LETTERS TO THE EDITOR

Methicillin resistant Staphylococcus aureus (MRSA) balanoposthitis in an insulin dependent diabetic male

EDITOR,—Balanoposthitis is a common condition affecting 11% of the male attendees at GUM clinics.1 It is an inflammation of the glans penis and the prepuce, and its causes include bacterial and yeast infections, parasitic infestations, trauma, and irritants.2 However, to our knowledge, no case has been reported to be caused by MRSA.

A 49 year old insulin dependent diabetic man presented as an inpatient for repair of an upper jaw fracture developed a penile itch with swollen foreskin, which was difficult to retract, together with longitudinal fissures on the prepuce and subpreputial discharge. In his recent past he had had two incidents of unprotected sexual intercourse with two known females. He was clinically diagnosed as having candida balanitis and was commenced on clotrimazole cream, which did not produce a clinical response over the course of a week. The swabs taken before the commencement of clotrimazole cream failed to grow candida; however, MRSA resistant to erythromycin, penicillin, and flucloxacillin were isolated.

Screening tests for chlamydia, gonorrhoea, and trichomonas were negative. A 10 day course of mupirocin 2% ointment completely resolved his symptoms.

Subpreputial swab after treatment was negative.

MRSA has been a well recognised cause of hospital acquired infections worldwide since it was first detected in Europe in the 1960s.3 The organism can survive for long periods in both the hospital and the home environment and can colonise the skin, nose, or throat of healthy individuals.4 It can colonise the skin, nose, or throat of healthy individuals.5 It can colonise the skin, nose, or throat of healthy individuals.6 However, it can give rise to severe infections—such as endocarditis, osteomyelitis,8 and septic arthritis.9 This case illustrates the fact that MRSA is an organism to consider in patients who develop balanoposthitis while in hospital or shortly after discharge especially those whose immune system is incompetent.

There may be implications of spread of MRSA in the community for sexual contacts of patients carrying MRSA in the genital area.

Contributors: Both authors managed the patient and wrote the manuscript.

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Chlamydia trachomatis reinfection rate: a forgotten aspect of female genital chlamydia management

EDITOR,—Hillis et al reported that repeated episodes of infection of female genital tract with Chlamydia trachomatis increase the risk of hospital admission for pelvic inflammatory disease and ectopic pregnancy. The first diagnosed attack of genital infection with chlamydia presents the clinician with a unique opportunity to implement measures to minimise the risk of reinfection—that is, health promotion and contact tracing.

During April–June 1998 we reviewed the case notes of female patients who were diagnosed with genital chlamydia at Leicester Royal Infirmary and Derbyshire Royal Infirmary GUM clinics in the year 1996 for evidence of repeat episode of genital chlamydia. We also noted the following data: age at presentation with the first episode of infection, time for presentation with reinfection, test of cure if performed, co-infection with gonorrhoea, review by health adviser, contact(s) traced and treated, and number of months after diagnosis. For the purpose of the study we defined reinfection as a patient testing positive for genital chlamydia 30 days or more after the completion of treatment. We also looked at the genital chlamydia treatment protocols in both clinics.

A total of 540 female patients were diagnosed with chlamydia (311 at Leicester and 229 at Derby). The patients’ mean age at first episode was 22.6 years for Leicester and 23.4 years for Derby; 9% (24) episodes of repeat infection occurred. The patients diagnosed at Leicester returned to 30 days or more and were retested for chlamydia compared with 87.3% (200) at Derby; 9% (24) episodes of repeat infection were identified in Leicester group compared to 17% (34) episodes in the Derby cohort.

The mean period for presentation with reinfection was 9.4 months (range 3–25) at Leicester and 9.8 months (range 2–24) at Derby. At Leicester the contacts of 66.5% (207) patients were traced and treated compared to 64.6% (148) at Derby. A test of cure was performed on 282 patient in Leicester (where it was routine practice); 2.5% (seven) were found to be positive for chlamydial infection, while the test of cure was performed on 22 patients in Derby (where it was performed selectively) revealed no positive cases.

Of the reinfected patients 58.3% (14) at Leicester were reinfe ted because of failure to trace and treat their partner(s) compared to 35.5% (12) at the Derby clinic.

Both clinics manage genital chlamydia with what was considered standard treatment and perform contact tracing wherever possible. Two reinfected patients from each clinic were also co-infected with gonorrhoea.

Other risk factors for reinfection—for example, ethnic origins, regularity of sexual partners,10 were not analysed as these data was not discernible from the notes.

This retrospective study highlights the fact that a substantial number of patients get reinfected with chlamydia despite health education and counselling by health advisers. Though the figures (66.5% and 64.6%) for partner notification and treatment were close to that proposed by the Central Audit Group (70%), the proportion of patients not treated was still high. Does the message that repeat episodes of genital chlamydia are more damaging get through to our patients or do we need a new health education strategy?

Currently, as the success of management of genital chlamydia is evaluated by the level of contact tracing, the number of patients referred to health advisers, and number of contacts per index patient seen and treated,11 we believe it is time to evaluate outcome measures in terms of reinfection rates. Large prospective studies need to be done to elucidate this aspect of chlamydial infection management.

Contributions: PS had the original idea; EH collected and analysed the data EH and JD wrote the manuscript.

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The Society of Apothecaries Diploma examination in Genitourinary Medicine: death of the viva voce?

EDITOR,—The London Apothecaries Di-ploma in Genitourinary Medicine is likely to become even more important in the near future as all specialist registrars and probably

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A pilot study was conducted to compare the sensitivity of LCR testing for genital chlamydial infection in men, taken from the meatus itself against the standard technique. All male patients attending the GUM clinic over a 3 month period were included in the study if they had symptoms or signs compatible with chlamydia, or if a contact of a known case of chlamydia. A swab was taken from the urethra in the standard fashion. A second swab was taken from the meatus. After the sixth week of the study the order of the first and second swabs was changed, in order to evaluate any bias related to the order of the swabs. Specimens were processed using Abbott Laboratories L.Cx Chlamydia and handled according to the manufacturer’s guidelines.

Twenty five patients were asked to evaluate the swabs and to state which swab caused least discomfort or if there was no difference between them. A total of 208 men were recruited to the study. The overall prevalence of genital chlamydial infection in our population was 25% (52/208). A confirmed diagnosis was made by LCR of the samples performed from the same man were positive for chlamydia, or if one sample was positive together with an equivocal result. There were no false positive tests using these criteria giving 100% specificity.

There was no significant difference in detection rates between the subgroups where the order of swabs was changed.

A swab for the detection of chlamydia is more sensitive than LCR and has a similar sensitivity to the traditional technique of urethral sampling

Some samples, although non-invasive, are less likely to yield a definitive diagnosis compared to urethral/meatal swabs and require extra processing by laboratories. In a high prevalence setting (such as a sexual health clinic), the medical technique provides a specific, highly sensitive, and well tolerated sampling method for the detection of chlamydial infection in men.

Further studies to confirm our findings in symptomatic, and asymptomatic, chlamydial infection are needed before introducing this technique as routine clinical practice.

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1 Ismail A, May C. Oral exams—get them right or don’t bother. BMJ 2000;320:375.

Detection of chlamydia on meatal swabs

EDITOR,—The advent of ligase chain reaction (LCR) and other DNA technologies and their greater sensitivityb has allowed the possibility of taking samples other than from the urethra in men, including urine samples.

Although urine samples have the advantage of being collected non-invasively, the sensitivity of LCR tests on such samples is less than for urethral samples.1 This may be due to the presence of inhibitors in urine.2 The reduced sensitivity on urine samples may be unacceptable, particularly if testing populations with a high prevalence of chlamydia infection. Further processing of urine samples is more laborious.

It is currently recommended that specimens for the detection of genital Chlamydia trachomatis infection by LCR are taken 2–4 cm from the urethral orifice and the swab rotated for 3.5 seconds.3 Many men are unable to tolerate this. It is often painful and may discourage patients from seeking medical attention.

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HIV positive and negative homosexual men have adopted different strategies for reducing the risk of HIV transmission

EDITOR,—To reduce the risk of HIV transmission, some homosexual men have adopted a strategy whereby they only have unprotected anal intercourse (UAI) with a person of the same HIV status (known as "discordant UAI").4 In London, homosexual men in a relationship are more likely to know the HIV status of their UAI partner than men not in a relationship and so establish concordance. However, this was not examined for HIV positive and negative men separately. A survey conducted in January-February 2000 among homosexual/bisexual men attending one of six gyms in central London, as part of an ongoing behavioural surveillance programme,5 has allowed risk reduction strategies to be considered by HIV status.

A total of 792 homosexual men (median age 35 years) completed a confidential questionnaire (estimated response rate 50–60%).3:162 (16.0%) were HIV positive, 477 (60.2%) HIV negative, while 169 (21.5%) had never had an HIV test (data missing for 20 men). Just under half the men (55.2%) said they were currently in a relationship with another man; this did not differ significantly by HIV status (p=0.1).

Our analysis focused on how sexual risk behaviour varied both by HIV as well as by relationship status. For HIV negative and positive men, UAI was classified as either concordant (UAI with a partner of the same HIV status) or non-concordant (UAI with a partner of unknown or discordant HIV status). Men reporting more than one UAI partner were classified as concordant only if all UAI partners were of the same HIV status as themselves. Men also indicated whether they had had UAI with a main partner only, casual partner(s), or both. One third of all men (32.9%, 259) reported UAI in the previous 3 months; HIV positive men 42.1% (53/126), HIV negative 34.2% (43/126) (data missing for two men) (p=0.1). Overall, concordant UAI was reported by 18.7% (89) of HIV negative and 21.4% (27) of HIV positive men (p=0.4). For HIV negative men, concordant UAI was predominantly reported by those in a relationship and rarely by men who were not (28.6% v. 5.0%, p<0.001) (table 1). Concordant UAI was usually with a main partner alone. By way of comparison, HIV positive men were just as likely to report


7 Abbott Diagnostics Division. Package Insert for L-Cx™ Chlamydia

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concordant UAI whether they were in a relation- 
ship or not (22.2% vs. 20.6%, p=0.9), often with a casual rather than main partner. The observation that HIV negative men were more likely to report concordant UAI in the context of a relationship while HIV positive men were just as likely to report concordant UAI whether they were in a relationship or not was confirmed in a multivariate model. With HIV status and relationship as inde- 
pendent variables and concordant UAI as the 
dependent variable, the interaction between HIV status and relationship was highly 
significant (p=0.001).

Seroconcordance among negative men can only be established with confidence if both men test for HIV together. For this reason it is difficult for HIV negative men to establish concordance with a casual partner. On the other hand, HIV positive men can establish concordance with it with a casual or regular partner, simply by mutual disclosure. This requires no confirmatory test. Although sero- 
concordant UAI among positive men carries no risk of HIV transmission to an uninfected 
partner, simply by mutual disclosure. This 
observation that HIV negative men were 
more likely to report concordant UAI with a 
casual partner. HIV prevention programmes 
need to reinforce risk reduction strategies, 
tailed to a person's HIV status, while simultane- 
ously addressing high risk sexual behaviour."

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Table 1

<table>
<thead>
<tr>
<th>Type of partner for UAI</th>
<th>Men in a relationship reporting (n=276)</th>
<th>Men not in a relationship reporting (n=199)</th>
<th>Total men (n=475)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Main only</td>
<td>Casual†</td>
<td>Total</td>
</tr>
<tr>
<td>HIV negative men  (n=477)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concordant UAI</td>
<td>27.1 (75)</td>
<td>15.4 (4)</td>
<td>22.6 (61)</td>
</tr>
<tr>
<td>Non-concordant UAI</td>
<td>8.0 (22)</td>
<td>6.5 (18)</td>
<td>7.8 (30)</td>
</tr>
<tr>
<td>Total</td>
<td>35.1 (97)</td>
<td>14.3 (4)</td>
<td>24.7 (91)</td>
</tr>
<tr>
<td>HIV positive men (n=126)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concordant UAI</td>
<td>2.5 (5)</td>
<td>5.0 (10)</td>
<td>3.7 (9)</td>
</tr>
<tr>
<td>Non-concordant UAI‡</td>
<td>1.5 (3)</td>
<td>0.0 (0)</td>
<td>0.8 (2)</td>
</tr>
<tr>
<td>Total</td>
<td>4.0 (8)</td>
<td>5.0 (10)</td>
<td>3.7 (9)</td>
</tr>
</tbody>
</table>

*Data on UAI or relationship status missing for two HIV negative men.
†Men reporting casual partners only or main and casual partners. Concordant UAI whether they were in a relationship or not was confirmed in a multivariate model.
‡Men reporting a partner of unknown or predominantly with a partner of unknown HIV status.

A mobile phone text message and Trichomonas vaginalis

EISOTHE—Over the past decade vast numbers of the general population have accepted the internet, email, and mobile phones. Among new patients attending our centre 70.3% (90/128) of men and 73.7% (90/123) of women provide mobile telephone numbers for contact. However, the use of mobile phones as a mechanism for contact tracing as far as I am aware has not been reported previ- ously.

A 26 year old Afro-Caribbean man pre- 
tented to our clinic and informed us that his girlfriend had attended a GUM clinic but unfortunately he did not know why. However, he informed us that he had a text message on his mobile. He duly brought up the message, which gave the woman’s clinic number and the KC60 diagnosis of C60A.

On examination there were no abnor- 
malities seen, there were no polymorphs on 
microscopy, swabs for gonorrhoea, chlamy- 
dia, and trichomonas were all clear. He was 
treated with a 5 day course of metronidazole 
as per MSSHV guidelines.

If this patient had turned up without a 
contact slip, epidemiological treatment of tri- 
chomonas is unlikely to have been institut ed and contact tracing would have been impos- 
sible. Thanks to the use of text messaging on this man’s mobile phone, appropriate treat- 
ment was initiated. Certainly patients and 
health advisers appreciate the security offered by mobile phones (no other family members 
can take the calls), the instant access, and it 
avoids additional paper work. The use of text 
message and mobile phones for contact 
tracing may be considered as an adjunct to 
contact slips in GU clinics.

Chaperoning male patients

Editor—It was delightful to see the letter by 
Fisk et al. in the journal.1 My staff and I were 
becoming alarmed at the suggestion that 
male patients should have a chaperone when 
they are being examined by a male doctor. 
Was common sense finally leaving the spe- 
cialty? There are thousands of consultations 
taking place throughout the country, in both 
primary and secondary care, where sexual 
issues are discussed. These often include a 
genital examination, and just because there is 
a problem found with one or two individual 
patients or doctors it doesn’t mean the whole 
national service has to be turned upside 
down. Surely, the last thing an overworked, 
under pressure, genitourinary medicine serv- 
ce needs is to have another section of its 
skilled staff standing idly by in a room, while 
the other a consultation or examination is taking 
place. I have never found any difficulty in 
taking the swabs on my own, and labelling the 
stuff myself, and have never felt the need for 
another person handing me things during a 
male examination. Indeed, I could easily see 
that interfering with the process at times, as 
there are some issues patients feel more com- 
fortable discussing on a one to one basis, and 
they can feel embarrassed and hindered if there is a chaperone present.

An occasional complaint is a small price to 
pay for the 99.9% otherwise effective consults 
tations that occur. It’s lovely to see work like 
this published, as it becomes part of the 
evidence base that says we don’t need this
Lichen sclerosis of the glans is significantly associated with penile carcinoma

EDITOR,—We read with interest the article by Fisk et al.1 We have previously reported a retrospective study on the incidence of cancer on 86 cases of PLS retrieved from our histopathological files over a 10 year period (1987–97). In that study, five cases showed malignant transformation—namely, squamous cell carcinoma (SCC) (three cases), in situ carcinoma (one case), and verrucous carcinoma (one case).

Since that report, we decided to interview all PLS patients in order to rule out any further malignancy that occurred over time. Of 86 patients identified, 60 were evaluated at our clinic. Among these, we found three additional patients treated with partial penectomy for invasive SCC at other institutions. Their medical records were obtained together with paraffin-embedded tissue samples to perform polymerase chain reaction (PCR) for human papillomavirus (HPV) testing. Clinical and laboratory information for these cases, together with previously reported patients, are summarised in table 1.

In this current study, eight (9.3%) out of 86 patients with PLS developed an epithelial malignancy that occurred over time. Of all PLS patients in order to rule out any further malignancy that occurred over time, we found five patients positive for HPV 16 infection, and this may have hastened the progression towards cancer resulting in a shorter lag time. However, routine HPV testing on larger series is necessary in order to draw any definitive conclusion.

Similarly to vulvar lichen sclerosis, which has been observed to undergo malignant degeneration in 3–6% of women, a likely malignant evolution of PLS should be considered. Careful and systematic histopathological evaluation of any ulcerated or indurated plaques developing within PLS is therefore strongly recommended. The association between PLS and cancer may very well be underestimated and there is a need for further investigation that includes long term follow up and routine PCR analysis for HPV infection.

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Table 1  Clinical and histopathological features of eight cases of carcinoma on penile lichen sclerosus

<table>
<thead>
<tr>
<th>Patient No</th>
<th>Age of onset of PLS (years)</th>
<th>Age of onset of Ca (years)</th>
<th>Lag time (years)</th>
<th>Site</th>
<th>Clinical aspect of malignancy on PLS</th>
<th>Histopathology</th>
<th>PCR testing for HPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1*</td>
<td>41</td>
<td>62</td>
<td>21</td>
<td>glans</td>
<td>fungating keratotic nodule with a white-yellowish hue, sharply circumscribed, erythematous, and slightly infiltrated plaque</td>
<td>SCC well differentiated</td>
<td>negative</td>
</tr>
<tr>
<td>2*</td>
<td>36</td>
<td>59</td>
<td>23</td>
<td>glans</td>
<td>fungating keratotic nodule with a white-yellowish hue, sharply circumscribed, erythematous, and slightly infiltrated plaque</td>
<td>SCC well differentiated</td>
<td>negative</td>
</tr>
<tr>
<td>3*</td>
<td>41</td>
<td>55</td>
<td>14</td>
<td>glans, corona sulcus, inner aspect of the foreskin</td>
<td>SCC well differentiated</td>
<td>HPV 16</td>
<td></td>
</tr>
<tr>
<td>4*</td>
<td>41</td>
<td>55</td>
<td>14</td>
<td>glans, corona sulcus, inner aspect of the foreskin</td>
<td>SCC well differentiated</td>
<td>In situ carcinoma</td>
<td></td>
</tr>
<tr>
<td>5*</td>
<td>39</td>
<td>49</td>
<td>10</td>
<td>glans</td>
<td>fungating keratotic nodule with a white-yellowish hue, sharply circumscribed, erythematous, and slightly infiltrated plaque</td>
<td>SCC well differentiated</td>
<td>positive</td>
</tr>
<tr>
<td>6</td>
<td>29</td>
<td>47</td>
<td>18</td>
<td>glans</td>
<td>fungating keratotic nodule with a white-yellowish hue, sharply circumscribed, erythematous, and slightly infiltrated plaque</td>
<td>SCC well differentiated</td>
<td>HPV 16</td>
</tr>
<tr>
<td>7</td>
<td>66</td>
<td>70</td>
<td>15</td>
<td>glans, corona sulcus</td>
<td>SCC well differentiated</td>
<td>HPV 16</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>33</td>
<td>67</td>
<td>34</td>
<td>glans, corona sulcus</td>
<td>SCC well differentiated</td>
<td>HPV 16</td>
<td></td>
</tr>
</tbody>
</table>

*Previously reported cases.1

PLS = penile lichen sclerosis; Ca = carcinoma; PCR = polymerase chain reaction; HPV = human papillomavirus; SCC = squamous cell carcinoma; VC = verrucous carcinoma.
possible false negative result, other sera stored at various times were retrieved and tested. The results, which show seroconversion late in pregnancy, are summarised in table 1.

The HIV antibody test is usually performed at the booking visit with other routine antenatal screens. This allows the parents time to adjust to the diagnosis before delivery, to consider family planning issues and to discuss the sexual transmission of infections, to emphasise that the negative results cannot be extrapolated to the partner, and to advocate safer sex which is commonly abandoned following conception.

Repeat antenatal screening late in pregnancy, as is recommended for syphilis in the United States,4 would identify some primary HIV infections during gestation. However, if maternal infection is not prevented transmission during lactation would remain a risk and there would be significant logistic and cost implications. The extension of testing for HIV (and other infections) to the partners of pregnant women is appealing as both maternal infection is not prevented transmission late in pregnancy, are summarised in table 1.

Table 1 Peripartum HIV test results

<table>
<thead>
<tr>
<th>Time (in weeks of gestation)</th>
<th>1 T = 12 weeks (“Booking blood”)</th>
<th>2 T = 29 weeks</th>
<th>3 T = 13 weeks (“Booking blood”)</th>
<th>4 T = 13 weeks post partum (child presents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital where blood taken</td>
<td>X Blood was stored and retrospectively tested</td>
<td>Y Index antenatal test (serum not available for repeat retrospective testing)</td>
<td>Y Blood was stored and retrospectively tested</td>
<td>St Mary’s Postnatal test. Blood stored</td>
</tr>
<tr>
<td>HIV antibody screening tests</td>
<td>Clear negative (Detect-HIV*)</td>
<td>Weak positive</td>
<td>Clear negative (Abbott Assay HIV 1/2 p0 1996:183)</td>
<td>Strong positive</td>
</tr>
<tr>
<td></td>
<td>OD=0.330, CO=0.144</td>
<td>OD=0.252</td>
<td>OD=0.486, CO=0.839</td>
<td>OD=14.86, CO=1.00</td>
</tr>
<tr>
<td></td>
<td>Wellcome HIV Recombinant†</td>
<td>OD=0.984, CO=0.252</td>
<td>Serodia HIV 1/2: 1/156, HIV 2: &lt;1/32</td>
<td>OD=2.050, CO=0.152</td>
</tr>
<tr>
<td>HIV specific antibody tests (CPhL in-house EIAs)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>HIV western blot†</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>HIV RNA (copies/ml)</td>
<td>Not detected (&lt; Limit of detection)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

*Enzyme immunoassay (EIA) for detection of antibody to HIV-1 and 2. Biochem Immunosystems Inc, Montreal, Quebec, Canada.
†EIA for detection of antibody to HIV-1 (Abbott Murex) Murex Biotech Ltd, Dartford, UK.
‡EIA for EIA for qualitative detection for HIV-1 and 2. Abbott Laboratories, IL, USA.
§EIA for detection of antibodies to HIV-1 and 2 (Abbott Murex) Murex Biotech Ltd, Dartford, UK.
∥Polymerase chain reaction (PCR) for quantitative detection of HIV-1 RNA. Roche Diagnostics, Branchburg, NJ, USA.
¶Signal amplification nucleic acid probe assay for quantitative detection of HIV-1 RNA. Chiron Corp Emeryville, CA, USA.


Accepted for publication 3 April 2001

Economic advantages of ligase chain reaction for diagnosis of genital Chlamydia trachomatis infection in GUM clinic attenders

EDITOR,—Genital infection with Chlamydia trachomatis is highly prevalent and recognised as a major threat to public health. There is now a wealth of evidence to demonstrate the superiority of DNA amplification techniques over antigen detection and culture.4 Only one large study has directly compared ligase chain reaction (LCR) with enzyme immunoassay (EIA) on identical clinical material4 and no studies have analysed the health economic impact of LCR in a genitourinary medicine (GUM) clinic population.

We studied the diagnostic effectiveness and cost of LCR compared with EIA. All GUM attendees undergoing sexual health screening were offered the opportunity to participate. Men presenting with dysuria or urethral discharge were defined as symptomatic. Swabs were collected in a randomised order from the cervix in female patients and 4–5 cm proximal to the urethral meatus in male patients. Urethral specimens in male patients were evaluated for evidence of urethritis (defined by ≥4 polymorphs per high powered field).

EIA was performed using a standard immunoassay technique (Organon Chlamydia-Tek),5 with confirmation of reactive tests by microdot DIF.6 LCR (LCX system, Abbott Laboratories) was also performed on every specimen.5
testing positive by LCR alone were retested by an alternative PCR assay for DNA sequences coding for the major outer membrane protein (MOMP) of Chlamydia trachomatis. A total of 148 male and 153 female patients were tested; 23/148 (16%) swabs from male patients and 10/153 (7%) from female patients were positive for Chlamydia trachomatis by LCR (see fig 1).

The sensitivity, specificity, and positive predictive values, and cost/test of LCR and EIA, respectively, were 100%, 100%, 100%, 58%, 100%, 95%, 95%, 100%, £4.05. Of 33 cases of chlamydial infection, 15 cases (12 (32.2%) in men and two (20.0%) in women) would have remained undetected if EIA had been used alone.

Although EIA tests cost less than LCR, the inferior detection rate for EIA (17 patients need to be screened per case detected) compared with LCR (nine patients screened per case detected) was also included in analysis of the results. The cost per case of chlamydial infection detected using EIA in this population was £65, compared with £50 for LCR.

In a hypothetical cohort of 100 GUM attendees, with an 11% prevalence of chlamydial infection (as in the present study), testing with EIA wouldcost £605 and would detect 6.4 of the 11 cases. Testing the cohort with LCR would cost £564 and detect all 11 cases. The additional cost of LCR is thus £19. The additional benefit is 4.6 additional cases detected. The additional cost of LCR per additional case detected is £34.

The clinic in which the study was conducted sees 6000 new attendees annually. Had EIA been used alone, 276 cases of chlamydial infection would have been missed in a one year period, at an estimated cost of over £82 000. A full economic evaluation would require that these long term health and resource costs be more thoroughly quantified and compared with other uses of NHS resources.

In summary, this study demonstrates that the overall sensitivity of LCR was double that of EIA, the previous standard diagnostic test used. Because of its improved sensitivity and increased case detection rate, the cost of LCR per case detected is equivalent to that of EIA in an urban UK GUM clinic population. Use of LCR as the diagnostic test of choice for both screening and clinical diagnosis in this setting thus represents a cost effective strategy.

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Critical for the management of Chlamydia trachomatis infection, LCR = ligase chain reaction; EIA = enzyme immunoassay.
The Society of Apothecaries Diploma examination in Genitourinary Medicine: death of the viva voce?
Humphrey Birley

Sex Transm Infect 2001 77: 223-224
doi: 10.1136/sti.77.3.223-b

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