



Management of potential bloodborne virus exposure following severe serial penetrating injury attack

Background

Serial attacks with bladed or other forms of penetrating weapons carry the possibility of transmission of blood borne viral infections (hepatitis C, hepatitis B and HIV).

For this risk to be present the following characteristics must be present:

- multiple victims have been injured
- using the same weapon, and
- the injuries incurred are of a nature that the transfer of significant amounts of blood or other body tissues may have occurred

Key facts

Public Health England's interim advice on the management of the bloodborne viral risk incurred is similar to that for victims of bomb blast injuries; however, it should be noted that the risk of transmission from serial penetrating injury attacks is different than that for bomb blast incidents and should only exist if one of the persons in the chain is infected with a blood borne virus.

The risk of transmission of blood borne viral infections in such circumstances is predicated on the prevalence of hepatitis B, C and HIV carriage in the UK population which is generally low; with estimates suggesting that the population prevalence of hepatitis B is <1%, and hepatitis C <0.5%.

In regard to HIV it is important to note that there is a very high rate of viral suppression (and so negligible transmission risk) in those currently in treatment for HIV (ie known diagnosis) – with >95% effectively virally suppressed. The proportion of people with unknown HIV infection is approximately 20% of those with HIV, which equates to a prevalence estimate of 4/10,000 people.

The probability of transmission of these bloodborne viruses in such incidents is unknown; however, the usually accepted risks of transmission per incident following sharps injuries from known infected persons in clinical settings, which may be the closest natural model, is generally quoted as being 1:3 for hepatitis B, 1:30 for hepatitis C and 1:300 for HIV.

Recommendations

For all patients with injuries that have breached the skin:

- blood specimens should be taken before any specific post-exposure treatment is instituted, provided this does not delay post-exposure treatment, and tested for hepatitis B, hepatitis C and HIV. Consent should be sought to share the results of these tests with PHE to help inform and to review PHE's assessment of risk to those involved
- an accelerated course of hepatitis B vaccination (0, 1, and 2 months, or, 0, 7, 21 days and 12 months) must be given starting within 72 hours of initial injury
- all patients should be followed up at 3 and 6 months to determine hepatitis C and HIV status (and then managed accordingly)
- HIV post-exposure prophylaxis is not recommended

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