STD/HIV control in Malawi

We are interested in the paper by Lule et al. in which they report the prevalence of Neisseria gonorrhoeae in men with urethritis in the UK. This comes as no surprise because the dominance of the gonococcus in urethral and other infections in some developing countries in Africa as opposed to the industrialised countries is well recognised. Indeed, the picture contrasts with that, for example, in the United Kingdom where Chlamydia trachomatis predominates as a cause of urethritis in men. Lule and colleagues, however, report a prevalence of 7% for C trachomatis among men with urethral symptoms and we surmise that this might be a considerable underestimate. In the first place, these authors, under the umbrella, used enzyme immunoassay (EIA) to detect C trachomatis, a technique which is far less sensitive than the best available.

Furthermore, since chlamydial organisms often exist in small numbers in men with gonorrhoea, we would expect under these circumstances even more false negative EIA results than would otherwise be the case. We feel that we are justified in making these comments by virtue of some published studies from elsewhere in Africa and our recent experience in studying goldminers with urethritis in Johannesburg. Of 242 men, 167 had gonorrhoea and on the basis of a cultured urethral swab (considered to be most sensitive as most EIAs) 13 (7%) had a concomitant C trachomatis infection. However, examination of the centrifuged deposit from a first-pass urine sample by means of a direct immunofluorescent antibody test (MicroTrak, Syva) showed that 32 (17%) had a C trachomatis infection. Of 75 men with non-gonococcal urethritis, 14 (18.7%) were culture-positive for C trachomatis and 18 (24%) were EIA culture-positive for C trachomatis. It is of interest that more than 50% of specimens from patients with gonorrhoea contained small numbers (<10) of elementary bodies. These observations would suggest that the true prevalence of C trachomatis in Malawi might, in fact, be two- to three-times greater than recorded. Indeed, a figure of 10-15% would be little different from the prevalence one might expect in male urethritis patients in the United Kingdom. This similarity is perhaps not surprising since neither African countries nor the United Kingdom have, as yet, effective programmes for the control of C trachomatis infection based on accurate diagnosis, treatment and contact tracing. The apparent continued dominance of N gonorrhoeae as a cause of urethritis in Africa may reflect the absence of an effective control programme for gonorrhoea in contrast to that existing for this disease in, for example, the United Kingdom, rather than major differences in underlying levels of unsafe sex. The true burden of infection caused by C trachomatis in Africa will probably emerge only after application of the most sensitive diagnostic techniques. For these reasons we were pleased to note that the Malawian STD advisory committee decided to advocate the use of combination antibiotic therapy (which includes a seven day course of doxycycline) for the treatment of urethritis. While the study of Lule et al. did not support the routine use of antichlamydial chemotherapy, we believe that it is important to provide such cover when treating urethritis in Africa, particularly in view of the potential role of C trachomatis as a co-factor in the spread of HIV.

D TAYLOR-ROBINSON
MRC Sexually Transmitted Disease Research Group The Jefferies Wing, St Mary's Hospital, London W2 1NY, UK

A RENTON
Academic Department of Public Health, St Mary's Hospital Medical School, London W2 1PG, UK


Barrier methods of contraception

The recent article on barrier methods of contraception, spermicides and sexually transmitted diseases by Cavalieri d'Oro et al reviews the association and concludes correctly that barrier methods reduce the risk of gonorrhoea and HIV but may be less consistent for other diseases. The review unfortunately does not include the newest method of barrier contraception, the so called "Female Condom", known in the UK as Femidom. In the laboratory, polyurethane the material of which the device is made, is reported to be impermeable to HIV and cytomegalovirus.

Similar permeability studies using bacterio-phages showed that the female condom was impermeable to the HIV show that the membrane is a complete barrier.

A clinical study attempted to assess the prevention of reinfection by Trichomonas vaginalis on 104 women who had been treated and cured and who were then exposed to reinfection from their untreated male partners. The at risk women were separated into a control (no barrier contraception) group and a group using the female condom (54 women). The controls had a reinfection rate of 14% (7 of 50) and of the 54 women who used the female condom 34 failed to use it on each occasion, with 14% of these becoming reinfected (5 of 34). None of those using the female condom with every act of intercourse became reinfected.

The effect on the vaginal mucosa and vulva skin, together with its effect on resident vaginal bacterio-flora was assessed in another study by Soper et al, who randomly assigned 30 patients to use a female condom or a diaphragm during the study period.

Colposcopic examination with photogrammetry of the effect of the female condom on the vagina was performed, together with fungal aerobic and anaerobic culture of the vagina. The two groups were compared with respect to the frequency of abnormal physical findings and changes in vaginal flora. It was felt that the diaphragm nor the female condom was associated with trauma to the genital tract, but subjects using the diaphragm underwent a significant change in vaginal flora and were more likely to become colonised with E coli and less likely to maintain healthy lactobacilli in the vagina. This may be linked to the previously recognised association between inappropriate use of trachoma and trichomonas infection and diaphragm users.

Leaper and Comarandy compared use of an unnamed male condom with a female condom. The standard ASTM water leak test showed less leakage from pinholes and tears for the female condom (0.6%) compared it male counterpart (3.5%), whereas the risk of failure during actual use (that is, allowing semen, identified by acid phosphatase reaction in vagina) was 2.7% for the female condom and 8.1% for the male condom.

Perfect users may expect a probability of failure, as evidenced by pregnancy, of 2-6% in 6 months use, with the female condom the diaphragm nor the female condom was associated with trauma to the genital tract, but subjects using the diaphragm underwent a significant change in vaginal flora and were more likely to become colonised with E coli and less likely to maintain healthy lactobacilli in the vagina. This may be linked to the previously recognised association between inappropriate use of trachoma and trichomonas infection and diaphragm users.

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