HIV and BBV Transmission

Advice from Urolink to Healthcare workers visiting or working Overseas

Background:

Surgeons and Healthcare workers are at risk of exposure to blood-borne viruses including HIV, hepatitis B and hepatitis C. There is no country in the world that is free of HIV infection, and a needlestick injury can occur anywhere.

The prevalence of HIV in many developing countries is considerably higher than in the UK. HIV infection is most prevalent in sub-Saharan Africa, where prevalence of HIV may reach 40% and rise to 90% amongst hospital patients. HIV is spreading, and rates in others parts of the world are rising, especially in South and Central America, parts of the Caribbean, parts of South and South East Asia including India and Thailand, and Eastern Europe.

You can find detailed country specific information on HIV prevalence on the WHO Communicable Disease Surveillance and Response Website: http://www.who.ch/emc/diseases/hiv/

What are the risks?

The main cause of HIV in clinical work is through a needlestick or other percutaneous injury resulting in exposure to HIV infected blood. The risk of infection after needlestick injury is low (about 3 per 1000 injuries), but the devastating consequences of acquiring HIV infection for a surgeon mean that it is imperative that all HCWs know how to minimise these risks. There are a small number of cases of occupational HIV transmission through contact with broken skin or mucous membranes, for example a splash of infected blood in the eye. The risk of infection is low (about 1 per 1000). Unprotected sexual activity carries a risk of 1:300 or higher. In developing countries, anyone who has stayed there for some time is at high risk, even if they say they have had a negative test for HIV.

The risk of infection after a high-risk incident depends on the viral load, the type of body fluid involved and the route of transmission. With HIV, the risk of transmission is greater with percutaneous exposure involving a deep injury, injury with a hollow bore needle, when the sharp instrument is visibly contaminated with blood, and when the sharp has been in the patient's vein or artery. The risk is also higher when the patient has a high viral load, which occurs in end-stage disease.

Before travel the surgeon or other HCP should:

- Seek travel advice early for vaccination and advice about prevention of malaria.
- Have a dental check up.
- Have had Hepatitis B antibody levels checked recently, ideally within the previous year. Where there is time, these should be checked. If travel is imminent, an Hepatitis booster should be given.
- Take an adequate supply of latex gloves, waterproof plasters, and a pair of protective goggles.
- Make sure they know their blood group. Not all countries screen donors for HIV, and where there is a chance the surgeon may be at significant risk of injury themselves and blood substitutes may not be available, it would be wise to take a plasma expander.
- Carry clear emergency contact details.
- Take a supply of anti-HIV drugs (one week at least). These do not need to be refrigerated but should be kept in a cool place.
- Consider arranging repatriation insurance to cover you for urgent (within 7 days) return home if not already arranged by your organisation.

While operating, the surgeon or other HCW should etc.:

- Always wear latex gloves when handling blood or other body fluids including when taking blood. Double gloving is recommended and may reduce perforations to the inner glove six fold and may reduce the volume of inoculated blood by the enhanced effect of wiping
- Protect the eyes and mucous membranes with goggles or a visor and the lips and mouth with a mask.
- Use blunt tip needles (which reduces the risk of injury and is recommended for abdominal closure) where feasible.
- Use a hands free technique when possible, ensure safe passage of a sharp to a neutral zone, which may be a kidney dish, and announce when a sharp is passed.
- Direct needles away from the non-dominant hand, remove needles before tying sutures and never resheath needles.
- Wear waterproof gowns where high blood loss procedures are undertaken and impermeable footwear.

- Cover cuts or abrasions with a waterproof plaster.
- Ensure sharps containers readily available and minimise theatre trafficking.
- If you have to mop up blood, use latex gloves and a paper towel and wash with a detergent, a chlorine solution or diluted household bleach.

In the event of a high-risk incident, the surgeon or other HCW should:

- Encourage any puncture site to bleed by pressing around the site (don't press directly onto the site of injury), wash the site with running water and soap but do not scrub it, and cover the site with a waterproof dressing.
- Thoroughly irrigate contaminated conjunctiva or mucous membrane with sterile saline or water for 1-2 minutes.
- Take a single dose of anti-HIV drugs as soon as possible, ideally within one hour of the incident. This one dose is unlikely to give side effects.
- Where necessary, report the incident to an appropriate senior person or colleague immediately, and keep a copy of any incident report if completed
- Assess whether the patient may be HIV positive or suffering from AIDS. Where possible, arrange for the patient's blood to be tested for HIV (and hepatitis B and C) with the informed consent of the patient. However, in rural settings in areas/countries of high HIV prevalence, one should assume the patient is HIV-positive and act appropriately.
- If the exposure is to blood or other body fluids from a patient who either is, or is strongly suspected of being HIV positive, continue to take the anti-HIV drugs for four weeks. If only one week of drugs has been taken, this will give sufficient time to organise a flight back home.
- Have a Hepatitis B booster shot if uncertain about their hepatitis B antibody status.
- Any healthcare worker potentially exposed to a BBV whilst overseas should report immediately to the occupational health dept of their Trust or Employer. They should refrain from exposure prone procedures until further advice has been given.
- Use barrier forms of contraception where there is significant risk of infection until a blood test at six months shows no evidence of infection.

Drug regimen:

Combivir (AZT 300mg [Zidovudine] & 3TC 150mg [Lamivudine]) one tablet taken twice daily with or without food 12 hours apart. The major side effects are nausea, sickness and headache: these normally wear off after a few days. Taking the tablets with food reduces nausea. A small supply of Maxolon should be taken in case of severe nausea.

AND

Nelfinavir (Viracept) 1.25g (five tablets) taken twice daily with food 12 hours apart. The major side effect is diarrhoea. This can be controlled with loperamide.

OR

Indinavir (Crixivan) 800mg three times daily without food 8 hours apart. At least 1 and a half litres of fluid must be taken daily to prevent the formation of kidney stones. Because of this, and the greater risk of dehydration in hot climates, nelfinavir is recommended.

Protease inhibitors can have serious interactions with other drugs. Common drugs that interact with PIs (in particular ritonavir) are rifampicin, midazolam, simvastatin and certain anti-histamines.

Follow-up:

HCWs should have:

- An HIV antibody test at 6 weeks, 3 months and 6 months
- An HIV-PCR test if rash or influenza-like symptoms develop
- LFTs, Hepatitis C antibody and Hepatitis C-PCR performed at 6 weeks, 3 months and 6 months
- Hepatitis B surface antibody checked at day 0 if uncertain about immunisation status
- Hepatitis B surface antigen and Hepatitis B core antibody at 6 months.
- Day 0 serum stored

Annex 1
References

HIV Post-Exposure Prophylaxis:
Guidance from the UK Chief Medical Officers' Expert Advisory Group on AIDS
UK Health Deptartments July2000

Guidance for Clinical Health Care workers: Protection against infection with blood borne viruses.
March 1998
Available www.open.gov.uk,doh./chcguid1.htm

Annex 2
Serious communicable diseases: GMC 1998
(See attachment)

Annexe 3
Travel Pack
In addition to the usual travel advice for medical visitors overseas the level of risk of acquiring BBV and the facilities and circumstances of practice may make it prudent to take the following items

This document.

A seven day supply of the drugs listed in the PEP regime above for possible exposure to HIV

A telephone number for urgent advice following occupational exposure.

Travel insurance that includes emergency repatriation in the event of occupational exposure to BBV.

A supply of sterile gloves and waterproof gowns. Eye protection. Blunt tipped needles for abdominal closure.

Phil Thomas, Royal Sussex County Hospital

With thanks to Ed Wilkins, Manchester Royal Infirmary, for editing and amendments