Human hepatitis B immunoglobulin specific for hepatitis B post-exposure
July 2019
About Public Health England

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Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: @PHE_uk
Facebook: www.facebook.com/PublicHealthEngland

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Overview

Human hepatitis B specific immunoglobulin (HBIG) is supplied by Bio Products Laboratory (BPL) for post-exposure use to prevent hepatitis B infection.

HBIG is dispensed in vials of 500 iu.

Note: BPL is no longer supplying 200 i.u. vials of HBIG.

Indications

HBIG is normally used in combination with hepatitis B vaccine to confer passive/active immunity in the following groups.

Newborn of:

- mothers who are persistent carriers of hepatitis B surface antigen (HBsAg), where hepatitis e antigen (HBeAg) is detectable or its antibody (Anti-HBe) is not
- mothers who are HBsAg positive and known to have a HBV DNA level equal to or above $1 \times 10^6$ ius/ml
- mothers who are HBsAg positive as a result of recent acute infection
- mothers who are HBsAg positive and the baby’s birth weight is 1,500g or less regardless of e-antigen status or HBV DNA (viral load) of mother

Accidental exposure by blood or other material known to contain HBsAg through:

- percutaneous inoculation (needlestick or other ‘sharp’, bites, scratches)
- contamination of mucous membranes (spillage into eyes or mouth)
- contamination of non-intact skin (open wounds, dermatitis or eczema)
- the virus does not cross intact skin

Sexual contacts:

- of individuals suffering from acute hepatitis B who are seen within 1 week of last contact should be offered HBIG and vaccine
- of individuals with newly diagnosed chronic hepatitis B should be offered vaccine
  – HBIG may be given in addition if unprotected sexual contact occurred in the past 7 days
- other exposed contacts get vaccine only
Dosage

<table>
<thead>
<tr>
<th>Age</th>
<th>Dosage</th>
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<tbody>
<tr>
<td>0 to 4 years</td>
<td>250 i.u. (approximately 1.75ml or half of a 500 i.u. vial)*</td>
</tr>
<tr>
<td>5 to 9 years</td>
<td>300 i.u.</td>
</tr>
<tr>
<td>&gt;10 years</td>
<td>500 i.u.</td>
</tr>
</tbody>
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* If stockholders still hold 200 i.u. vials, the whole vial can be used for 0 to 4 years old until stocks are exhausted. Please then use the dosages above for 500 i.u. vials.

Administration

HBIG should be given by intramuscular injection at the same time as vaccine (but different site) as soon as possible, preferably within 24 hours and ideally within 48 hours – but no later than a week after exposure.

Hepatitis B vaccine should never be delayed while waiting for HBIG administration.

Recommendations

Newborns

Babies are considered ‘high risk’ of maternal-to-child transmission and should receive HBIG and vaccine if:

- mother is HBsAg seropositive and HBeAg positive
- mother is HBsAg seropositive and HBeAg/anti-HBe negative
- mother is HBsAg seropositive and e markers are not available
- mother has acute hepatitis B in pregnancy
- mother is HBsAg seropositive and infant is born weighing 1,500g or less
- mother is HBsAg seropositive and known to have an HBV DNA level equal to or above $1 \times 10^6$iu/ml in any antenatal sample in this pregnancy

Babies receive hepatitis B Vaccine but do not receive HBIG if:

- mother is Anti-HBe positive and HBeAg negative
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Post-Exposure for individuals who have been vaccinated

Individuals who have already been fully vaccinated with a primary course and had a significant exposure to a known HBsAg source should be given a booster dose of hepatitis B vaccine (without immunoglobulin) unless booster given within past year.

For those who have been partially vaccinated, 1 dose of vaccine should be given and the course completed.

Post-Exposure for non-responders

Health care workers who have received a full course of hepatitis B vaccine and have not responded (<10i.u) should be given HBIG post exposure.

Serum for HBsAg should be obtained from the source.

A second dose of immunoglobulin should be administered 1 month after the first unless the source is shown to be HBsAg negative

Guidance for issuers

1. Requests for HBIG for neonates (both advanced and emergency issue) must be accompanied by an issuing form. The issuing form is available on the Hepatitis B page of gov.uk: https://www.gov.uk/government/publications/hepatitis-b-requesting-issue-of-immunoglobulin-for-infants

2. HBIG will be issued where 1 or more of the e-markers are unknown. If in doubt issue, as delay in administration could reduce the chances of preventing transmission.

3. Vaccine is the most important intervention and this should be carried out as soon as possible and not delayed whilst awaiting HBIG or test results.

4. HBIG immunoglobulin is not available for the treatment of any type of chronic hepatitis B infection.

5. It is not available for travellers to high endemicity areas – vaccine should be considered.

6. HBIG immunoglobulin will not inhibit the antibody response when given at the same time as hepatitis B vaccine but should be given in different sites.
