

STBRL Newsletter



Spring 2005 Issue 1

HPA Centre for Infections

The Sexually Transmitted Bacteria Reference Laboratory (STBRL) was relocated to Colindale during 2003 and I took over as Director in February 2004. It has been a busy and exciting year during which the staff of STBRL has expanded from two people to our current level of 10. We are all working towards providing a focus for the

laboratory diagnosis of the bacterial sexually transmitted infections, gonorrhoea, chlamydia, syphilis and chancroid.

This is the first newsletter from STBRL, in which information on the services we provide is given and highlights current topics of interest. The newsletter will be

twice yearly but our web page will also be updated regularly (http://www.hpa.org.uk/srmd/div_stbri/index.htm) or you can always contact us by email (stbri@hpa.org.uk) or phone (020 8327 6464).

Catherine Ison

STBRL currently offers reference services for:

Neisseria gonorrhoeae

- Biochemical & immunological identification.
- Molecular confirmation.
- Susceptibility testing
- Molecular typing (medico-legal and outbreak purposes)
- National surveillance of antimicrobial resistance (GRASP)

Chlamydia trachomatis

- Confirmation and genotyping of *Chlamydia trachomatis* LGV serovars
- Molecular confirmation using real time PCR and independent primers

Syphilis

- Serological diagnosis (London & South East Region)
- Molecular detection of *Treponema pallidum* (and *Haemophilus ducreyi*)

Lymphogranuloma venereum (LGV)

Lymphogranuloma venereum (LGV) is endemic in certain areas of Africa, Asia, South America and the Caribbean, but has been rare in Western Europe for many decades. LGV is caused by *C. trachomatis* belonging to serovars, L1, L2 or L3, and presents as painless genital lesions, swollen lymph glands, proctitis and fever. A series of outbreaks of LGV have been reported since 2003 concentrated in sexual networks of men who have sex with men in large cities in Western Europe, and appear to be particularly associated with men who participate in high-risk behaviour.

In October 2004 the HPA issued an alert to improve the awareness and diagnosis of LGV among MSM in England & Wales. STBRL has established molecular confirmation of *C. trachomatis* using a real-time PCR and independent primers and genotyping using amplification of the *omp1* gene, followed by restriction endonuclease digestion and sequencing. We will accept specimens from patients with a previously positive result using NAAT and have identified eight cases to date (12/1/05).

(http://www.hpa.org.uk/infections/topics_az/hiv_and_sti/LGV/lgv.htm)

Update on GRASP

GRASP (Gonococcal Resistance to Antimicrobials Programme) is now in its fifth year. GRASP is a sentinel surveillance study that provides information on resistance levels to antimicrobial agents used for the therapy of gonorrhoea, to inform the choice of first-line therapy. In 2003 GRASP detected an increase in ciprofloxacin resistance in gonococci that initiated a change in the national guidelines for the treatment of gonorrhoea. During the collection period in 2004, June to August, a total of 2,500 isolates were sent to STBRL. The susceptibility testing of isolates from patients attending seven GUM clinics in London was completed before Christmas 2004, and from the 17 GUM clinics out of London was completed by the end of January 2005. The annual report is currently being prepared. (http://www.hpa.org.uk/infections/topics_az/hiv_and_sti/sti-gonorrhoea/epidemiology/grasp.htm)

During GRASP 2004 a collaborative project with Imperial College (funded by the Wellcome Trust) has been undertaken to test the feasibility of molecular typing gonococcal isolates to provide results in a timely manner. This study was performed on isolates from patients attending 13 GUM clinics in London, seven GRASP clinics and six GUM clinics, which together originally formed the London Gonococcal Working Group. Gonococcal isolates have been collected over a six month period, June to November, and tested using the molecular method of NG-MAST which examines variation in two genes, *por* and *tbpB*. A total of 3000 isolates have been collected and are currently being analysed for the presence of clusters, in conjunction with demographic and behavioural data that have been collected. During this time it has been a pleasure to have Deepa Choudhury, Cynthia Bishop and Dan Godoy from Imperial College working with us in STBRL.

Proline aminopeptidase (ProA) negative GC

Neisseria gonorrhoeae that lack the enzyme proline aminopeptidase have been described in recent years. During 2004 there was an apparent increase in the number of ProA negative gonococci referred to STBRL. A study being performed to compare identification methods for use in our reference service highlighted that these strains give an anomalous result with

kits/tests that detect preformed aminopeptidases (with or without carbohydrate utilisation). All Pro A negative GC can be confirmed using an immunological reagent. A prevalence study on GRASP isolates is currently underway but our advice is that any strains that utilise glucose only, should be confirmed using either the Phadebact, GonoGEN II or MicroTrak reagents.

GC Reference service

Reference service is available for isolates that require:

- Confirmation of identification because results were anomalous.
- Confirmation of identification for medico-legal purposes.
- Susceptibility testing for isolates resistant to third generation cephalosporins, ceftriaxone and cefixime, and azithromycin.

Other services are available for :

- Typing of isolates from linked cases.
Please contact the laboratory direct with details.

Please note: Isolates referred with insufficient referral information will be recovered and archived. The referring laboratory will be notified and appropriate details requested.

Charges will be made for medico-legal work and tests not covered by the reference service.

Syphilis serological testing

- STBRL will accept serum and CSF specimens from patients with suspected syphilis infection for confirmation.
- We will require a minimum volume of 500µl.
- All referred samples will be tested by the *T. pallidum* Particle Agglutination (TPPA) test (Qualitatively), total antibody Enzyme Immunoassay (EIA) and IgM EIA.
- Secondary tests will be performed on any samples for which equivocal results are obtained or those found to be IgM positive and/or clinically indicated.
- Secondary tests which will be provided by STBRL are the TPPA (Quantitative), Rapid Plasma Reagin (RPR) (Quantitative) and the Inno-LIA.

Lymphogranuloma venereum (LGV) referral

- In response to a possible outbreak of lymphogranuloma venereum in men who have sex with men:
- STBRL will accept **rectal** specimens from patients with proctitis or urethral swabs from patients with inguinal lymphadenopathy (or LGV contacts) who have a **confirmed positive** result using a nucleic acid amplification test (NAAT).
- If your laboratory only performs EIA, then we will accept fresh dry swab from patients who had a confirmed EIA rectal or urethral specimen on initial testing.
- We would prefer to accept the residual processed NAAT specimen, but will also accept unprocessed specimens (dry swabs).
- None of the commercially available NAATs are licensed for rectal specimens so we will initially confirm the presence of *C. trachomatis* using a real-time PCR with independent primers. We will then confirm the presence of LGV serovars using molecular methods.
- Specimens referred with insufficient referral information will be stored until sufficient information is obtained from the referring laboratory.
- **All tests provided by STBRL are currently undergoing validation.**

STBRL staff are happy to advise you:

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All services provided by STBRL

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Enquiries

In addition to the staff listed the STBRL team includes Caroline Murphy (GRASP), Mariam Perault (GRASP), Hemanti Patel (Syphilis), Daksha Hathi (GC Reference), and Mike Carter (Quality). Tony McNiff (MOLIS) from RSIL, Marlette Vigille (Quality) and Michelle Cole (Molecular detection of *T. pallidum/H.ducreyi*) from ESL and Elizabeth Rudd (GRASP) from the HIV and Sexually Transmitted Infections Department have also worked with STBRL.