# Autopsy practice and human immunodeficiency virus infection

Although much of our early understanding of AIDS was gain through post-mortem examination, there is now reluctance to undertake the procedure in HIV-positive cases. Here, Zoe Rutherford explains why there should be little cause for concern.

In the past 30 years there have been huge advances in the understanding and treatment of human immunodeficiency virus (HIV) infection. We now know how HIV is transmitted and how fragile the virus is. We know that if a patient is on effective HIV treatment then the level of the virus in their system is likely to be so low they become non-infectious. We also know that the infectiousness of cadavers declines over time, making a potentially infected HIV body an extremely low risk. We also know that 24% of people who are living with HIV are unaware that they have the infection.

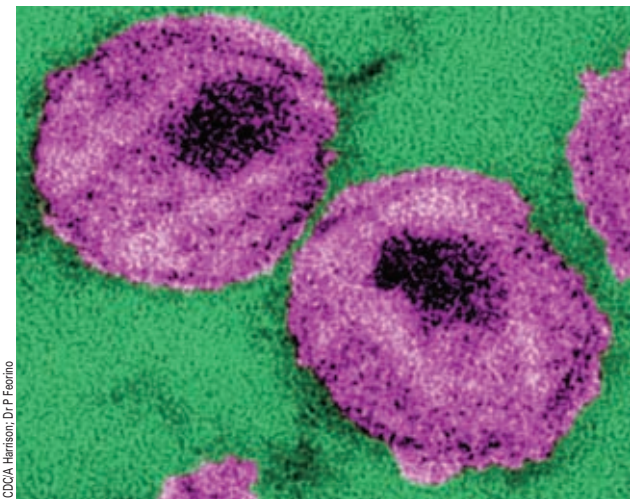
This knowledge has resulted in The Royal College of Pathologists stating that no extra measures need to be taken when conducting an autopsy on someone with HIV. Through the use of universal procedures in all autopsies, staff will protect themselves from transmission from someone who is HIV-positive, and also someone whose status is unknown.

However, even with this guidance in place, the National AIDS Trust (NAT) has found that some pathologists still refuse to undertake autopsies on people with HIV. Not only does this cause understandable distress to partners and families who have lost loved ones who were living with HIV, but it is completely unnecessary.

To refuse someone an autopsy based on their HIV status when there is no evidence-based reason to do so is discriminatory and unlawful under the *Equality Act 2010*. The risk from HIV is such that it is not even considered a notifiable disease under the *Health and Social Care Act 2008* because of the effective systems in place to report, monitor and control the risk.

In its *Guidelines on autopsy practice*, The Royal College of Pathologists (RCPath) writes: "In a well-equipped mortuary with adequate ventilation and when the recommendations in this document are followed, the risk of infection from Hazard Group 3 (HG3) cases is so low that refusal to perform an autopsy on the grounds of 'risk of infection' is illogical, if not unethical".

The present article seeks to explain the current evidence-based guidelines relevant to HIV and autopsy set out by the RCPath.



CDC/A Harrison; Dr P Feorino

Coloured transmission electron micrograph showing the ultrastructural detail of human immunodeficiency virus particles.

## GUIDELINES ON HEALTH & SAFETY AND HIV

In its 2002 guidelines on infections, the RCPath recommends that universal precautions should be taken during all autopsies to reduce risk from bloodborne viruses (BBV) and HIV, classified as an HG3 infection. Universal precautions include making sure the following items are worn by pathologists and anatomical pathology technologists (APTs) during all autopsies.

This practice is a requirement (ie pathologists must comply) and mandatory items of clothing to be worn are:

- surgical scrub suit
- waterproof or water-resistant disposable gown (eg Tyvek) that completely covers the arms, chest and legs
- plastic disposable apron to cover the chest, trunk and legs
- a form of eye protection or plain unventilated visor
- face mask to protect the mouth and nose from direct splash contamination if a visor is not worn
- gloves (outer latex over neoprene cut-resistant gloves; however, the best possible protection is provided by a triple glove sandwich of latex-neoprene-latex)
- Rubber boots with reinforced toe-caps

A third person working alongside the pathologist and APT remote from the actual procedures at the autopsy table can assist with communication, arranging specimen removal, providing clean instruments and photography.

It is also best practice (ie pathologists may comply) if the following procedures are followed:

- disposable paper hat worn
- separate infection suit worn for performing autopsies
- circulator provided (ie a third person working alongside the pathologist and APT remote from the actual procedures at the autopsy table who assists with communication, arranging specimen removal, providing clean instruments and photography)
- trainee pathologists have experience of carrying out autopsies on bodies with BBVs and assist when they are deemed technically competent and safe in handling infected tissues and instruments.

## AUTOPSY EXAMINATION

For post-mortems carried out on bodies with HIV or acquired immune deficiency syndrome (AIDS), examinations should be performed by a consultant histopathologist or experienced junior pathologist. Pathological and technical expertise would also be an advantage when performing an examination and possible subsequent tissue evaluation. During the procedure, the post-mortem should not to be performed in a body bag.

General precautions for post-mortem examination should take place, such as never passing instruments from hand to hand during an examination. It is also advisable that during dissection of the body the number of sharp instruments present on the post-mortem table should be kept to a minimum, such as using blunt ended PM40 and scalpel blades.

Standard cleaning and contamination procedures should be carried out on the instruments and surfaces used. More information on this aspect may be found in Appendix 3 to the RCPath's guidance. The Health and Safety Executive (HSE) publication *Safe working and the prevention of infection in the mortuary and the post-mortem room* also provides more information.

There is no need to notify others about an HIV autopsy case because, under the *Health and Social Care Act 2008*, HIV is not considered a notifiable disease. However, the pathologist should note the HIV-infected status of the body in the routine autopsy register book. If a new diagnosis of HIV is made at autopsy, the laboratory that performs the serology will routinely notify the Health Protection Agency (now Public Health England) Communicable Diseases Surveillance Unit.

## POST-EXPOSURE PROPHYLAXIS

Notwithstanding the very low risk of transmission of HIV, if in exceptional circumstances there is reason to believe a pathologist has been exposed to the virus then they may be referred for post-exposure prophylaxis (PEP). If an incident occurs, the practitioner should stop the post-mortem and report immediately to an occupational health unit which should operate protocols for dealing with exposure to HIV.

Post-exposure prophylaxis will only be provided where an assessment shows evidence that there has been a significant occupational exposure to blood or another high-risk body fluid from a body either known to be HIV-infected or considered to be at high risk of HIV infection. More information on what constitutes a high-risk body fluid can be found in the Department of Health (DH) report on HIV post-exposure prophylaxis (www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_089997.pdf).

Post-exposure prophylaxis should not be offered after exposure to any low-risk materials such as urine, vomit, saliva or faeces unless they are visibly bloodstained; nor should it be offered where testing has shown that the source is HIV-negative, or if a risk assessment has concluded that HIV infection of the source is highly unlikely (eg if the patient has an undetectable viral load).

## EQUALITY AND THE LAW

The *Equality Act 2010* states that all individuals living with HIV are protected from discrimination. People living with HIV are protected under disability discrimination as HIV is always defined as a disability under law. Protection against disability discrimination also includes discrimination in service provision. For example, a person cannot be denied a service on the basis of their disability. It also protects a person from being denied a service or being treated less favourably because they are linked or associated with a disabled person.

To deny families the right for an autopsy to be carried out on their loved one purely because he/she has lived with HIV risks claims of discrimination and is unlawful under current legislation. It cannot be argued that discrimination is necessary because of the risk of HIV transmission, as current evidence proves HIV does not pose a high risk to practitioners. More details are available online.

If a new diagnosis of HIV is made at autopsy, the laboratory that performs the serology will routinely notify the HPA Communicable Diseases Surveillance Unit.

## Case study

When Jane's* husband died he was denied a pathological examination because of his HIV status. Jane was told that very few pathology laboratories would undertake a post-mortem on someone with HIV. A post-mortem was denied in this case because of the 'health risk implications'. The failure to conduct a post-mortem meant cause of death was determined by the less-scientific methods of an external examination, evidence of witnesses, findings of the police, and the examination of the scene by scenes of crime officers. While this situation was clearly discriminative and upsetting, it also meant a fully conclusive cause of death could never be confirmed.

*'Jane's name has been changed.*


### SUMMARY

- Post-mortems on HIV-positive individuals should not be refused on the basis of their HIV status.
- Adherence to universal precautions will mean that the risk of HIV transmission is extremely low.
- It is essential that all practitioners are properly trained and knowledgeable about mortuary techniques and safety procedures, as well as when it is appropriate to refer for post-exposure prophylaxis.
- All pathologists should familiarise themselves with the RCPath guidelines on health and safety and infections and Appendix 3 on protocols for performing post-mortem examination on Hazard Group 3 infections.
- Understanding of the current evidence-based guidelines by the RCPath will prevent unnecessary refusal of services and discrimination against family members, partners and friends closely associated with someone who has lived with HIV. ■


### FURTHER READING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