http://www.c4ht.com).

Please check our website for more up to date information regarding educational activities provided by the Centre for Haemostasis and Thrombosis.



The Centre are considering holding free lunch time meetings for General Practice to provide short sessions on the latest developments in the area of Haemostasis and Thrombosis and also to re-enforce some of the more basic areas of coagulation. We hope to have the first of these in September if you are interested please contact the editor.

## 2008 User Reference Guide

The Centre for Haemostasis and Thrombosis have produced a User Reference Guide for services provided by the department. Our 2008 User Reference Guide will be distributed to users in the next month, and will replace the 2006/2007 version that is currently used for our department information.

This guide contains:

- Contact Information for both Clinical and Laboratory staff
- Testing Repertoire
- Reference Ranges for current testing Repertoire
- Introduction to the Centre Management Team
- Useful information about the service provided by our:
  - Diagnostic Laboratory
  - Nutristasis Unit
  - Molecular Genetics Laboratory
  - Clinical Trials Service
  - Blood Products Service
  - Centre Clinics
  - Vitamin K EQA Scheme (KEQAS)

For you copy, please contact our editorial team either by phone or email as listed at the conclusion of this newsletter.

## Laboratory contact details

If you have any queries regarding testing in the laboratories of the Centre, or in depth information not covered in this edition, or would like to arrange testing of your patient samples please do not hesitate to contact one of our dedicated team members.

Centre for Haemostasis and Thrombosis  
+44 (0) 20 7188 2781

Diagnostic Haemostasis  
+44 (0) 20 7188 2797

Molecular Genetics  
+44 (0) 20 7188 2798

Nutristasis Unit  
+44 (0) 20 7188 6815

## Editorial contact

If you have any comments about **Cascade** or have any suggestions about relevant areas of interest you would like to see covered please contact the editorial team:

John Roberts (Laboratory Manager) +44 (0) 20 7188 2779  
[john.roberts@gstt.nhs.uk](mailto:john.roberts@gstt.nhs.uk)

Tony Sunner (Quality Manager) +44 (0) 20 7188 2773  
[tony.sunner@gstt.nhs.uk](mailto:tony.sunner@gstt.nhs.uk)

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[www.c4ht.com](http://www.c4ht.com)