Editorial

HIV and the Autopsy

HUMAN immunodeficiency virus (HIV) can be recovered from autopsy material. Ho and co-workers[13] isolated HIV from brain tissue as long as 24 hours after death but were unable to recover the infectious agent from other tissues. More recently, Henry and colleagues[12] reported on the successful isolation of HIV from plasma 18 hours after death of a young man with acquired immunodeficiency syndrome (AIDS). In this issue of the *American Journal of Clinical Pathology*, Nyberg, Suni, and Haltia[19] describe their studies of ten patients dying with HIV infection.

Patients were studied as long as 6 days after death, and the virus was identified in at least one blood or tissue sample from eight of the ten cases, including spleen tissue specimens that had been stored for up to 14 days at 20 °C. The abstract for this manuscript describes one special emphasis of the research as an attempt to determine whether or not HIV could be recovered from bone obtained during the craniotomy phase of the autopsy. The text, as well as the abstract, documents the presence of HIV in skull bone in two cases. It is of great interest, however, that HIV could not be recovered from the bone-dust generated by the craniotomy procedure, even when it was recoverable from solid pieces of bone. The authors suggest that the virus may reside in blood or marrow of the bone fragments analyzed but do not comment on possible reasons for the failure to recover HIV from bone-dust.

What are the implications of these three studies for the practicing pathologist? Should we abandon the AIDS autopsy because of the implied risk? Is there some way to scientifically assess the risk? Are new methods of protection necessary if we continue to perform AIDS autopsies? Are special precautions really needed during the craniotomy phase of the autopsy?

Nyberg and associates anticipated these concerns in their study and unequivocally emphasize the appropriateness of the autopsy in the AIDS patients and confirm the usefulness of existing guidelines for the performance of the autopsy.[2,9,17] They note that the concentrations of the virus are quite low and the risk to the pathologist is similarly low.

The issue of transmission of HIV to health-care workers in the health-care setting has been specifically studied.[3,4,6,15,18,21] There is thus far no evidence of transmission of HIV, documented by either seroconversion or clinical AIDS, to a pathologist or autopsy room assistant, although a variety of other health-care workers have been identified as most likely infected in the setting of the clinical care of the living patient. A survey of hospital pathology department directors failed to identify a single instance of infection with HIV among autopsy personnel, despite the fact that AIDS autopsies had been performed for almost a decade at the time of the review.[7] In contrast, of course, there continues to be significant risk to the pathologist of becoming infected with hepatitis B or hepatitis C.[10] Of at least equal concern is the patient harboring HIV who has not yet manifested evidence of AIDS or has not yet demonstrated antibody response to HIV.[9] Do these patients have a higher concentration of HIV at autopsy if they die from causes other than AIDS? Studies directed at answering this important question have not yet been performed.

Many important lessons can be learned from the AIDS autopsy. The autopsy continues to be one of the most effective approaches to continuing education and the assurance of quality of medical care.[1,8,11] There is even cumulative experience pointing to an association between a high autopsy rate and the quality of medical practice,[14] despite the fact that a truly scientific model to test this hypothesis has not been developed. The value of the AIDS autopsy is unquestionable to those of us who have had the continuing opportunity, and privilege, of performing autopsies on patients dying of this terrible disease. There is something to be learned from almost every autopsy, but there are many things to be learned from the AIDS autopsy. There are no "routine" AIDS autopsies. It is hoped that there are very few routine pathologists performing them. The medical literature contains many articles dealing with new observations and new understanding that have emanated from AIDS autopsies. The article by Wilkes and associates[22] should be read by any physician who continues to doubt the value of the autopsy in the case of the patient dying with AIDS. In these cases, as in almost all others, the autopsy pathologist can make important and valuable contributions to the medical community.

The most frequent argument made against the autopsy in the setting of AIDS is that the disease is different because it is "universally" fatal. One might suspect that a similar

argument was made 150 years ago when syphilis and other infectious diseases were incompletely understood and greatly feared. It takes little imagination to consider a hypothetical Dr. Wolfgang Fearful who refused to do autopsies on tuberculosis patients in Vienna 150 years ago. Our Dr. Fearful might very well have been driven out of the profession to end his days as a sausage factory worker. Where would our specialty, and all of medicine, be today if there had been a moratorium on tuberculosis autopsies? Indeed, now that we are at the threshold of finding effective therapies for the opportunistic infections that kill AIDS patients, and also beginning to test strategies for preventing the development of AIDS in the infected patient, the knowledge available only at the autopsy is even more crucial. The time-honored questions are appropriate today, just as they have always been: Was the diagnosis correct? Why did the patient die? Was the therapy effective? Did our interventions contribute to morbidity or mortality? What can we carry from the study of this case to use in the care of the living? How can we help family and friends? What did we find that we never suspected?

Let us, pathologists, not be accomplices to the burying of knowledge. There are still many dark corners in need of light.

Is AIDS such a terrible disease? Of course! Is it beyond, our common ability to handle and study? Of course not! This is not the most virulent disease known to man. It is not particularly easy to acquire. The carefully performed autopsy will not lead to contamination of the prosector. The methods we have available are more than adequate to protect against this condition. The carefully performed autopsy must be the rule, not the exception, and not only for the patient who bears the label "AIDS." The variety of devices employed to limit aerosolization at the time of exposure of the brain may all be acceptable[16,23] because the bone dust produced does not seem to be infective.

Do pathologists still know how to perform autopsies? This question has not been formally asked; the answer may be more disturbing than we would like to admit. With the decline in the number of autopsies performed in the United States, residents may perform 50 or fewer autopsies during their residency years. Is this enough? This deficiency is compounded by the fact that many programs purporting to teach the autopsy do not do so effectively because of lack of interest by the faculty and because of lack of skills by the individual chosen to lead the autopsy service. Often a basic scientist with few skills in diagnostic anatomic pathology, and even less interest, is asked to assume this service responsibility. In the community, pathologists can find a number of reasons to not perform autopsies.[8] Why should our standards for this still valuable learning-teaching-investigative tool be any less than for other aspects of pathology? Should we re-establish the subspecialty of "autopsy pathologist?"

Finally, we cannot avoid the issue of moral obligations of pathologists. The autopsy is our domain. No one else should, or can, perform the autopsy. There is no justification for the pathologist to refuse to perform an autopsy because the patient has been infected with HIV, particularly since there is no evidence that careful autopsy technique, as traditionally practiced, places the pathologist at risk for acquiring that infection. The ethical requirements for the pathologist, in terms of AIDS, are in no way different than those for other physicians.[5] This is a time to assert our legitimacy as physicians and demonstrate that we are indeed a part of the moral community that is the profession of medicine.[20]

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