

ABSTRACTS

SYMPOSIUM

Preventing AIDS in Drug Abusers: Emerging Biological and Psychosocial Research

Chair: James J. Sorensen, University of California, San Francisco, CA

Discussants: Edward R. Morales, Bayview Hunter's Point Foundation, San Francisco, CA; and Harry Haverkos, National Institute on Drug Abuse, Rockville, MD

HIV INFECTION, ALCOHOL USE, AND MORTALITY AMONG IV DRUG USERS. Don C. Des Jarlais. New York State Division of Substance Abuse Services, New York, NY; and Jo L. Sothoran and Samuel R. Friedman. Narcotic and Drug Research, Inc., New York, NY.

Because heavy alcohol use is known to impair immune function, it is reasonable to hypothesize that heavy alcohol use may act as a cofactor for the development of AIDS. We examined this hypothesis in a cohort study of 309 intravenous drug users (IVDUs) who had never sought treatment for ARC or AIDS; 156 were HIV seropositive and 153 were seronegative at the beginning of the study. Heavy alcohol use was not related to being seropositive at entry, nor was it related to the loss of T4 cells over time among HIV seropositives. Thus, there was no evidence for heavy alcohol use as a cofactor for the development of AIDS. Posing the question of whether HIV infection and heavy alcohol use act as cofactors for diseases other than AIDS provided a different perspective. Recently, there has been a dramatic increase in the number of deaths annually from nonpneumocystis pneumonia among IVDUs in New York City; deaths from nonpneumocystis pneumonia have increased from 15 in 1981 to 193 in 1985. The coincidence of time between this epidemic level increase in pneumonia deaths and the AIDS epidemic among IVDUs in the city strongly suggests that HIV infection and heavy alcohol use were risk factors for nonfatal pneumonia at entry into the cohort. Preliminary longitudinal findings also show both HIV infection and heavy alcohol use as predictors of fatal cases of nonpneumocystis pneumonia. These results suggest that heavy alcohol use and HIV infection can act as cofactors for fatal illness independent of surveillance-definition AIDS, and that treatment for heavy alcohol use should be provided for all HIV seropositive persons who require it.

SEROLOGIC PATTERNS OF HEPATITIS AND HIV ANTIBODIES IN DRUG USERS. W. Robert Lange and Frederick R. Snyder. National Institute on Drug Abuse Addiction Research Center, Baltimore, MD.

Intravenous drug users (IVDUs) are at risk for a variety of infectious diseases as a result of their lifestyle. Exposure to, and infection with, the hepatitis B virus (HBV), the delta agent or hepatitis D virus (HDV) and the human immunodeficiency virus (HIV), have received recent attention; however, the interaction between these agents and the po-

tential for one to modulate the clinical expression of another is just being examined. To explore whether exposure to HBV and/or HDV can affect the clinical course of HIV infection in IVDUs and to delineate whether prevention strategies aimed at the former two might benefit the latter, a sample of street heroin addicts in Baltimore, MD, was followed longitudinally. The enrolled study group (N=184) consisted to 144 (78%) males and 40 (22%) females; 97 (56%) were black and 76 (44%) were white. Fifty-five (29%) were HIV antibody positive on enrollment, and blacks were more likely to be seropositive than whites ($\chi^2=26.79, p<0.00001$). One hundred sixty (86%) members of the sample had been exposed to HBV (antiHBc positive), 20 (11%) were chronic HBV carriers (HBsAg positive), and 14 (8%) were HDV antibody positive. There were no significant ethnic group differences relative to seropositivity for antiHBc, HBsAg or antiHDV, and there were no differences between gender for any of the serologic markers studied. Those in the youngest age group (20-24 years) were the least likely to be positive for HBV markers ($\chi^2=9.84, p<0.05$), and the 25-29 age group had the highest HIV infection rate, which was 33% ($\chi^2=12.431, p<0.01$). There was a significant association between HBsAg and delta ($\chi^2=4.90, p<0.05$); however, there was no significant association between HIV and any of the other viral markers studied. All subjects were asymptomatic at the time of enrollment.

AIDS PREVENTION WITH DRUG ABUSERS IN RESIDENTIAL TREATMENT: PRELIMINARY RESULTS. James L. Sorensen, David R. Gibson, Carma Heitzmann and Roland Dumontet. University of California, San Francisco, CA; and Alfonso Acampora. Walden House, Inc., San Francisco, CA.

Drug treatment programs can be centers for AIDS prevention among addicts; however, AIDS prevention techniques must first be developed, evaluated and disseminated. Written AIDS-prevention information may help but is not sufficient to change addicts' risk of HIV infection. We investigated the impact of small-group AIDS education for intravenous drug abusers completing residential treatment. Fifty subjects receiving 6-hour risk-reduction training were compared with 50 who received brochures only. The study employed a pre-post-followup design, and followups occurred 6 and 12 months after the intervention. The intervention included lecture, discussion, role-playing of high-risk situations, and use of a new videotape featuring intravenous drug users (IVDUs) with AIDS. Measures assessed knowledge and attitudes about AIDS, and the behaviors that put subjects at risk for HIV infection. Results indicated that groups were well-attended and popular, measurement was adequate, and the intervention changed knowledge, but not the sexual behaviors that put the subjects most at risk. Attendance at group sessions averaged 91%, and client satisfaction was greater in the experimental group. Cronbach's alpha showed adequate internal consistency with some, but not all, measures of attitude toward risk. Experimental group

subjects showed superior knowledge about AIDS in the posttest ($p < 0.003$); however, both experimental and comparison subjects showed very low posttest levels of drug use, and condom use did not differ between groups. The small-group education approach has promise as one of several techniques that drug treatment programs can use in AIDS prevention.

BEHAVIORAL RESPONSES TO AIDS EDUCATION EFFORTS AMONG INTRAVENOUS DRUG USERS.

John K. Watters. Urban Health Study, San Francisco, CA.

Study was made of intravenous drug users (IVDUs) in San Francisco regarding their risk for contracting human immunodeficiency virus (HIV). Three cross-sections of subjects were recruited (N=438, N=623, N=568). Both drug treatment program clients and IVDUs not enrolled in treatment programs were sampled. A modified chain referral method was used to recruit IVDUs not enrolled in treatment programs, and volunteers were recruited in two drug detoxification clinics. Cross-sections were compared, and participation in risk behavior is examined over time. Results suggested that community health outreach workers (CHOWs), drug treatment clinics, and close associates were the primary means by which IVDUs gain knowledge about AIDS risk. A positive association between perception of CHOWs as important sources of AIDS information and adherence to safer needle hygiene was found. Significant change in IVDU risk behavior was found, coinciding with the broad dissemination of AIDS risk reduction messages to IVDUs through CHOWs and treatment programs. The study concluded that ongoing, one-to-one contact with IVDUs is instrumental in affecting behavior change, and that IVDUs can and do alter important areas of risk behavior when acceptable means of protection are readily available.

METHADONE TREATMENT AND AIDS RISK REDUCTION AMONG INTRAVENOUS HEROIN USERS.

Samuel R. Friedman. Narcotic and Drug Research, Inc., New York, NY; Don C. Des Jarlais. New York State Division of Substance Abuse Services, New York, NY; Wouter de Jong. FZA, Utrecht, The Netherlands; and Cynthia Dozier and Abu Abdul-Quade. Narcotic and Drug Research, Inc., New York, NY.

Heroin addiction renders individual or collective risk-reduction extremely difficult. A phased pattern of effects occurs, with successive 2-hour periods of euphoria, relative normalcy and approaching withdrawal. Agonizing withdrawal follows unless more heroin is taken. This cycle directly limits the time available to plan risk reduction, creates a need to use available time to plan and implement strategies to obtain drugs, and creates periods of intense need for heroin during which intentions not to share drug injection paraphernalia are often abandoned. Methadone, by contrast, has a much longer half-life of 24 hours. During this time, it blocks the craving for and euphoric effects of heroin. Furthermore, methadone clients are not subject to the physical and emotional disruption that heroin causes, since the usual methadone effects are stable rather than consisting of phases of euphoria and withdrawal. Consequently, methadone clients are able to stabilize their social and economic relationships. Methadone clients typically reduce injection at program admission and gradually thereafter. Most of what they continue to inject is cocaine or other nonopioids. Con-

siderable variation in the decrease in mean drug injection among programs indicates that some reduction in injections is due to psychosocial aspects of treatment. Because of behavior changes, methadone patients are less likely to be infected with HIV than detoxification patients or street users out of treatment. The experiences of the drug users union (Junkiebonden, or JB) in Western Europe show that methadone makes collective organization by intravenous drug users easier. JB has primarily been formed by Dutch methadone clients. Where street users have organized, core leaders have used methadone to reduce the degree to which they are personally dominated by the heroin cycle. Attempts to organize in the Federal Republic of Germany foundered due to the absence of methadone treatment. JB in the Netherlands have become active in innovative efforts to encourage AIDS risk reduction among intravenous drug users (IVDUs). Their efforts have been important, in part, precisely because they come from inside the IVDU culture and, thus, are less likely to be seen as intrusive outsiders. In conclusion, methadone facilitates individual and group risk reduction among IVDUs. This does *not*, however, mean that heroin users outside of methadone treatment are totally incapable of risk reduction. Partial risk reduction has been reported by street heroin users, and we have observed a local JB meeting at which some participants functioned effectively in spite of sustained heroin use before and during the meeting.

YOUNG PSYCHOPHARMACOLOGIST AWARD AND ADDRESS

Drug Effects on the Acquisition and Performance of Response Chains

Warren K. Bickel, University of Vermont College of Medicine, Burlington, VT

Chair: Larry D. Byrd, Yerkes Regional Primate Research Center, Emory University, Atlanta, GA

NEW FELLOW ADDRESS

Physiological and Biochemical Reactivity to Stress and Smoking

Ovide F. Pomerleau, University of Michigan, Ann Arbor, MI

Chair: James E. Smith, Louisiana State University Medical Center, Shreveport, LA

INVITED ADDRESS

Computer Models Instead of Animal Experiments?—The Computer Simulator's View

Earl B. Hunt, University of Washington, Seattle, WA

Chair: Cynthia H. Null, College of William and Mary, Williamsburg, VA

SYMPOSIUM

Marijuana: Recent Research on Smoking Topography and Behavioral Effects

Chair and Discussant: Maxine L. Stitzer, The Johns Hopkins University School of Medicine, Baltimore, MD

MARIJUANA DOSING: EFFECTS OF CIGARETTE POTENCY AND SUBJECT HISTORY. Ronald I. Herning. National Institute on Drug Abuse Addiction Research Cen-