presidential address

The Physician's Responsibility for the Care of AIDS Patients

An Opinion

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Although unknown in the 1970s, the acquired immunodeficiency syndrome (AIDS) has become epidemic in the United States among certain risk groups. According to recent statistics from the Centers for Disease Control (CDC), as of March 21, 1988, the United States had reported a total of 54,233 of these cases. Homosexual and bisexual men and IV drug abusers constitute 89 percent of the total cases, while hemophiliacs and transfusion recipients represent an additional 3 percent of the total. Once seroconversion to the human immunodeficiency virus (HIV) occurs, it is likely that most individuals will eventually develop clinical disease and will ultimately die. Seropositivity among high risk groups in large United States cities may be as high as 80 percent. In unselected serial emergency room visitors to The Johns Hopkins Medical Institutions, approximately 5 percent were found to be HIV-seropositive. Often, those with the most severe trauma, blood loss, and risk to emergency room personnel were seropositive. In fact, the seroprevalence of those with penetrating trauma was 13.6 percent in this 1988 publication.

Such statistics have led to concern among health care workers, including physicians, about the risk to themselves of contracting a fatal illness from one of these patients. A recent publication entitled, “Do Physicians Have an Obligation to Treat Patients with AIDS?” deals with these matters. Medical ethics and obligations are balanced against limiting factors including excessive risks to the physician. An orthopedic surgeon in San Francisco is quoted as estimating that as many as a third of her patients were at high risk for AIDS, and that she, “may get stuck 20 times in the next six months” presumably while operating on such patients.

Based upon previously published CDC estimates of 1 percent seroconversion after needle puncture with AIDS-contaminated material, a risk of contracting HIV infection from a work-related puncture for this orthopedic surgeon was calculated to be 12 percent per year with a five-year cumulative risk of 49 percent. One can certainly identify with the fear generated by risk estimates of this magnitude.

On the other hand, the Hippocratic Oath states that, “The Health and Life of my Patient will be my First Consideration” and mentions nothing about concern for one’s own health. In addition, estimates of risk as high as that quoted by the San Francisco orthopedic surgeon are unlikely to be applicable to other physicians in other specialties and in other locations. Finally, there are only three established routes of infection: 1) blood-borne transmission, 2) sexual transmission, both homosexual and heterosexual, and 3) transmission from an infected mother to her infant during gestation or in the perinatal period. Most health-care workers who do not fit into the usual risk groups could, with reasonable care, avoid all known routes of infection with little difficulty.

What are the facts? What is the risk of acquiring HIV infection from casual contact, care of patients, and even skin puncture with potentially infectious material?

Nonsexual, close contact with patients known to have clinical AIDS has been studied. One hundred one household contacts (68 children and 33 adults) of 39 AIDS patients had close personal interaction with the patients for a mean of 22 months. No particular effort was made by the household contacts to avoid infection. Only one contact was seropositive by enzyme immunoassay and Western blot testing, and this subject was a five-year-old child. Epidemiologic study concluded that this child had contracted HIV infection perinatally from her mother and not by horizontal transmission. Thus, the risks of contracting AIDS by usual social interaction are exceedingly low or nonexistent.

In an innovative study, Klein et al recruited 1,309 dental professionals (1,132 dentists) in the New York area, to be tested for antibodies to HIV by enzyme immunoassay with Western blot confirmation. Fifty-one percent of the subjects practiced in locations
where cases of AIDS had been reported. Seventy-two percent treated patients who had AIDS or were at risk for it. Ninety-four percent reported accidental skin puncture. Adherence to recommended infection-control measures was infrequent. In this group, 21 percent of unvaccinated subjects had antibodies to hepatitis B surface antigen. Only one dentist without a history of behavioral risk factors for AIDS had serum antibodies to HIV. The authors conclude that "dental professionals are at low occupational risk for HIV infection."

If household contacts and dentists are at low risk, what is the risk to other health professionals? Table 1 summarizes five publications in which nosocomial AIDS infection in health-care workers was surveyed. The table collates the rates of HIV positivity in health-care workers without any known risk factors for AIDS. The last of the five references summarizes the data and undoubtedly includes some subjects surveyed in the first four studies. One can easily see that the risk is low. From all health-care related exposures, the cumulative risk in 1,750 surveyed subjects was less than 0.1 percent. Moreover, those individuals testing positive for HIV had sustained accidental percutaneous needle sticks or cuts through which infected patient material could have contaminated them. These studies once again show that casual contact, even in the hospital setting, does not spread AIDS, but suggests that needle sticks and/or contamination of cuts or mucous membrane splashes with infected material might be infectious.

The CDC has launched a milestone study of occupational exposure to AIDS through parenteral accidents and contamination of mucous membranes, open wounds or non-intact skin. As of December 31, 1987, 1,176 health-care workers exposed to blood or other body fluids from HIV infected patients had been enrolled in the study. Attempts were made to test for HIV at the time of the exposure, at six weeks, and at three, six, and 12 months. Of the 489 health-care workers who sustained parenteral exposures to blood and for whom both acute and convalescent phase serum samples had been obtained, three (0.6 percent) seroconverted to HIV within six months of exposure. Investigators revealed no nonoccupational risk factors for these three workers. To this physician, the risk is low. Even in the worst case scenario where one sticks oneself with a needle contaminated with HIV positive fluid, only one case of HIV seroconversion would occur for every 168 sticks. For this one unfortunate individual, the risk may seem too high, but for physicians to abandon the care of AIDS patients based upon such data seems unreasonable. With prudent care, most health-care workers have little to fear from AIDS. Physicians must take the lead in replacing ignorance with information, and in replacing hysteria with caution.

Table 1—Overall Risk of Infection in Health Professionals from Those with No Known Risk

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REFERENCES

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