

longer)?" Comparison of numbers of partners during the same period in monogamous and non-monogamous groups showed means of 6.0 for the "monogamous" group and 6.5 for the non-monogamous group, a non-significant difference. Further exploration showed that 19 (46%) of the 41 "monogamous" respondents reported having more than one different sexual partner in the previous two months.

The most obvious explanation is the assumption that respondents did not understand the word, or else equated monogamy with serial monogamy. Several of the respondents, however, subsequently indicated that they believed that a monogamous relationship, at least within a homosexual context, meant *emotional* rather than *sexual* exclusivity. This clearly has implications for the accuracy of future research in which this type of question is asked (which will probably include most clinical, preventive, and evaluative AIDS research). Such a finding argues for behaviourally measurable questions in sexual research and history taking. The implication of sexual exclusivity must be spelled out clearly in future if misinterpretation is to be avoided.

Yours faithfully,
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TO THE EDITOR, *Genitourinary Medicine*

Chancroid in Liverpool

Sir,
Haemophilus ducreyi, the aetiological agent of chancroid, has been the subject of renewed interest in England and overseas,^{1,3} largely because of the development of selective media to isolate successfully this fastidious organism. We decided to assess the incidence and epidemiology of chancroid in patients attending the sexually transmitted disease clinic at the Royal Liverpool Hospital. This information was essential to assess the need for routine culturing for *H ducreyi* in patients presenting with genital ulceration in Liverpool.

We studied all new male and female patients presenting with genital ulcer(s) on three days a week, during an 18 month period. They consisted of 52 men (median age 25) and 27 women (median age 24).

After obtaining the relevant history, we

examined each patient. The laboratory methods included examination by dark field microscopy for *Treponema pallidum*, culture for herpes simplex virus, *H ducreyi*, and other organisms, and the routine tests for other sexually transmitted diseases including serological tests for syphilis.

For *H ducreyi*, the culture medium consisted of Difco GC agar base enriched with 10% chocolate horse blood and 1% IsoVitalax. One plate was made selective by adding 3 µg/ml vancomycin and 12.5 units/ml mycostatin. The culture plates were immediately incubated at 35°C in a moist atmosphere containing 5–10% carbon dioxide. The plates were examined for growth at 48 hours and thereafter daily for seven days. *H ducreyi* was identified on the basis of characteristic colonial morphology, Gram stained smears of colonies, negative results to the catalase test, and positive results to the oxidase, alkaline phosphatase, and nitrate reductase tests. The isolates were examined for β lactamase production by the chromogenic cephalosporin test, and were also subjected to disc susceptibility tests.

The table shows the results of dark field examination and serological tests for syphilis and the isolation of herpes simplex virus and *H ducreyi*.

Two of the three men (all white) with chancroid were seamen (one with the Royal Navy and the other a Yugoslavian), and all three had had sexual intercourse in countries where chancroid is known to be endemic (the Caribbean, Ethiopia, and Sri Lanka). The only female patient whose ulcers yielded *H ducreyi* was a prostitute whose clients included a West African and a Chinese man in Liverpool and an Arab in North America.

All the *H ducreyi* strains were β lactamase producing and sensitive to augmentin, erythromycin, co-trimoxazole, and trimethoprim, but were resistant to amoxicillin and in three patients also resistant to tetracycline.

Only two patients had mixed infections. One was a Brazilian seaman with a single tender indurated ulcer on the coronal sulcus, which was infected with *T pallidum* and herpes simplex virus. The other patient's

Table Positive results of dark field examination for Treponema pallidum, serological tests for syphilis, and isolation of herpes simplex virus and Haemophilus ducreyi from men and women presenting with genital ulceration

Test or organism isolated	Men (n = 52)	Women (n = 27)
Dark field examination for <i>T pallidum</i>	1	0
Serology for syphilis	1	0
Herpes simplex virus	26	14
<i>H ducreyi</i>	3	1

ulcer harboured an unusual combination of herpes simplex virus and *Neisseria gonorrhoeae*. Herpes simplex virus was not isolated from any of the patients with chancroid.

The two seamen infected in the Caribbean and Ethiopia and the female prostitute had not responded to prior treatment with tetracycline or penicillin, or both, and were successfully treated with a course of co-trimoxazole (trimethoprim 80 mg/sulphamethoxazole 400 mg) two tablets twice daily for 10 days. The *H ducreyi* strains from all these patients were found to be resistant to tetracycline. The fourth patient, a man infected in Sri Lanka, was cured with erythromycin 500 mg four times daily for seven days.

Our results agree with those in Mallard *et al*⁴ and Diaz-Mitoma *et al*,⁵ but contrast with those from Sheffield, where *H ducreyi* was often present in association with herpes simplex virus.³ There was no doubt that *H ducreyi* was a primary pathogen in our patients. Furthermore, all these four patients had an epidemiological link with countries where chancroid is common.

We conclude that *H ducreyi* infection is not indigenous in Liverpool, where the organism need only be sought in patients with genital ulceration acquired in areas where chancroid is known to be endemic.

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