

plicated non-PPNG gonococcal urethritis in men a single dose of 1 g given intramuscularly with probenecid orally is a more economical but equally safe and effective regime.

Yours faithfully,
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Table Incidence of gonorrhoea and early syphilis in Birmingham, 1982-86

	1982	1983	1984	1985	1986	1987*
No of new patients:	12431	12792	13334	13901	13938	3642
Men	7342	7758	8090	7822	8191	2135
Women	5089	5034	5244	6079	5747	1507
Gonorrhoea:	2090	2195	2112	2100	1521	264
Men	1258	1378	1332	1398	940	156
Women	832	817	780	702	581	108
Early syphilis:	57	45	37	22	8	1
Men	53	40	29	22	8	1
Women	4	5	8	0	0	0

*First quarter only.

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TO THE EDITOR, *Genitourinary Medicine*

Is gonorrhoea a good index of changed heterosexual behaviour?

Sir,

A gradual decline in the incidence of gonorrhoea in the London area since 1982 has been reported¹⁻³ Gellen and Ison noted that these changes were not restricted to homosexual men and raised the question as to whether this trend was reflected nationally.¹ We therefore reviewed the incidence of gonorrhoea and early syphilis in Birmingham for 1982-86 (table).

In Birmingham the proportion of men presenting as new patients who identify themselves as homosexual or bisexual has been stable at around 10% for many years. This has not altered recently, and in the last three months of 1986 the figure was 10.3% (230 out of 2229). Laboratory records were searched for examples of men in whom simultaneous cultures were obtained from the urethra, rectum, and oropharynx, one or more of which were positive for *Neisseria gonorrhoeae*. Using this index, 29 infected men were identified in the last three months of 1985 and none during the same period in 1986.

Early syphilis is mainly a disease of homosexual and bisexual men in the West. Radical changes in sexual behaviour, as a response to the threat of the acquired immune deficiency syndrome (AIDS), are thought to be responsible for the dramatic decline in the incidence of early syphilis and of gonorrhoea in this group.

Although we have not separately identified all cases of homosexually acquired gonorrhoea, it is apparent from the small proportion of homosexual men in our clinic population and from the figures for women that the incidence of heterosexually acquired gonorrhoea has fallen in Birmingham as well as in London.

The Chief Medical Officer's reports show falling figures for gonorrhoea between 1973 and 1982 for men (11.6%) and for women (9.9%).^{4,5} We doubt whether the figures for gonorrhoea are particularly useful in monitoring general heterosexual behaviour, as the incidence of other sexually transmitted infections continues to rise (figures not shown). High risk people who have been subject to repeated infections, however, particularly gonorrhoea, need effective health education, not least because of their potential role in disseminating the human immunodeficiency virus. This group should be monitored separately so that we can communicate the success and failure of various national and

local approaches to modification of behaviour.

Yours faithfully,
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TO THE EDITOR, *Genitourinary Medicine*

Isolation of yeasts from male contacts of women with vaginal candidosis

Sir,

Vulvovaginal candidosis, although a world wide problem, is more prevalent in tropical climates.¹ In Nigeria it is one of the commonest problems that bring women to sexually transmitted diseases or gynaecology clinics. Especially in its recurrent, often chronic, form the associated morbidity, such as chronic vaginal soreness and dyspareunia, may be sufficient to put strain on otherwise normal marital relationships. Surprisingly,

Table Isolation of yeasts in three types of specimen from 20 men

Specimen	No positive on:			Total
	No	Microscopy	Culture	
Urethral secretion	20	1	1	1
Early morning urine	20	3	5	5
Seminal fluid	20	10	14	14

many of these women have no recognised predisposing factors.

I therefore carried out a study to evaluate the possible role of sexual partners in the maintenance of such a high incidence of vaginal candidosis in our women. I examined 20 husbands or sexual partners of women with diagnosed candidal vaginitis, and collected three different specimens (urethral secretion, early morning urine, and seminal fluid) from each of the men. Moist sterile cotton tipped swabs were used to obtain urethral secretion, which was immediately squeezed out into a sterile phosphate buffer solution using a vortex mixer, and then centrifuged. A drop of the centrifuged deposit was examined by both wet film and Gram staining techniques for evidence of yeast cells. The remaining deposit was cultured on Sabouraud's medium at 37°C, and any growth after 24-48 hours was Gram stained and examined microscopically as before. Both the early morning urine (collected in sterile urine bottle) and seminal fluid (collected in sterile universal container) were also centrifuged and examined as for the urethral secretion. Diagnosis of infection by *Candida* spp was based on the presence of budding yeast cells or pseudohyphae in wet film and Gram stained smears of the centrifuged deposits of various specimens. This was confirmed by positive cultures of *Candida* spp on Sabouraud's agar plates.

The table shows the isolation of yeast in relation to the type of specimen. All the men were circumcised and none had any sign of balanitis. Although about half of the men admitted to vague symptoms of urethritis, only three showed any sign at all, and all three had yeasts in their urine and seminal fluid specimens. Where yeasts were isolated from the urethral swab and urine, they were also found in the seminal fluids. Many seminal fluids, however, were positive in the absence of yeast at the other sites.

The role of sexual transmission as a means of vaginal inoculation and colonisation has undergone considerable discussion within the past few years. Most studies, however, have centred on external penile colonisation, usually in the coronal sulcus,^{2,3} rather than in

the urethra and seminal fluid, and have been mostly in uncircumcised men. The result obtained in this study shows that examination of seminal fluid for *Candida* spp is a better means of establishing its prevalence in the male urogenital tract. Yeasts that find their way into the urogenital tract are not always flushed out during micturition. Candidal invasion of the posterior urethra is recognised, and so also is prostatic invasion.⁴ Sexual transmission may yet be a more important factor in vulvovaginal candidosis, especially the recurrent forms, than has been previously recognised; seminal fluid acting as the source of inoculum during the powerful muscular contraction attending orgasm. I therefore recommend that, in evaluating the role of sexual transmission in the epidemiology of candida vaginitis, investigation of the seminal fluid should take precedence over the traditional urethral and urine examinations.

Yours faithfully,
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TO THE EDITOR, *Genitourinary Medicine*

Use of slide latex agglutination test for rapid diagnosis of vaginal candidosis

Sir,

The recent letter from Sulaiman *et al*¹ describing their results with the latex agglutination test is, in certain key respects, at variance with our own wide experience of this product. The candida slide test is intended as a rapid aid to the "patient-side" diagnosis of vulvovaginal candidosis. In this sense the only alternative is direct microscopy, as culture isolation requires at least 48 hours. The latex slide test is typically appreciably more sensitive than direct microscopy, as evidenced by Dr Sulaiman's study. In comparison with culture isolation, the latex test largely ignores symptomless (commensal) carriers and so, though sen-

sitivity is slightly lower, the diagnostic positive predictive value is superior. In Dr Sulaiman's study 21% of culture positives came from symptomless women: Our own studies have suggested that the incidence of candida culture positive symptomless women can be considerably higher than this, though the only respect in which Dr Sulaiman's data significantly conflicts with our own experience is in the number of "false" latex positives (nine out of 23).

During the course of clinical trials of over 1000 unselected women attending two leading departments of genitourinary medicine in the United Kingdom, the lowest recorded specificity was 95.4% and the typical specificity value was 97-98%.²⁻⁴ It is not readily apparent, from Dr Sulaiman's report, whether any of the nine specimens "falsely" positive by latex agglutination were culture positive.

The latex agglutination test should be evaluated against a carefully considered definition of vulvovaginal candidosis, and our own trials were based upon the definition described by Dr Sulaiman. In view of the relatively low prevalence in unselected women, the performances of the various diagnostic criteria are best assessed in terms of sensitivity and predictive values. In such circumstances the latex agglutination test invariably exhibits a higher diagnostic efficiency than any other single criterion.

Yours faithfully,
D H Lewis

Mercia Diagnostics Ltd,
Guildford, Surrey

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TO THE EDITOR, *Genitourinary Medicine*

Sir,

I should be much obliged if you would grant me the courtesy of your columns to thank the



Isolation of yeasts from male contacts of women with vaginal candidosis.

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