Public Health England

Protecting and improving the nation's health

Management of bloodborne virus (BBVs) risk in bomb blast victims (hepatitis B, C and HIV)

Think of risk of BBV risk:

- all incidents where multiple people have presented with significant blast injuries
- other incidents where body parts may have created human tissue projectile injuries to other people
- rescuers and responders at such scenes who may have skin penetrating injuries from such scenes

Key facts:

- it is a recognised complication of bomb injuries that implantation of human body projectiles, derived from other victims and from suicide bombers can occur; and that these projectiles create a potential risk of transmission of bloodborne viruses (BBVs)
- analysis of injuries from the London bombings in 2005 showed that victims within 2 metres of the blasts suffered significant human projectile injuries; however, it must be presumed that any person suffering from trauma at a blast scene may have incurred human projectile injury. Most of these implanted projectiles were bone fragments
- the prevalence of BBV carriage in the UK population is low (hepatitis B <1%, hepatitis C <0.5%, HIV <0.3%)
- the risk of transmission of BBVs as a result of blast injury transmission is not known; evidence from transmission in clinical setting suggest hepatitis B ≈ 1:3, hepatitis C ≈ 1:30, HIV ≈ 1:300

Hepatitis B:

- post-exposure management of hepatitis B using hepatitis B vaccine rapid schedule immunisation has few contra-indications and is known to be highly effective provided that it is given within 48 hours of potential exposure, and should still be considered up to one week after exposure

PHE publications gateway number: 2017077
Produced: May 2017

Hepatitis C:

- there are no current evidence-based methods for the post-exposure management of hepatitis C
- current best management is based on testing in the post-exposure period and treatment of infection if it occurs to preventing the long-term consequences of chronic infection

HIV:

- post-exposure prophylaxis (PEP) for HIV is well described and is effective provided that there is good compliance with treatment and prophylaxis is started soon after exposure (<72 hours)
- HIV PEP can be difficult to tolerate and the toxicity of the medicines used is an important consideration in determining benefit vs risk for individual patients; the low risk of transmission and the relative toxicity of current PEP regimes suggest that HIV PEP should not normally be given to victims of blast injuries

Management:

- all penetrating injuries should radiographed and all human foreign body implantations urgently removed
- specimens from the scene, at post-mortems and from survivors to risk of BBV infections is desirable
- blood specimens from victims with human projectile injury should be taken and stored before any specific post-exposure treatment is instituted, provided this does not delay post-exposure treatment
- all victims with injuries that have breached the skin must receive an accelerated course of hepatitis B vaccination (0, 1, and 2 months, or, 0, 7, 21 days and 12 months) within 72 hours of initial injury
- all patients should be followed up at 3 and 6 months to determine hepatitis C and HIV status
- other people directly injured in explosion with penetrating injuries leading to non-intact skin should be traced from their care records, and reviewed and managed as above for potential BBV exposure within 7 days of the incident

Produced: May 2017