LETTERS TO THE EDITOR

Risk for hepatitis C virus (HCV) and human immunodeficiency virus (HIV) infections among prostitutes

Transmission of hepatitis C virus (HCV) by direct percutaneous exposure to blood is well documented in both epidemiological and experimental studies. Moreover, person to person transmission, either by sexual activity or by nonsexual household contact is controversial.[1] To better define the epidemiology of HCV and to examine the hypothesis of veneral transmission, we have evaluated the prevalence of anti-HCV among a group of prostitutes who are considered as a high risk group for blood-born sexually transmitted viruses. We also report the prevalence of anti-HIV in the same group of patients.

We performed a study on 121 women prostitutes (mean age 31·3 years, range 19–59) who attended a sexually transmitted disease clinic in Cantabria between July and December 1990. Their age, length of time in prostitution, number of sexual contacts and use of intravenous drugs were ascertained by direct questioning. A serum sample from these patients was stored at −20°C until tested. Serum samples were tested for anti-VHC with a second-generation ELISA (HCV ELISA 2·0 Test System, Ortho) and a recombinant immunoblot assay (RIBA HCV Test, Ortho Diagnostic System). Anti-HIV tests were performed by commercially available enzyme-linked immunosorbent assays (ELISA) and positive values confirmed by Western-blot analysis.

Anti-HCV prevalence among the prostitutes was 15 of 121 (12·3%) and anti-HIV in 7·4% (7/121). (table). Twenty-five prostitutes (20·6%) were intravenous drug users (IVDUs) who reported needle-sharing activities. As shown in the table, the prevalences of serological markers for HCV and HIV were higher in IVDU patients than in non-IVDUs. Antibodies to HCV were not detected in the non-IVDU group and only one HIV-positive woman was found in this group. In addition six IVDU females were coinfected with HCV and HIV. Data concerning to age, number of sexual contacts and duration of prostitution are presented in the table. The IVDU population was younger and reported a lower duration of prostitution than the non-IVDU group, but did not differ in the number of sexual contacts.

Table Prevalence of HCV and HIV in 121 prostitutes

	TOTAL (n:121)	*IVDUs (n:25)*	*non-IVDUs (n:96)*
Prevalence:			
anti-HCV	*15 (12·3%)*	*15 (60%)*	*0 p < 0·001*
anti-HIV	*9 (7·4%)*	*8 (32%)*	*1 (1%) p < 0·001*
	age (years)	*sexual contacts (n°/week)*	*duration prostitution (years)*
Groups:			
a) anti-HCV (+)	26 ± 2·7	12·7 ± 6·8	4 ± 2·15
anti-HCV (−)	32 ± 8·1†	13·9 ± 11*	5 ± 4·5*
b) anti-HIV (+)	25 ± 3·2	12·3 ± 6·4	3·5 ± 4·5
anti-HIV (−)	31 ± 7·8†	13·9 ± 10·8*	5 ± 4·4†
c) IVDUs	25 ± 3·3	11·7 ± 5·6	3·3 ± 1·9
non-IVDUs	32 ± 7·9§	14·3 ± 11·4*	5·3 ± 4·6‡
TOTAL	31 ± 7·8	13·8 ± 10·5	4·9 ± 4·3

Prevalence of virus markers and data concerning to age, number of sexual contacts and duration of prostitution in the different groups studied (*p: NS; †p < 0·01; ‡p < 0·05; §p < 0·0001).

The prevalence of anti-HCV is remarkably constant worldwide,[2] and in our region (Cantabria, Spain) anti-HCV has been detected in 0·42% of healthy blood donors; thus, the 12% prevalence rate of HCV infection in this cohort of prostitutes is, at least, twenty-five times higher than the normal population. However, one must remember that prostitutes comprise a very heterogeneous group and that speculation about the role that prostitutes play in HCV transmission may depend on which prostitutes are studied. In this work, 100% of the 15 HCV-infected women were intravenous drug users who reported needle-sharing activities. Recently, Esteban and colleagues[3] reported an HCV infection rate of 70% among IVDUs in Spain, where such a population constitutes a high-risk group for this infection. Although IVDU prostitutes, like non-IVDUs, are also at risk for male-to-female sexual transmission, none of our 96 non-IVDU females have anti-HCV antibodies and the number of sexual contacts was similar in both groups. These findings suggest that drug use may be more important than sexual transmission in our patients. Thus, the risk of HCV infection, in the absence of intravenous drug use, among the prostitute group, which could be considered as a major reservoir of sexually transmitted diseases, seems to be low.

In general, the role that sexual transmission plays in the spread of HCV infection is unclear. Although recent studies have shown anti-HCV prevalence rates of 2·6 to 7% in female partners of HCV-infected men,[3-4] another study[5] failed to show conclusively that hepatitis was transmitted to sexual contacts of patients with chronic hepatitis C. In addition, those studies that found increased rates of anti-HCV among sexually active populations, also found that these rates were significantly lower than the rates of serological markers for other blood-born sexually transmitted viruses, namely HBV and HIV, in these populations.[1] Only nine out of 121 prostitutes were anti-HIV positive and eight of these patients used intravenous drugs. Similar results have been reported in other European countries, where most infection among prostitutes has been reported among those women who used intravenous drugs. Also, the Centers for Disease Control estimate that the infection rate among intravenous drug-using prostitutes in the United States in three to four times higher than non-IVDU prostitutes.[6] Thus, on the basis of our

study, the role that non-IVDU prostitutes play in perpetuating the AIDS pandemic in Spain seems still to be low.

We believe that data presented here support the hypothesis that the risk of sexual transmission of HCV is low, although additional studies are needed to define more precisely this risk. The study also indicates that, at present in our country, it is the intravenous drug user who puts prostitutes at a significant risk of HCV infection and this also seems to be the case for HIV infection among the same group.

S ECHEVARRIA
G SAN MIGUEL
T PELAYO*
C SALAS*
F CASAFONT
J CRESPO
F PONS ROMERO
Hepato-Gastroenterology Unit.
"Marques de Valdecilla" University Hospital.
Faculty of Medicine, Santander.
**Consejeria de Sanidad y Medio Ambiente de Cantabria.*

Address correspondence to: Santiago Echevarria, Urbanización Los Jardines 25, 39600 Muriedas, Santander, Spain.

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Transmission of gonorrhoea through an inflatable doll

Nonsexual transmission of gonorrhoea seems to be extremely rare. Only one case of nonsexual transmission of genital Neisseria gonorrhoeae is documented in adults[1], involving two patients in a military hospital who shared a urinal. N gonorrhoeae has been shown to survive in infected secretions on towels and handkerchiefs for 20 and 24 hours, respectively.[2] Cultures from toilet seats in public restrooms and venereal disease clinics have failed to yield N gonorrhoeae.[3 4]

The skipper from a trawler, who had been 3 months at sea, sought advice for urethral discharge. His symptoms had lasted for two weeks. A urethral smear showed typical intracellular gram-negative diplococci, and a culture was positive for N gonorrhoeae. There had been no woman onboard the trawler; he denied homosexual contacts; and there was no doubt that the onset of the symptoms was more than two months after leaving the port.

With some hesitation, he told the story. A few days before onset of his symptoms, he had roused the engineer in his cabin during the night because of engine trouble. After the engineer had left his cabin, the skipper found an inflatable doll with artificial vagina in his bed, and he was tempted to have "intercourse" with the doll. His complaints started a few days after this episode.

The engineer was examined, and was found to have gonorrhoea. He had observed a mild urethral discharge since they left port, but he had not been treated with antibiotics. He admitted to having ejaculated into the "vagina" of the doll just before the skipper called him, without washing the doll afterwards. He also admitted intercourse with a girl in another town some days before going to sea. This girl was traced, but the result of her examination is not known. To the best of our knowledge, no case of gonococcal transmission through an inflatable doll has been reported before.

E KLEIST
Nanortalik Hospital Nanortalik, Greenland
H MOI
Post Box 1001,
Venereaklinikken,
3900 Nuuk, Greenland

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Analysis of failed appointments in a genitourinary department in the West Midlands of the UK

Failure to keep hospital out-patient appointments is a waste of resources and it may contribute to increased morbidity.[1] Previous studies focused attention on defaulters of initial outpatient appointments.[2 3] We report on the failure to keep subsequent appointments in a genitourinary department.

Between the period 11 May–10 July 1992, all patients who failed to keep their subsequent appointments were studied and analysed. Whenever they returned to the clinic, they were interviewed with particular attention to their reasons for missing their previous appointments. The interview of those who returned was continued until the end of August 1992. A large proportion of our patients are in the lower socio-economic classes. Statistical analysis was by the Chi square method and Student's t test, with $p < 0{\cdot}05$ taken as significant.

During the period of study, 2973 appointments were scheduled for 76 clinic sessions. There were 745 failed appointments giving a frequency rate of 25·1%. Among the appointments, 1654 were for morning sessions and 1319 for afternoon sessions, of which 454 and 291 respectively were not kept, 27·4% v. 22·1%, $p < 0{\cdot}001$. There were 1479 male and 1494 female appointments, out of which