

that a 24-year-old woman, whose only known risk factor was sex with a woman who died of AIDS, tested HIV positive.¹ The patient also had sexual relationships with four other women, none of them known to be at risk for HIV. The patient said she had no history of intravenous drug use, blood transfusion, or surgical or dental intervention.

From November 1987 to June 1989, the patient had been in a monogamous relationship with a 38-year-old woman with a history of intravenous drug use. The partner died from complications of AIDS in June 1989, at which time the younger woman was tested for HIV and found to be positive. The two women lived together for the term of their relationship, but did not share toothbrushes or razors. Their sexual activity consisted of digital and oral stimulation of genitalia and the shared use of a vibrator.

In December 1987, the younger woman was diagnosed with a case of herpes simplex, which resolved on treatment with acyclovir. In April of 1988, she developed a transient febrile illness, accompanied by a generalized rash that lasted about 1 week. Rich and colleagues concluded that the young woman contracted HIV via homosexual activity, although the mode of transmission cannot be proven definitely.

The authors cited another report of female-to-male transmission of HIV in a couple who engaged exclusively in oral sexual activities.² The authors noted that it is possible that the mechanism of transmission is mucosal contact with infected blood, saliva, or vaginal secretions. It has been demonstrated that the dendritic cells present in the female genital region have a high concentration of HIV and theoretically are capable of transmission of virus with direct vaginal-vaginal or oral-vaginal contact in the absence of trauma or lesions associated with sexually transmitted disease. Neither the patient nor the partner had evidence of trauma or laceration. Dr. Rich commented that female homosexual contact is an inefficient mechanism for such transmission.

REFERENCES

1. Rich JD, et al. *Clin Infect Dis* 1993;17:1003-1005.
2. Spitzer PG. *N Engl J Med* 1989;320:251.

Uncircumcised Men at Higher Risk of HIV Infection

Uncircumcised homosexual men were found to have a twofold greater risk of HIV infection. Researchers Joan Kreiss and Sharon Hopkins of the University of Washington and the Seattle-Ring County Department of Public Health surveyed 502 homosexual men regarding their circumcision status. Participants were

recruited from among the patient populations of several Washington AIDS clinics. Of the 502 participants, 316 were HIV positive. Eighty-five percent of the sample was circumcised.

HIV infection was significantly associated with uncircumcised status, nonwhite race, intravenous drug use, sexual contact with an intravenous drug user, number of male partners, frequency of unprotected receptive anal intercourse, and a history of genital herpes, anal herpes, or syphilis. Using logistic regression analysis, the adjusted odds ratio for the association between HIV infection and uncircumcised status was 2.0 (CI₉₅, 1.0, 4.0). The authors found that the twofold increased risk for HIV infection remained even after controlling for the potentially confounding effects of race, intravenous drug use, and history of syphilis.

The authors noted that their results are consistent with those of other investigators who have found an association between uncircumcised status and syphilis among heterosexual men or unselected men attending STD clinics. The authors offer a number of explanations for the increased risk. First, it has been shown recently in a primate model that the stratified squamous epithelium of the foreskin of rhesus macaques contains a high concentration of Langerhans cells and macrophages, which bear CD4 receptors and are target cells for simian immunodeficiency virus infection. Second, the preputial sac may provide a protected environment that allows for more prolonged exposure of male genital epithelium to the genital or rectal secretions of the infected partner. Finally, the foreskin or the glans penis of uncircumcised men may be more susceptible to trauma during intercourse compared with that of circumcised men, which is covered with a stratum comeum layer.

FROM: Kreiss JK, Hopkins SG. *J Infect Dis* 1993;168:1404-1408.

Gloves Protect Hands from Contamination Even When Leaks Present

Under conditions of routine use, gloves were found to function effectively as a protective barrier even when leaks were present. Investigator Robin Olson and colleagues from the epidemiology division at Harbor-view Medical Center in Seattle also found that latex gloves were associated less frequently with leaks and hand contamination. Since hand contamination occurred after 13% of exposures and cannot be readily identified by healthcare workers, these researchers recommend that routine hand washing be done after each patient contact regardless of glove use.

To test the effectiveness of vinyl and latex gloves

as barriers to hand contamination with gram-negative organisms and enterococci during hospital procedures, the researchers studied 137 procedures during which a healthcare worker's gloved hand contacted a patient's mucous membrane. The procedures included oral dental exams, endotracheal tube care, and digital rectal stimulation for bowel training. Quantitative hand cultures were obtained from each healthcare worker before and after the gloved contact.

The findings indicated that 86 of the 135 glove cultures had gram-negative rods or enterococci on the external surface after use and thus were sources of potential hand contamination. Microbial contamination of the healthcare worker's hands occurred in 11 (13%) of those 86 events.

Contamination was more frequent with vinyl gloves, occurring in 10 of 42 cases studied compared with only one out of 44 cases involving latex gloves. After use, glove leaks also were more frequent in vinyl gloves (26 out of 61) than with latex gloves (6 of 70). Even when leaks were present, gloves prevented hand contamination in 77% of instances, and quantitative counts of microorganisms contaminating hands were 2 to 4 logs less than counts on external surface of gloves. Healthcare workers reported awareness of the presence of glove leaks in only seven (22%) of the 32 events in which leaks were subsequently demonstrated.

The authors conclude that gloves are an effective barrier to hand contamination and that the data confirm the need for handwashing routinely following removal of gloves.

FROM: Olsen RJ, et al. Examination gloves as barriers to hand contamination in clinical practice. *JAMA* 1993;270:350-353.

Poor Antibody Response to Recombinant Hepatitis B Vaccines

Following immunization with hepatitis B vaccine (Recombivax HB or Engerix-B) of 595 healthcare workers in 10 acute care hospitals in Minnesota, 11% were found to be seronegative for antibody to hepatitis B surface antigen (anti-HBs). Postvaccination antibody testing was done within 6 months after receiving the third dose of vaccine. No deficiencies were identified in vaccine shipping or storage practices and all vaccines were administered in the deltoid muscle. Although different needle lengths were used, needle length was not associated with lack of anti-HBs. Dr. Rachel Wood and colleagues at the Minnesota Department of Health reported that five variables were found by multivariate analysis to be independently associated with lacking anti-HBs: vaccine brand, smoking status, gender, age, and body mass index.

Stratifying by vaccine brand demonstrated that age, body mass index, and smoking status were associated with lacking anti-HBs only for Engerix-B recipients. After controlling for smoking status, age, gender, and body mass index, recipients of Recombivax HB were more likely to lack anti-HBs than recipients of Engerix-B (relative risk, 2.3; 95% confidence interval, 1.1 to 4.7; $P=0.02$).

FROM: Wood RC, et al. Risk factors for lack of detectable antibody following hepatitis B vaccination of Minnesota healthcare workers. *JAMA* 1993;270:2935-2939.

National HIV Information Network Launched

A national computer-based information network has been launched to help healthcare providers track trends and treatment patterns for AIDS and HIV. The CDC has awarded a 3-year, \$900,000 contract to suburban Chicago-based Dun & Bradstreet Corp for the effort, intended to help direct healthcare providers in their care of HIV and AIDS patients.

Believed to be the first national effort of this type in the United States, the network, known as Health Research Network, will provide two types of information. It will follow individual but anonymous patients over the course of their illnesses, showing the effects of treatment approaches. The in-depth longitudinal data base also will allow the CDC to analyze trends and provide statistical overviews of the disease and its treatment.

The network's first effort involves a study of between 5,000 and 10,000 HIV-infected individuals whose care is being directed by infectious disease physicians in Atlanta, Los Angeles, San Francisco, Tampa, Florida, and Portland. Additional sites are expected to be added during the 3-year life of the grant.

CDC officials said that the system will be able to track the spectrum of HIV disease, including symptoms and use of medical therapy, drugs, and costs, information that is important to healthcare delivery. Hospitals, through participating physicians, will be able to tap into the network via computer to decide what services they may need to provide to care for patients with the disease.

FROM: *Modem Health Care* December 13, 1993.

Shigella Strains Resistant to Fluoroquinolones

The first fluoroquinolone-resistant *Shigella*