

# LETTERS TO THE EDITOR

## Test of cure following treatment of genital *Chlamydia trachomatis* infection in male and female patients

Previous studies<sup>1-3</sup> have shown that a test of cure (TOC) following treatment of female patients with genital *Chlamydia trachomatis* was unnecessary providing the patient was compliant. To our knowledge no such data are available in male patients. Given that most TOC results are negative, selecting high risk patients for TOC has significant cost savings.

We report a retrospective study of 237 consecutive male and 294 consecutive female patients with uncomplicated genital *C trachomatis* who attended our department between January and December 1995. Of these, 192 (80.3%) males and 258 (87.7%) females had a TOC performed by enzyme immunoassay, 1 week after completion of treatment. Standard treatment for uncomplicated *C trachomatis* was doxycycline 100 mg twice daily for 7 days. No TOC was performed in 46 (19.2%) males and 39 (13.2%) females because they defaulted. A negative TOC was found in 188 (98%) males and 250 (96.8%) females. Positive TOC was found in only eight cases, five (1.9%) females and three (1.5%) males.

Analysis of TOC positive cases showed that three were due to poor compliance, three to reinfection (unprotected sexual intercourse with a infected partner or casual partner), and one to an inability to complete treatment because of nausea and vomiting. The remaining positive male patient had complied with the treatment, but the TOC was performed only 9 days after starting treatment. There was no evidence of urethritis on follow up and since this test was performed within 10 days of starting treatment this almost certainly represented a false positive result.<sup>4</sup>

Our results accord with previous studies and also show that data in male patients are similar to the results presented for females, with regard to incidence of positive TOC. After a recent audit our current practice is to see patients who have uncomplicated *C trachomatis* 10-14 days after starting treatment. This is based on a study comparing cultures with enzyme immunoassay for TOC.<sup>4</sup> An assessment is then made of compliance, possible treatment failure, and the possibility of reinfection having occurred, and TOC performed if indicated. Such a protocol should ensure that a TOC is appropriately used and is cost effective.<sup>5</sup> Preliminary data show that polymerase chain reaction (PCR) is more sensitive than cell culture in detection of *C trachomatis* as a TOC.<sup>6</sup> However, the timing of PCR following the start of treatment remains to be clarified owing to the prolonged detection of non-viable antigen.<sup>6</sup>

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## Seroprevalence of hepatitis B markers among female and transsexual sex workers in Athens, Greece

Hepatitis B is considered to be a major public health problem encountered both in developing and in industrialised countries. Regular screening for hepatitis B virus (HBV) infection, particularly in high risk sexually transmitted disease (STD) groups, is important for the health surveillance of the whole community.<sup>1</sup>

Greece belongs to those with intermediate prevalence (1-2%) of hepatitis B surface antigen (HBsAg) in the general population.<sup>2</sup> Previous data have shown that prevalence of HBV is higher among female commercial sex workers than in the population at large.<sup>3,4</sup> Lately, transsexuals present a substantial part of the sex workers consisting an epidemiologically obscure population with regard to the seroprevalence of HBV markers. This is considered to be closely related to their lifestyle and sexual habits. However, in our region and elsewhere, there is a paucity of data regarding exposure to HBV in the male transsexual population especially in comparison with female sex workers. With this in mind, we attempted to determine the seroprevalence of hepatitis B markers in registered sex workers of the Greater Athens area and also to compare rates of exposure to the virus.

The study sample consisted of 230 female sex workers and 43 male to female transsexual sex workers of the Greater Athens area who attended the venereal diseases clinic of the Ministry of Health for periodic medical examination. Their age and length of time in sex work were ascertained from the special records of regular medical examination. The age range of the female sex workers was 21-63 (median 38) years, which was higher than that of the transsexual sex workers (median 34), range 24-48 years.

Blood samples were allowed to clot and the separated serum was stored at -20°C. Screening for serology markers of hepatitis B (HBsAg, anti-HBs, anti-HBc, HBeAg, anti-HBe) was done by a third generation

immunoassay (Auszyme monoclonal, Abbott Laboratories, Chicago, IL, USA). Differences between frequency rates were tested by  $\chi^2$  with Yates's correction and Fisher's exact test. The influence of age and years of sex work in the populations studied were comparatively analysed by the Maentel-Haenszel  $\chi^2$  procedure.

Stratified analysis did not reveal any significant difference between the two population groups as a function of sex, age, and years of registered sex work.

Overall, HBsAg was detected in nine (3.3%) of the 273 examined sex workers (table). In all these cases, anti-HBc was positive and anti-HBs negative. Also, HBeAg was not identified, while anti-HBe was found in all but two of the HBV carriers. Exposure to the virus was estimated by the presence of anti-HBc, irrespective of the presence of other serological markers. It was found that 52.7% of the sex workers have been infected with the virus and that within the previously infected sex workers who did not become carriers, the majority (89.6%) were positive for both anti-HBc and anti-HBs. Anti-HBc was detected more frequently among transsexual (65.1%) than among female (50.4%) sex workers, although the difference was not found to be statistically significant ( $\chi^2$ ,  $p > 0.05$ ). Also, prevalence of anti-HBc was estimated among age groups in the two populations examined. The increase with age was not significant within the three age groups studied. The corresponding rates were 38.9% in the group less than 25 years old, 47.8% in the group aged 25-35, and 55.5% in those over 35 years old. Further analysis of the findings by years in sex work showed an increase of exposure rates to the virus after the first year of registered sex work. The overall exposure rates raised from 34.7% in the first year to 52.5% by the fifth year and to 57.1% when the duration of registered sex work was longer than 5 years. However, these differences were not statistically significant ( $\chi^2$ ,  $p > 0.05$ ).

The prevalence of HBV markers among female sex workers and to a limited extent among male homosexuals has been studied in several countries worldwide. In these reports<sup>5-8</sup> sex workers have been characterised as a high risk group for the transmission of HBV in the general population although infection rates differed substantially (ranged from 29 to 66%) within studies. The results of this study confirm that sex workers are at a high risk for HBV infection, since 3.3% of them were HBsAg carriers and 52.7% had serological evidence of previous infection by HBV. HBeAg was not identified in any case supporting that HBsAg carriers have possibly low infectivity. However, these figures were lower from those reported previously among sex workers from the same area.<sup>3,4</sup> Kaklamani *et al*<sup>3</sup> have reported that of the female sex workers registered in Athens 11% were HBsAg carriers and 97% were infected. Nevertheless, it is likely that the overall prevalence trends of

### Prevalence of hepatitis B serum markers among female and transsexual sex workers

	Female n (%)	Transsexual n (%)	Overall n (%)
HBsAg carriers	8 (3.5)	1 (2.3)	9 (3.3)
Anti-HBc with or without anti-HBs and anti-HBe	108 (47.0)	27 (62.8)	135 (49.5)
Only anti-HBs	5 (2.2)	3 (7.0)	8 (2.9)
All markers negative	109 (47.4)	12 (27.9)	121 (44.3)
Total	230	43	273