

Seroprevalence of Human Immunodeficiency Virus Among Inpatient Pretrial Detainees

Donna Schwartz-Watts, MD, Larry D. Montgomery, MD, and Donald W. Morgan, MD

Medical records of inpatients discharged from a forensic unit in Columbia, South Carolina, from January 1991 to December 1991 were reviewed to determine the incidence of human immunodeficiency virus (HIV) seropositivity. Results were linked to age, gender, ethnicity, history of intravenous drug use, and Axis I diagnoses. HIV status was obtained for 74 percent of patients 18 to 55 years of age. The incidence of HIV seropositivity among patients tested was 5.5 percent, which is greater than 40 times the incidence for the general population in South Carolina. Intravenous drug use was reported for 33 percent of the seropositive males. We conclude that inpatient pretrial detainees are at increased risk for HIV infection. HIV testing should be mandated at all facilities housing detainees. Further studies are needed to determine any factors about these patients that can be linked to seropositivity.

After the study of the Sentinel Hospitals¹ demonstrated areas of high seroprevalence of human immunodeficiency virus (HIV) infection among psychiatric patients, particularly in the New York City area, researchers began addressing more specific factors that place groups of indi-

viduals at increased risk. Aside from known risk factors for HIV infection, which include intravenous drug use, unprotected sexual contact with infected partners, and recipients of unscreened blood transfusions, few studies have addressed the specific causes for the high seroprevalence of HIV among psychiatric inpatients.

Sacks² in 1990 studied HIV-related risk factors in acute psychiatric inpatients and found that one in five reported risk factors. Psychiatric inpatients were found to be impaired in appreciating their risk of infection. In a pilot study, Sacks found that 42 percent of psychiatric inpatients admitted to at-risk behaviors, and 22 percent admitted to high-risk behaviors

Dr. Schwartz-Watts is a teaching psychiatrist, William S. Hall Psychiatric Institute, and assistant professor, Department of Neuropsychiatry and Behavioral Science, University of South Carolina School of Medicine; Dr. Montgomery is Chief of Inpatient Services, William S. Hall Psychiatric Institute, and assistant professor, Department of Neuropsychiatry and Behavioral Science, University of South Carolina School of Medicine; and Dr. Morgan is professor and vice chair of the Department of Neuropsychiatry and Behavioral Science, University of South Carolina School of Medicine, and Associate Director, Forensic Services, William S. Hall Psychiatric Institute, Columbia, SC. Address correspondence to: Donna Schwartz-Watts, MD, William S. Hall, Psychiatric Institute, 118 Colonial Drive, Columbia, SC 29203.

including sharing needles, having unprotected anal intercourse with homosexuals, having unprotected vaginal intercourse with intravenous drug users, or having HIV-infected partners.³ Thus, psychiatric inpatients engage in high-risk behaviors and are impaired in appreciating their increased risk. Cournois⁴ demonstrated high rates of HIV among psychiatric inpatients. One third of her sample population admitted to at-risk behaviors. Sacks found a 7.1 percent seroprevalence of HIV among psychiatric inpatients in New York.² In South Carolina, Eleazer⁵ found a .24 percent seroprevalence rate of HIV among psychiatric patients across a large and varied inpatient hospital setting. No studies have addressed the seroprevalence of HIV among psychiatric inpatients in a forensic pretrial setting.

Method

Subjects included 311 patients discharged from a 52-bed inpatient, pretrial detainee unit in South Carolina. They were hospitalized between January 1991 and December 1991. The detainee unit houses individuals in jail before trial who suffer mental illness too serious to be managed in one of the 56 local detention centers (emergency admissions) or who are referred for competency to stand trial/criminal responsibility evaluations (court-ordered admissions). Subjects younger than 18 years of age and older than 55 years of age were excluded.

The study consisted of a retrospective record review that included the type of admission (emergency or court ordered); marital status; gender; ethnicity; age; rapid plasma reagin (RPR) serology; his-

tory of intravenous or other substance abuse; history of homosexual behaviors; and AXIS I, II, and III diagnoses. History of homosexuality was considered unreliable, because these data were gathered from social histories and the information may not have been provided by a reliable informant.

HIV testing is part of the initial evaluation performed on all admissions to the forensic detainee unit. After obtaining informed consent (see Appendix), sera are collected and sent to the Department of Health and Environmental Control (DHEC) where they undergo enzyme-linked immunosorbent assay (ELIZA). Sera reactive to ELIZA are designated positive if bands p24 and gp41 are present on Western Blot testing. Sera positive by Western Blot are mandatorily reported to DHEC; CD4 counts less than 200 also are mandatorily reported. These sources are used to determine the number of cases of HIV infection and acquired immunodeficiency syndrome (AIDS). The rates of infection are calculated per 100,000 people. The number of cases are counted by the Bureau of Preventive Health Services.

Results

In 1991, there were 5,787 HIV-positive persons in South Carolina, which has a total population of 3.5 million. Thus, the rate of HIV infection per 100,000 people was .016 or .16 percent. The 5,787 seropositives included persons who moved to South Carolina from other states.

Of 302 patients admitted to the forensic service during the study year, HIV testing was completed for 220, representing 74 percent of the sample. There were no sta-

HIV Among Detainees

tistical differences between the group tested and the group not tested based on ethnicity, marital status, gender, or age. The two groups were statistically different when comparing the type of admission (Table 1). Emergency admissions were not tested as frequently as court-ordered admissions. The differences are most likely attributable to deficiencies in the admission procedure. Emergency admissions often arrive after normal working hours when on-call physicians are on duty. The on-call physicians often fail to order HIV testing, although it is part of the routine evaluation.

Intravenous drug use was an accountable risk factor in 33 percent of our seropositives, which corresponds to the rates in other studies. Of the 220 patients tested, twelve were seropositive for HIV, yielding a rate of 5.5 percent for the sample tested and 4.0 percent for the entire sample. All seropositive subjects were

male. African Americans were overrepresented, accounting for 67 percent of the seropositives while comprising 52 percent of the population. Seven (58%) of the twelve seropositive subjects were single, and nine (75%) of the seropositive subjects were 30 to 39 years of age.

Five of the seropositive subjects were diagnosed with mood disorders. Of the twelve patients who were seropositive, five (42%) did not know their serostatus on admission. Of those five, four were diagnosed with mood disorder. The preponderance of mood disorders may have been secondary to the knowledge of their serostatus. Four (33%) of the twelve seropositive subjects admitted to intravenous drug use. Twenty-six patients in the sample admitted to intravenous drug use, thus, 15 percent of the intravenous drug users were seropositive. Only one of the twelve had reactive RPR serology.

Discussion

The rate of infection for these pretrial detainees is comparable to those in New York in areas with high seroprevalence rates.

More than 40 percent of seropositive subjects in our sample did not know their serostatus on admission. This stresses the importance of early case finding for purposes of treatment and education. The education provides options for modification of sexual practices in a population shown to have impairment in appreciating their risk factors for HIV infection.

Replication is needed in other inpatient pretrial forensic settings to clarify the magnitude of this problem, so that state psychiatric and prison systems can de-

Table 1
Comparison of Patients Tested and Not Tested for HIV

	Tested N = 220	Not Tested N = 82	
Ethnicity			
White	100	47	$\chi^2 = 2.16$
Other	1	0	$p = .358$
Black	122	41	
Marital Status			
Divorced/ Separated	176	58	$\chi^2 = 8.273$
Married	41	28	$p = .142$
Gender			
Male	201	75	$\chi^2 = 1.521$
Female	22	13	$p = .217$
Mean Age	32	32	$F1 = 1.16$ $p = .381$
Admission Type			
Court	129	40	$\chi^2 = 3.906$
Emergency	94	48	$p < .048$

velop internal policies to deal with prevention and management of HIV infection in a consistent and rational manner.

Our data suggest that the mentally ill with criminal charges as a group are at increased risk for acquiring HIV infection and should be offered testing even when they deny risk factors. Psychiatric inpatients are hypothesized to be at increased risk because of impulsivity, poor judgment, and hypersexuality.⁶ Perhaps psychiatric inpatients with criminal charges are even more impulsive or more impaired in judgment.

It is possible that our sample is biased because those who refused to consent to testing were not represented in the study results. We chose the design of testing by consent, rather than by testing waste residues, so that diagnosis and treatment could ensue for those individuals who were seropositive. Many of the pretrial detainees subsequently enter the prison population among whom it is likely that unsafe sexual practices are commonplace.

The high rate of HIV infection in this forensic sample relative to the general population also serves to reemphasize the need for universal blood and body fluid precautions among health-care providers who work with this unique population of patients.

Appendix

- (1) I hereby request the HTLV-III antibody test;
- (2) I understand that this antibody test is not a diagnostic test for AIDS;

- (3) I have been advised of the implications of the test and have been given an opportunity to ask questions and have my questions answered;
- (4) I acknowledge that I have received and read the DHEC materials entitled "Some Things You Should Know About the Test for HTLV-III Antibody";
- (5) I understand that DHEC will maintain the confidentiality of test results, medical records, and reportable information;
- (6) I understand that I am to return to _____ (place) at _____ (time) on _____ (day) _____ (date) for my test results, and that results will only be given to me in person.

Patient Name	Patient ID #	Date	
Address	City	State	Zip Code
Phone Number			
Signature of Patient		Signature of Witness	

References

1. St. Louis ME, Raugh KJ: Seroprevalence rates of human immunodeficiency virus infection at sentinel hospitals in the United States. *N Engl J Med* 323:213-18, 1990
2. Sacks M: Seroprevalence of HIV and risk factors for AIDS in psychiatric inpatients. *Hosp Community Psychiatry* 43:736-37, 1992
3. Sacks M: HIV-related risk factors in acute psychiatric inpatients. *Hosp Community Psychiatry* 41:449-51, 1990
4. Cournos F: HIV seroprevalence among patients admitted to two psychiatric hospitals. *Am J Psychiatry* 148:9, 1991
5. Clair W, Eleazer PG: Seroprevalence of human immunodeficiency virus in mental health patients. *J South Carolina Med Assoc* March, 1989
6. Gerwitz G, Horwath E, Cournos F, *et al*: Patients at risk for HIV. *Hosp Community Psychiatry* 39:1311-12, 1988