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The performance of microscopic cervicitis for the detection of chlamydial infection

The diagnosis of chlamydial cervicitis by microscopy provides an opportunity for early treatment of infected patients and possible reduction in the incidence of pelvic inflammatory disease. Because of utilisation of insensitive methods for diagnosis of *Chlamydia trachomatis*,[1] the conclusion of previous studies on the definition of chlamydial cervicitis has been inconsistent.[2 3]

The aim of this study was to define the most sensitive and specific cut-off for polymorphonuclear cell (PMN) counts associated with chlamydial cervicitis diagnosed by a nucleic acid amplification test.

This was a prospective double blinded study on consecutive women older than 16 years and not menstruating attending the Department of GUM in Edinburgh for screening of sexually transmitted infections (STI) between May and September 2002.

Patients were tested for *Neisseria gonorrhoeae* diagnosed by inoculation of ano-genital materials on modified New York City culture media (MNYC) and for *C trachomatis* detected by testing endocervical material by ligase chain reaction (LCR). Gram stained and saline mount vaginal smears were utilised for the detection of bacterial vaginosis (BV) and *Trichomonas vaginalis* (TV) respectively. The diagnosis of BV was based on the modified Amsel's criteria.

Cervical smears were examined by GB who was blinded to the outcome of the clinical and microbiological tests of patients. The median of PMN counts in five non-adjacent ×1000 microscopy fields in Gram stained endocervical smears was calculated. Slides with more than 100 squamous cells per slide or more than 100 bacteria per ×1000 microscopy fields were deemed contaminated with vaginal flora and were excluded from analysis.

The χ^2 and Mann-Whitney U tests were conducted for categorical and non-parametric data respectively. A smear was positive only if it related to a positive LCR result.

Of the 138 consenting patients with valid cervical smears, 17 (12%) had chlamydial infections. None of the patients had infection with *N gonorrhoeae* or TV. Patients with chlamydial cervicitis had median PMN counts of 27 (interquartile range (4.5–34.5)) compared with that of 7 (1–18.5) among uninfected patients ($p<0.04$).

Table 1 shows the sensitivity and specificity of different PMN cut-offs in cervical smears for the detection of chlamydial infection. Limitation of cervical microscopy to women of 24 years or younger, those with BV, or women on oral contraceptive pill was not associated with better sensitivity or specificity of cervical smears (data not shown).

In our study, the prevalence of chlamydial infection among studied women was similar to that of reported elsewhere in United Kingdom.[4] The sensitivity of cut-off of ⩾5 PMN cells ×1000 microscopy field was higher than that reported by studies using enzyme immunoassay for diagnosis of *C trachomatis*. This could be due to the superior performance of LCR in diagnosis of chlamydial infection.[5] Increasing the cut-off of chlamydial cervicitis improved the specificity at the expense of reduction in the sensitivity.

Although some studies have suggested an association between chlamydial cervicitis and presence of BV,[6 7] our study did not show such a relation.

In conclusion, chlamydial cervicitis may be used for early treatment of patients who may not follow up their results in the settings with high prevalence of infection. In this respect a cut-off of ⩾5 PMN appears to have a reasonable sensitivity.

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Table 1 The sensitivity and specificity of different PMN cut-offs in cervical smears for detection of chlamydial infection (total 138, prevalence of chlamydia 12.31%)

PMN cut-off criteria	No of cervical smears	Positive chlamydia test	Sensitivity (%)	Specificity (%)	PPV† (%)	NPV‡ (%)
⩾5 PMN/hpf*	85	13	76	40	15	92
⩾10 PMN/hpf	56	10	59	62	18	91
⩾15 PMN/hpf	48	10	59	69	21	92
⩾20 PMN/hpf	39	9	53	75	23	92
⩾25 PMN/hpf	31	9	53	82	29	92

*High power field: ×1000 microscopy.
†Positive predictive value.
‡Negative predictive value.

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Chlamydia trachomatis heat shock protein 60 (cHSP60) antibodies in women without and with tubal pathology using a new commercially available assay

Besides commercially available serological assays that detect antibodies to major outer membrane protein (MOMP)[1] and lipopolysaccharide (LPS) ''in-house'' chlamydial heat shock protein 60 (cHSP60) assays are extensively used in assessing serological responses to urogenital *Chlamydia trachomatis* infection. Although comparison of the different ''in-house'' assays is difficult owing to a lack of standardisation, there is a consensus among the users of these assays that the anti-cHSP60 responses in women increase with the severity of *C trachomatis* associated disease, leading to the suggestion that the high amino acid sequence homology between

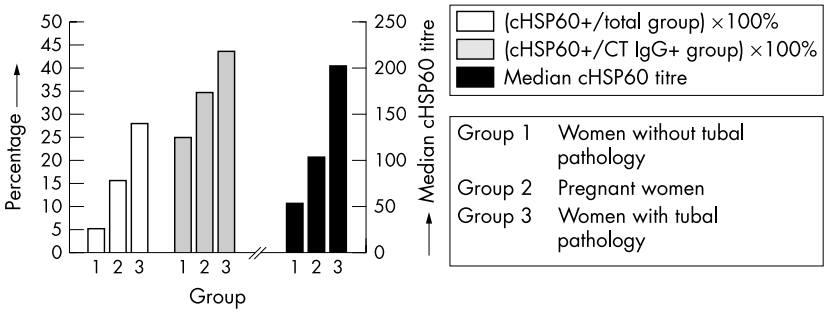

Figure 1 *Chlamydia trachomatis* IgG and cHSP60 antibody responses in Dutch white women with different degrees of tubal pathology.

chlamydial and human HSP60 results in autoimmune mediated fallopian tube damage. Owing to the significance of the possible association of the response to cHSP60 and progressive disease, a commercially produced assay that employs defined cHSP60 epitopes should allow for the comparison of results obtained in different laboratories, as well as forward the use of cHSP60 as a diagnostic tool if the assay proves to be relevant in predicting pathology or clinical outcome of a urogenital chlamydial infection.

This study evaluated a recently introduced commercially available cHSP60 serological assay and determined the anti-cHSP60 responses in three gynaecologically well defined groups of women.

Group 1 consisted of women without tubal pathology as assessed by either hysterosalpingography or laparoscopy (n = 21), group 2 consisted of pregnant women (unknown tubal status, proved fertility; n = 86), and group 3 consisted of women with confirmed (based on hysterosalpingography or laparoscopy) tubal pathology (n = 11). *C trachomatis* positivity was assessed previously using one of the following serological assays: microimmunofluorescence (MIF) (BioMérieux's Hertogenbosch, Netherlands), BAG Chlamydia EIA (Biologische Analysensystem GmbH, Lich, Germany) and the CT-pELISA (Medac, Wedel, Germany). The study groups and techniques were described previously.[2 3] The cHSP60 assay (Medac, Wedel, Germany) was performed according to the manufacturer's instructions.

Results are shown in figure 1. *C trachomatis* IgG positivity was previously determined to be 19% for group 1, 40% for group 2, and 64% for group 3, showing the expected clear difference in IgG seroprevalence between women with and without procedure confirmed tubal pathology, while an intermediate prevalence observed in pregnant women. The same pattern but with lesser incidence was observed in the anti-cHSP60 responses being 4.8%, 16%, and 27%, for groups 1–3, respectively (χ^2 test for trend: $\chi^2 = 3.1$, p = 0.079, group 1 *v* group 3: p = 0.096, OR 10.6). The incidences of anti-cHSP60 were increased in the CT IgG positive subgroups to 25%, 35%, and 43%, for groups 1–3, respectively (see lower panel in fig 1), while only 3.8% anti-cHSP60 titres were observed in the *C trachomatis* IgG negative subgroups, all in subgroup 2 (unknown tubal status, proved fertility). This indicates that the concordance between CT IgG and cHSP60 positivity is high, almost 90%; however, clearly a different subgroup of women is identified by the cHSP60 assay since only 40% of the *C trachomatis* IgG positive women has a cHSP60 response (measurement of agreement: kappa 0.371). Finally, the median cHSP60 titres increased from groups 1–3: 50, 100, and 200, respectively, suggesting an association between the level of cHSP60 response and tubal pathology.

As far as we know this is the first study evaluating the commercially available cHSP60 assay in women with different degrees of tubal pathology. Two abstracts were published in the ISSTDR meeting Vienna, Austria in 2002[4 5] on cHSP60 antibodies in women with pelvic inflammatory disease (85% in patients with *C trachomatis* positive swabs and patients with occluded tubes, 20% in blood donors) and in women with open or occluded fallopian tubes (31% and 70% respectively).

The standardisation provided through this new commercially available assay will potentially enhance the comparability of cHSP60 results between laboratories. The results presented here, although obtained in small but well defined groups, look suggestively promising. Indeed, power calculations (alpha = 0.5, beta = 0.1) show that doubling (1.7 times) the size of the (sub)groups would results in significant p values instead of clear trends. However, further studies are needed in larger groups with different degrees of pathology because of *C trachomatis* infections to further determine the diagnostic, prognostic, and clinical relevance of this new assay.

Contributors

CJB, drafting of the manuscript, involved in the initial collection of the cohort, collection of the clinical data, and laboratory serology analyses for IgG *C trachomatis*, corresponding author; JS, *C trachomatis* heat shock protein 60 serology, data management, critically reading the manuscript; PMO, providing the setting for and supervision of all serology assays performed to determine *C trachomatis* IgG presence, critically reading the manuscript; JBT, supervision of the data collection, critically reading the manuscript; PJD, providing setting and logistics for cohort collection, supervision of the clinical data collection, critically reading the manuscript; ASP, providing the setting for JS to perform the *C trachomatis* work, critically reading the manuscript; SAM, principal investigator for this manuscript and the *Chlamydia trachomatis* research line, drafting of the manuscript, data analyses, and overall supervision.

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The prevalence of excessive alcohol consumption and the acceptability of brief advice in a sexual health clinic: cross sectional survey

Excessive alcohol consumption has been implicated in unsafe sex and the spread of sexually transmitted infections.[1] Cross sectional surveys in sexual health clinics have shown that most patients drink alcohol regularly,[2] but the proportion misusing alcohol has not been reported. Brief interventions for alcohol misuse have been shown to be beneficial across a range of medical settings,[3] but their use in sexual health clinics has not been explored. We therefore examined the acceptability of offering brief advice to people identified as misusing alcohol in a sexual health clinic.

Two doctors (PCL, CB) set out to recruit consecutive attendees at walk-in clinics at the Jefferiss Wing Centre for Sexual Health at St Mary's Hospital in London over a 3 month period. Consenting patients were interviewed using the Paddington Alcohol Test (PAT).[4] Those drinking excessively were offered a self help leaflet, ''Think about Drink,'' and/or an appointment with an alcohol health worker (AHW). Acceptance of brief intervention was noted, and AHW records examined to find

out whether patients attended their appointment.

Three hundred and five people were invited to take part in the study, of whom 302 (99%) agreed. The sample comprised 210 women and 92 men, of whom 284 were heterosexual and 18 bisexual or homosexual. In all, 253 (84%) reported drinking alcohol and 98 (32%) were drinking excessively according to PAT. Men were more likely to be consuming excessive alcohol than women (46% compared to 27%, $\chi^2 = 9.8$, $p = 0.001$). Thirty nine (39.8%) of those consuming excessive alcohol stated that their attendance in the clinic was related to alcohol. The most commonly stated reasons for this were either that being drunk led to sexual contact which would not otherwise have taken place or that alcohol consumption had resulted in sex without use of a condom.

Brief written advice was accepted by 91 (93%) of those drinking excessively. A further 30 (31%) accepted an appointment with an AHW. Those who stated they would accept an appointment with an AHW drank a median of 13.5 units of alcohol per session compared to 10 units among those who declined an appointment ($Z = -2.5$, $p = 0.01$), but no other differences were found. Subsequent examination of hospital records revealed that only one of those given an appointment actually attended it.

Levels of alcohol misuse in this sample are higher than in the general population and in medical settings like accident and emergency departments where there has been far greater discussion of the importance of this problem.[5] Over 90% of those drinking excessively were willing to accept written advice, an intervention that may reduce levels of alcohol misuse.[6] However, less than a third were willing to accept an appointment with an AHW and only one person attended the appointment. The likelihood of someone accepting an appointment with an AHW is increased by ensuring that it is delivered at a time and place of convenience; when offered in this way it is usually accepted.[5]

We believe that providing even brief interventions for alcohol misuse in sexual health clinics would not be straightforward. Further development of interventions that are acceptable to patients is needed and evidence that interventions are effective and impact on sexual health outcomes may be needed if screening and intervention are considered worth the initial investment that would be required.

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Contributors

MJC, PL, and LG designed the study; PL and CB collected the data; MJC and PL analysed the data; all authors contributed to writing the paper and reviewed the final version of the manuscript; MJC is guarantor.

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Resolution of lymphocytic interstitial pneumonitis in an HIV infected adult after treatment with HAART

The optimal therapy for lymphocytic interstitial pneumonitis (LIP) in HIV infected adults is currently unknown. We describe an HIV patient with LIP who improved with protease inhibitor based highly active antiretroviral therapy (HAART) without concurrent corticosteroids.

Case report

A 52 year old heterosexual African-American man, diagnosed with HIV infection 3 years before presentation, was hospitalised for an evaluation of an abnormal chest radiograph obtained during medical screening. His CD4+ lymphocyte count was 198 cells $\times 10^6$/l, and plasma HIV-1 RNA level >290 000 copies/ml. He denied all symptoms, including cough, shortness of breath, chest pain, fever, and weight loss.

On admission, vital signs included temperature 37.1℃, respiratory rate 16 breaths/minute, and room air oxygen saturation 94%. Complete physical examination was unremarkable, including pulmonary examination. Laboratory data included white blood cell count 5800 $\times 10^6$/l. Room air arterial blood gas: pH, 7.42; pCO_2, 38 mm Hg; pO_2, 70 mm Hg; A-a gradient 33 mm Hg. Chest high resolution computed tomography (HRCT) scan revealed diffuse micronodules and right lower lobe consolidation, without pleural effusions or intrathoracic lymphadenopathy (fig 1A). Pulmonary function tests (PFTs) revealed a mild restrictive ventilatory defect and a moderately reduced diffusing capacity (table 1).

Tuberculosis was considered; multiple induced sputum smears and cultures were negative for acid fast bacilli. Fibreoptic bronchoscopy was performed; bronchoalveolar lavage and transbronchial biopsy smears and cultures were negative for bacteria, fungi, and acid fast bacilli. Mature lymphoid infiltration and proliferation were seen and associated with germinal centre formation and focal invasion and destruction of the bronchial epithelium (fig 2). The histological features are characteristic of LIP.[1]

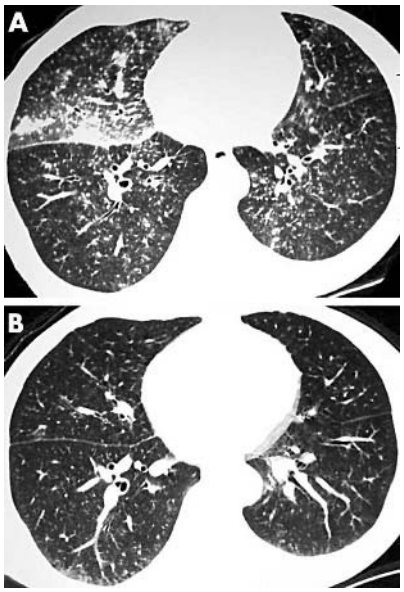

Figure 1 (A) High resolution computed tomography (HRCT) scan of the chest showing diffuse random nodules with mild septal thickening and right lower lobe consolidation. (B) HRCT scan of the chest after 3 months of HAART demonstrating marked improvement in nodules, septal thickening, and consolidation. Note: The images are from comparable but not identical levels of the lung.

Treatment with corticosteroids and/or HAART was considered. Since the patient met criteria for initiating HAART,[2] he was started on tenofovir disoproxil fumarate, lamivudine, and lopinavir plus ritonavir. Because he was asymptomatic, concurrent corticosteroids were withheld. After 1 month, his CD4+ lymphocyte count increased to 392 cells $\times 10^6$/l with a concurrent 100-fold decrease in viral load, now currently undetectable. Repeat PFTs after 2 months on HAART showed significant improvement in all measurements (table 1). Follow up HRCT after 3 months on HAART demonstrated marked improvement (fig 1B). At present, the patient remains on HAART without evidence of pulmonary disease.

Comment

LIP is a common complication of HIV infection in children but is uncommon in adults. Although the clinical, radiographic, and histopathological characteristics of LIP are relatively well described, the aetiology and pathogenesis remain unknown and the optimal treatment is undefined.[3] We report a case of a patient with HIV and LIP who improved with HAART alone.

Viral replication and ongoing reaction against lung specific viral strains have been implicated as factors in the aetiology and pathogenesis of LIP.[4 5] Mice infected with the LP-BM5 retrovirus (an inducer of murine AIDS) developed interstitial pneumonitis which responded to zidovudine. Treatment resulted in a dose dependent reduction of viral RNA in the lungs of infected, treated mice when compared with untreated mice. Lung biopsies from HIV infected patients with LIP demonstrated oligoclonal expansion

Table 1 Pulmonary function tests

	Admission (pre-HAART)		After 2 months HAART	
	Value	% Predicted	Value	% Predicted
FVC (litres)	3.30	76%	3.71	86%
FEV_1 (litres)	2.55	73%	2.85	82%
FEV_1/FVC (%)	77%		77%	
VC (litres)	3.41	79%	3.71	86%
TLC (litres)	4.77	77%	5.23	84%
DLCO (ml/min/mm Hg)	13.5	42%	14.9	46%
pH	7.42		7.44	
pCO_2 (mm Hg)	38		43	
pO_2 (mm Hg)	70		89	
A-a O_2 gradient (mm Hg)	33		7	

FVC, forced vital capacity; FEV_1, forced expiratory volume in 1 second; VC, vital capacity; TLC, total lung capacity; DLCO, diffusing capacity for carbon monoxide.

of infiltrating T lymphocytes which was significantly greater than that seen in HIV negative LIP and pulmonary MALT lymphomas.[5]

In light of the possible inflammatory and infectious pathogenesis underlying HIV related LIP, the use of corticosteroids and antiretroviral therapy appears reasonable. However, there are no randomised trials assessing the optimal therapy for LIP. Some patients have responded to corticosteroid treatment, although the optimal dose and duration of this therapy are unknown. Reports of AZT monotherapy have had mixed results; a case using combination nucleoside therapy was successful.[6–9] This is the first case report of protease based combination therapy. In the case presented, the increase in CD4+ lymphocyte count and the reduction in viral load indicate an improvement in immune status with concurrent resolution of the pulmonary lymphoproliferative disorder. We suggest that this is likely secondary to HAART, although spontaneous resolution cannot be definitively excluded. In HIV infected patients with LIP, especially if clinically stable, HAART alone without concurrent corticosteroid therapy may be an appropriate initial treatment.

Key messages

- Lymphocytic interstitial pneumonitis (LIP) is a common complication of HIV infection in children but is uncommon in adults
- The optimal therapy for LIP in HIV infected adults is currently unknown
- Our patient responded to a protease inhibitor based HAART therapy with significant improvement in his immune status, pulmonary physiology, and radiology
- In HIV infected patients with LIP, especially if clinically stable, HAART alone may be an appropriate initial treatment

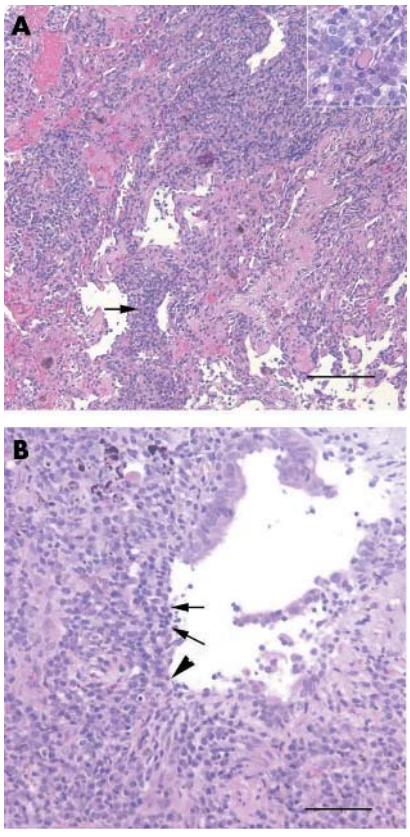

Figure 2 Histopathology showing changes consistent with LIP. (A) Dense lymphocytic infiltrates with widened interstitial septae (arrow). Inset: High magnification of a pink intranuclear inclusion, a so called ''Dutcher body.'' Bar = 100 μm. (B) High magnification of an airway in which the lymphoid infiltrate has focally invaded the airway epithelium (arrows) and focally disrupted the epithelium (arrowhead). Bar = 100 μm.

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AI, collection of clinical information and specimens, preparation of initial letter, critical revision or letter, approval of final submitted letter; SLN, pathological examination of specimens, preparation of histology figures, preparation of section of letter relating to histological findings, critical revision of letter, approval of final submitted letter; LH, collection of clinical information and specimens, preparation of chest high resolution images and figures, preparation of initial letter, critical revision or letter, approval of final submitted letter.

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Oral sex and gum disease

Moderate gingivitis is present in at least 75% of the population. Although the strongest contributor to oral health is oral hygiene, there is a range of susceptibility caused by immune function and differences in plaque microflora. Pregnancy, oral contraceptive use, smoking, and diabetes are all associated with increased susceptibility to gum disease.[1]

Oral sex has been associated with oral sores in some populations,[2] and can cause ulceration in the oral cavity.[3] It may also spread infection from the oral cavity to the genital tract or vice versa, altering oral and genital microflora.[4] The purpose of this study was to examine the association between sexual behaviour and self reported gum disease.

From 1999 to 2001, the Feminine Hygiene Study interviewed 411 African-American women seeking routine gynaecological care at two New York hospitals about their hygiene habits and health behaviours. Sexual practices were assessed, including ''Within the last 3 months, how often have you received oral sex in which your partner's mouth or tongue was touching your vulva/vagina?'' and ''Within the last 3 months, how often have you given oral sex in which you

Table 1 Associations between oral sex and indicators of gum disease in a cohort of 411 African-American women, New York City

			Bleeding gums (often/always)				Bad breath (often/always)				History of gum disease			
			Crude		Adjusted		Crude		Adjusted		Crude		Adjusted	
	No	%	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Sex in past 3 months included														
Giving oral sex:														
>half time or more	54	13	2.8	(0.8 to 9.7)	3.5*	(1.0 to 12.4)	2.9	(0.8 to 11.2)	5.9†	(1.3 to 27.5)	2.9	(0.7 to 11.7)	2.1‡	(0.3 to 13.2)
seldom/never	355	87	1		1		1		1		1		1	
Receiving oral sex:														
>half time or more	105	36	1.8	(0.8 to 4.0)	0.9*	(0.3 to 2.9)	1.4	(0.5 to 3.8)	2.7†	(0.6 to 12.7)	1.4	(0.5 to 3.5)	0.8‡	(0.2 to 4.3)
seldom/never	304	74	1		1		1		1		1		1	
Giving oral sex:														
>one time a week	44	11	2.8	(1.0 to 7.5)	3.3§	(0.9 to 11.9)	1.2	(0.3 to 5.8)	0.9¶	(0.2 to 6.8)	1.5	(0.4 to 5.4)	2.3**	(0.4 to 13.5)
one time a week	68	17	1.1	(0.3 to 3.3)	1.2	(0.4 to 4.0)	1.6	(0.5 to 5.1)	0.9	(0.1 to 4.7)	1.3	(0.4 to 4.0)	1.5	(0.3 to 6.9)
<one time per week	296	73	1		1		1		1		1		1	

All adjusted estimates based on models that include both giving and receiving oral sex. Logistic regression controlling for: *education; †income, education, new sex partner, and alcohol use; ‡income, frequency of douching, new sexual partner, and parity, §getting oral sex, education; ¶getting oral sex, age, money, education, frequency of douching, new sexual partner; **getting oral sex, age, frequency of douching, new sexual partner, and marital status.

put your mouth or tongue on his penis and then followed by vaginal intercourse?'' An average weekly frequency of giving oral sex was created by multiplying frequency of intercourse times a reported frequency of oral sex (1 for always, 0.75 for often, 0.5 for half the time, and 0.25 for occasionally). In addition, women were asked if they had been diagnosed with gum disease, if their gums bled when they brushed their teeth, and if they had bad breath.

Crude bivariate associations were estimated. Age, marital status, income, education, parity, sex partners, smoking, alcohol use, douching, and hormonal contraceptive use were examined as potential confounders. Variables that changed the beta coefficient of the main exposure by more than 10% were included in the full logistic model.

Approximately 5% of women often or always had bleeding gums when brushing their teeth; often or always had bad breath; or had been told they had gum disease. After controlling for potential confounders, giving oral sex was associated with gum problems (table 1). The odds ratio for gum bleeding, perhaps the best of our indicator variables of gum disease, was 3.5 (95% confidence interval 1.0 to 12.4). Those who reported giving oral sex most frequently had substantially raised risk of bleeding gums, while those who reported giving oral sex occasionally had somewhat higher risk.

To our knowledge, this is the first study to examine the association between oral sex and gum disease. We found that giving oral sex was significantly associated with gum problems. Although causality has yet to be established, it is plausible that giving oral sex may increase the risk of oral disease, either through introduction of microbes or mechanical trauma to the oral cavity. As would be expected if oral sex were directly leading to gum problems, the association was the strongest for women who performed oral sex on their partners, and virtually absent for those who only received oral sex. If the association were equally linked with giving and receiving oral sex, it would be more likely to be the result of confounding by social habits.

There are limitations to the observed data. The number of subjects with oral problems was small, the oral problems were self reported, and we did not collect information on oral hygiene practices. Although we controlled statistically for socioeconomic status and a number of other risk factors, residual confounding by oral hygiene may still have influenced the result. Secondly, we asked about giving oral sex followed by vaginal intercourse rather than simply giving oral sex. The question was worded in order to assess possible transmission of bacteria to the vagina. Although this might misclassify some women who gave oral sex without vaginal intercourse, the prevalence of reported oral sex in our study was similar to other studies,[5] and it is difficult to imagine why women who had oral sex alone would have different oral health. Because of the increased prevalence of oral sex in the general population,[4] the current interest in periodontal disease as a risk factor for chronic disease,[6] and the high prevalence of gingivitis and periodontitis generally, more studies on this issue are warranted.

Contributors

EWH analysed the data and wrote the paper; JZ contributed to the design and data management of the study; MCH contributed to the design and the conduct of the study; all authors assisted with conceiving this analysis and reviewing drafts of the paper.

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Acute urinary retention following self treatment of genital warts with imiquimod 5% cream

A 17 year old woman attended the accident and emergency department at our hospital in acute urinary retention. Examination revealed a palpable bladder and painful ulceration of the skin around the vaginal introitus. A urinary catheter was inserted and she was admitted to the urology ward. There was concern that the genital ulceration might be due to herpes simplex virus infection and we were asked to review the patient.

The patient was known to us, having presented to the genitourinary medicine (GUM) clinic 4 months earlier with a first episode genital warts. A full screen (including an HIV test) had shown no other sexually transmitted infections and podophyllotoxin cream 0.15% had been prescribed for self treatment. After three monthly cycles the response was disappointing and treatment had been changed to imiquimod 5%.

Four days after the imiquimod was prescribed, the patient returned to the GUM clinic complaining of marked discomfort at the site of application. She was advised to

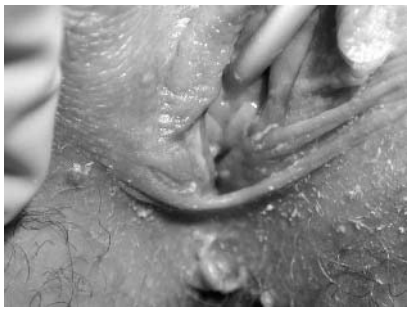

Figure 1 Ulceration around the introitus. A urinary catheter was in place.

stop using imiquimod and asked to return in 1 week for review. The patient failed to attend her follow up appointment and continued to use imiquimod as originally prescribed. The warts had begun to resolve and this led her to persevere with treatment despite growing discomfort. Approximately 3 weeks after her final GUM clinic appointment, she developed peri-introital ulceration, superficial dysuria, and urinary retention as described above.

When we reviewed the patient at the time of her admission, we confirmed the finding of painful ulceration around the introitus. A urinary catheter was in place (fig 1). A swab was taken from the ulcerated area and sent for viral culture. A course of valaciclovir was prescribed. Viral culture proved negative and a diagnosis of severe ulceration secondary to application of imiquimod cream was made. The catheter was removed after 48 hours.

Application of imiquimod cream is known to produce local erythema, oedema, and ulceration and the risk of these unwanted effects may increase at higher than recommended doses.[1] A case of phimosis requiring circumcision has been reported in an HIV positive man who received imiquimod cream.[2] We believe this is the first reported case of genital ulceration requiring urinary catheterisation in a female using imiquimod. Although our patient adhered to the normal treatment schedule, she continued to use the cream against medical advice. Patients are understandably anxious to be rid of their genital warts, but physicians should advise them of the potentially harmful effects of continuing to apply imiquimod cream when severe skin discomfort occurs.

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Knowledge of post exposure prophylaxis (PEP) for HIV among general practitioners in northern Sydney

Post exposure prophylaxis (PEP) for HIV infection has been shown to significantly reduce the transmission of HIV in both occupational exposures and vertical transmission; however, its role in non-occupational sexual exposures has been harder to define.[1 2] In 1988 the New South Wales (NSW) health department released guidelines for PEP use in non-occupational exposures, including sexual exposures, based on recommendations from the Centre for Disease Control and Prevention.[3 4] Eligibility depends upon risk, time since exposure and negotiated risk versus benefit.[3 4]

In Sydney, campaigns raising awareness of PEP have focused on the gay community, impacting upon inner city GPs with higher numbers of HIV positive clients. Little is known about the experience or knowledge of HIV PEP among GPs who do not practise in areas of higher HIV prevalence and have lower or no HIV case loads. GP studies have shown that limited HIV experience and training may affect the ability to effectively assess, advise, and treat patients.[5 6]

We focused on GPs in northern Sydney, an area that comprises approximately 12% of the NSW population. From March to July 2002 a questionnaire was submitted to GPs from the northern suburbs of Sydney via mailout and also distributed at regular GP education meetings. We collected demographic information and GPs were asked what they knew about the availability of HIV PEP, its uses, prescribing time restrictions, and access.

We received 202 GP responses in total: 162 from education sessions, a 68.6% response rate, and 40 responses from the mailout questionnaire, a 6.2% response rate. Most respondents were female (114/202, 56.2%). Women were generally younger (median age: 46 years, range: 28–71 years) and were more likely to work part time (67/114, 58.7%) compared to their male counterparts (median age 54 years, range 27–86 years. Full time work: 65/85, 81.3%).

While 68.5% (139/202) of those surveyed were aware of the availability of HIV PEP for high risk occupational exposures, only half of those (69/139), or 35.1% of all doctors (71/202: $p<0.0001$) were aware of the availability of HIV PEP for sexual exposures. Of all surveyed, 24.6% (50/202) were aware of the 72 hour time restrictions with 28.1% (56/202) offering explanations of how to access HIV PEP. Of doctors aware of the availability of HIV PEP for sexual exposures, 42.3% (30/71: $p<0.0001$) were aware of time restrictions with 46.5% (33/71: $p<0.0001$) offering explanations of access.

Low levels of awareness and knowledge of HIV PEP may translate to missed opportunities for access to PEP, and potential HIV infection. Limited knowledge may reflect the recent introduction of PEP into Australia and/or unfamiliarity with HIV infection and patients. Limitations of this study include the small sample of self selected doctors who, it may be argued, were more motivated learners, or more interested in HIV PEP. Education aimed at increasing GP awareness of basic HIV PEP principles may be beneficial for those in low HIV caseload areas for patients missed by campaigns targeted at high risk communities.

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A notice of ''redundant publication''

A notice of ''redundant publication'' appeared in the August issue of *Sexually Transmitted Infections* (2004;**80**:254). In their reply Dr Underhill and her co-authors suggested that they submitted the duplicate paper to the *Journal of Family Planning and Reproductive Health Care* after discussion with me. While I clearly cannot recall the exact content of our conversation, I would like to stress that it would have been most improper, and therefore highly unlikely, for me, as editor of *Sexually Transmitted Infections*, to suggest that they submit a duplicate publication to another journal. I would, therefore, like to correct any erroneous impression that might have been suggested to the reader.

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HIV in black Caribbeans

We read with interest the paper by Dougan *et al*[1] regarding the epidemiology of HIV infection in black Caribbean adults in England, Wales, and Northern Ireland.

In our clinic setting, a district general hospital in north west London with a large black population (fig 1), diagnosis of HIV in

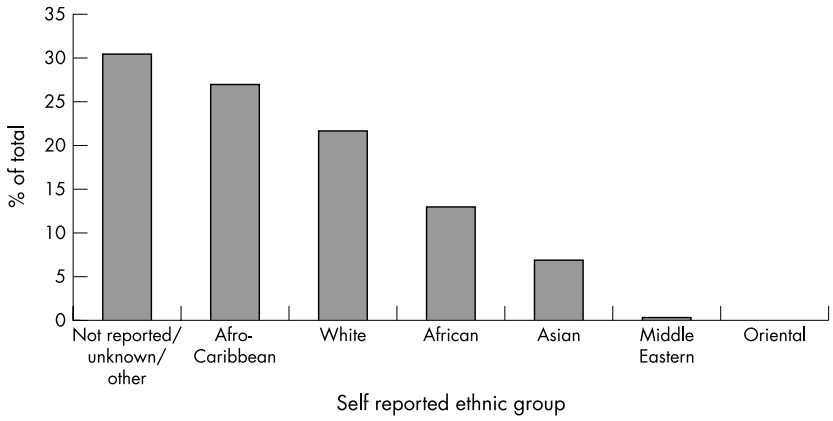

Figure 1 Ethnic breakdown of genitourinary medicine clinic attendees February 2004 (total n = 815).

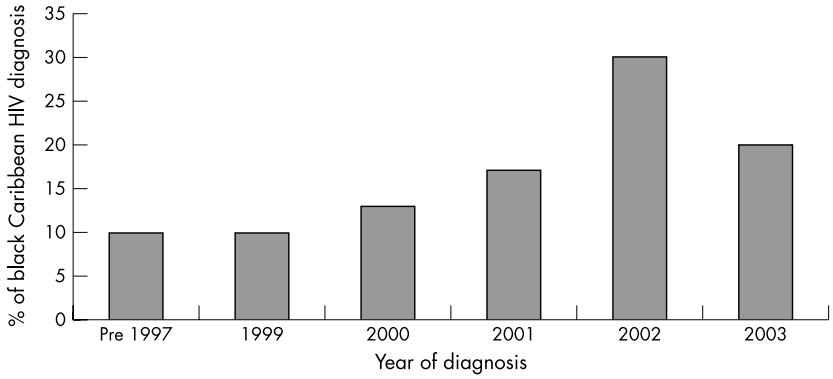

Figure 2 HIV diagnosis in black Caribbeans (total n = 30).

black Caribbeans represents 8.6% (30/347) of all cases compared with 3.3% reported by Dougan *et al*.[1] Of these; 83% (25/30) are of Jamaican origin, 13/30 (43%) male heterosexual, 14/30 (47%) female heterosexual. Men who have sex with men (MSM) accounted for 3/30 (10%) cases. A further 3/347 (0.86%) patients (all white) have unprotected sex with black Caribbeans as their risk factor for HIV acquisition. In 1999–2003, black Caribbean women accounted for 5/59 (8.47 %) of antenatal HIV diagnosis.

Twenty seven of 30 (90%) of our black Caribbean patients have been diagnosed in the past 5 years (1999–2003) (fig 2), thus indicating the increasing magnitude of the problem.

We have noticed the trend in increasing HIV diagnosis in black Caribbeans over the past 5 years. This has impacted on our local service provision. Since the year 2000, black Caribbeans have been referred to the health advisers for pretest discussion and are asked to attend in person for results in recognition of their higher risk for HIV infection. Clearly, this has implications on health advising and clinic resources.

The national target for uptake of HIV testing in first attendees at genitourinary medicine (GUM) clinics is 40% by 2005; in the final quarter of 2003 we had achieved an uptake of 61% male and 58% female. The uptake of HIV testing in self proclaimed Afro-Caribbeans was 48% female and 47% male.

Ethnicity data as they currently stand are likely to underestimate the size of the problem in the black Caribbean population. As was highlighted, country of birth is not synonymous with ethnicity. However, ethnicity and country of birth may share risk factors. Certainly, there is a distinct grey area in self defined black British and black Caribbean designations in our clinic attendees. These issues urgently need identification and research.

As Dougan *et al* alluded to there are strong familial, cultural, and travel links with the Caribbean. Differential condom use may vary in the United Kingdom versus the Caribbean, fuelling potential transmission.

Efforts are required to improve ethnicity reporting. At new diagnosis, on confirmatory antibody test, details of country of birth and ethnicity should be recorded.

Dougan *et al* suggest that assortive sexual mixing[1 2] may have an impact on limiting the spread of heterosexual HIV transmission. It seems likely that while prevalence remains relatively low this remains feasible; however, experience with bacterial sexually transmitted infections does not bode well for this to continue.

The number of undiagnosed HIV infection in black Caribbeans remains alarming.[1] Dougan *et al* demonstrate that from 1997 to 2001, 73% of black Caribbean heterosexual males who were HIV positive via unlinked anonymous serology left the GUM clinic without a diagnosis. There are numerous challenges to GUM services to improve this. The presence of a bacterial STI should prompt further encouragement to undertake HIV testing.

A central challenge is how to improve access to GUM services and uptake of HIV testing. As Low[3] in her editorial points out we must not allow misguided political correctness to impinge on the identification of those at highest risk. As with all minority groups, barriers, both perceived and real, can be overcome with imaginative approaches such as use of media, school/college based education programmes, saliva based, and ''opt out'' approach to testing. Radical innovations and improvements in current standards of care are urgently required to better understand the current situation and predict future trends.

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