

Joint UKBTS Professional Advisory Committee (1)

UKBTS General Information

Road map for UK Blood Services to manage a hepatitis A outbreak

November 2019

Approved by: Standing Advisory Committee on Transfusion Transmitted Infections

November 2019 - The contents of this document are believed to be current. Please continue to refer to the website for in-date versions.

A road map for UK Blood Services to manage a hepatitis A virus outbreak

Although the overall incidence of hepatitis A in the UK has decreased over the last 30 years there remains a high risk for sporadic and localised outbreaks. Specific risk groups such as among persons who use injection and non-injection drugs and men who have sex with men (MSM) continue to be at risk. The general population can also be at risk through subsequent person-to-person spread from localised outbreaks, as a consequence of decreasing general population immunity. Furthermore there is the possibility that infected individuals in the asymptomatic phase of the infection may present as blood donors and that components could transmit hepatitis A virus (HAV) infection to a recipient(s) should the donor be viraemic on day of donation and the recipient is not vaccinated or has not been previously exposed to HAV. This paper outlines the action that may be taken by UK Blood Services in the event of a HAV outbreak.

1. Background

Hepatitis A remains highly endemic worldwide. A recent outbreak of HAV in the European Union (2016-2018) involved three outbreak strains and disproportionately affected men who have sex with men¹. Epidemiological investigations have noted that HAV strains in an outbreak in Australia, also primarily affecting MSMs, are very similar to these European strains. Furthermore, there are a number of 2018 cases being reported in European Union countries associated with a separate strain, historically epidemiologically associated with Morocco although many of the 2018 cases do not have a travel history to Morocco². These strains are different again to those implicated in two food-borne outbreaks in EU countries in 2012-2014 associated with the consumption of frozen strawberries and frozen mixed berries. In the US, several states have also been dealing with hepatitis A outbreaks since 2017, primarily among persons who use injection and non-injection drugs, and/or persons who are homeless, and their close direct contacts. Global travel will continue to present added opportunities for introduction of infection to non-immune populations in the UK.

¹ Ndumbi P *et al* (2018) Hepatitis A outbreak disproportionately affecting men who have sex with men (MSM) in the European Union and European Economic Area, June 2016 to May 2017. *Eurosurveillance*, 23 (33) 16 Aug 2018

² ECDC (2018) Rapid risk assessment: Multi-country outbreak of hepatitis A virus genotype 1A infections affecting EU countries in 2018. Published 21 May 2018

<https://ecdc.europa.eu/en/publications-data/rapid-risk-assessment-multi-country-outbreak-hepatitis-virus-genotype-1a> accessed 11 April 2019

Joint UKBTS Professional Advisory Committee (1)

UKBTS General Information

Road map for UK Blood Services to manage a hepatitis A outbreak

November 2019

General measures available in outbreak situations include health education, good hygiene measures and limitation of spread from person-to-person. Timely diagnosis and surveillance reporting are crucial for implementing subsequent response control options and limiting the spread among at-risk groups and the general population. Outbreak investigation studies can help in identifying risks and rule out common source outbreaks and can be useful when deciding on the control measures to be implemented in a specific outbreak.

In 2017 Scotland experienced a significant outbreak of Hepatitis A. The outbreak was linked to a bakery in Lanarkshire and an investigation noted that food produced and sold between 20 March and 13 April 2017 may have been affected. There were two hot spots for infection with approximately 80% of cases located in the Coatbridge and Airdrie areas (postcodes ML5 and ML6). In total there were 87 confirmed and four probable cases with >80% of cases in Lanarkshire. One case of HAV transfusion-transmitted infection, in a platelet recipient, occurred during the outbreak.

2. UK Blood Services Horizon Scanning

SACCTI on behalf of JPAC performs horizon scanning for UK Blood Services to identify new and emerging pathogens which may threaten the safety of donated products, and to ensure that appropriate actions are taken to mitigate any risk identified. The monthly Emerging Infections Report (EIR) compiled by the NHSBT/PHE Epidemiology Unit includes information provided by a range of national and international evidence sources such as the European Centre for Disease Control (ECDC), the European Infectious Diseases (EID) Monitor group of the European Blood Alliance (EBA) and the EU Rapid Alert System. Through this process UK blood Services should be made aware of localised, community and common source outbreaks of hepatitis A. SACTTI would inform SACCSO of any such HAV outbreaks and SACCSO would inform the relevant UK blood service.

3. UK Blood Service response in the event of a hepatitis A outbreak

3.1 Incident Management Team

In the event of a hepatitis A outbreak, it is likely that Public Health England, Health Protection Scotland, Public Health Wales and/or Public Health Agency (Northern Ireland) will set up an Incident Management Team (IMT) together with the relevant Health Protection Team(s) (HPT). UK Blood Services may not be aware of an outbreak in the early stages therefore the IMT should invite the relevant Blood Service to join. If the outbreak is confined to a single NHS board, it is the local HPT that would establish the IMT and who would then invite external agencies. If UK Blood Services become aware of a hepatitis A outbreak and have not been contacted by an IMT, UK Blood Services most likely to be affected should approach the local IMT and/or PHE, HPS etc. and request to be included in the outbreak IMT meetings. These meetings will assess the likely start of the outbreak and actively monitor the primary and

Joint UKBTS Professional Advisory Committee (1)

UKBTS General Information

Road map for UK Blood Services to manage a hepatitis A outbreak

November 2019

secondary cases reported to HP teams. Rapid notification of new cases from the NHS Board managing the outbreak to the IMT is important to ensure that any potentially HAV contaminated products can be quarantined and to reduce the risk of an infectious donor attending to donate blood. All cases and contacts of HAV infection (both sporadic and outbreak cases) should be asked if they have donated blood recently. The IMT meetings will provide a good indication of the size of the outbreak and the rate at which new cases are being identified. As part of larger 'secondary prevention strategy' a blood transfusion subgroup (blood service led) can be set up.

3.2 Risk Assessment

From the IMT information regarding the outbreak should be made available to the UK Blood Service representative who will assist in the preparation of a risk assessment. Clear information on the index and associated cases will allow the Blood Service(s) to identify time periods associated with increased risk. Given the range of onset dates for the index and primary cases, the time scale for potential secondary cases can be determined and the length of the outbreak estimated. Blood Services can request (if not already in place) that HPT ask cases and contacts if they have donated blood or bone recently and that these details be passed onto the Blood Service for risk assessment.

3.3 Identification if any cases/contacts are recent blood donors

Information on confirmed hepatitis A cases and relevant contacts shared with the respective Blood Service (compliant with Data Protection Act) will allow interrogation of donor databases to determine if any cases are registered as blood/tissue donors and if they have recently donated blood/tissues. Based on estimated outbreak times scales and case/contact donation dates, donors who have recently donated are likely to fall into two categories; low risk (contacts with no sign of HAV infection and/or donation date indicates HAV contamination of donation/transmission unlikely) and high risk. Blood Services should identify if any of the donations have been transfused/used, and if so contact the treating clinician by phone, then follow-up with letter/email to advise them of the situation and the low/high risk to the recipient. Archive donations should be retrieved and tested for HAV infection. If possible a time-limited flag should be added to confirmed cases/contacts in case they attend a donor session. Blood Services should link with colleagues in other UK Blood Services if required.

The IMT team should continue to share details and numbers of confirmed cases with the respective Blood Service(s) throughout the outbreak. Risk mitigation measures such as proactive communications and daily updates by HPTs to UK Blood Service of cases/contacts could be implemented at key stages of an outbreak.

Joint UKBTS Professional Advisory Committee (1)

UKBTS General Information

Road map for UK Blood Services to manage a hepatitis A outbreak

November 2019

3.4 Options appraisal

Based on HAV outbreak information, UK Blood Services can conduct a risk assessment and options appraisal. Options may be:

- I. Size/location of outbreak is such that the Blood Service does not need to implement any specific measures.
- II. Larger outbreaks may require the cessation of donor sessions in certain areas. A risk assessment will be required to determine the impact of a temporary suspension for all donations from the implicated area on blood supply. A deferral should be applied to donors in the relevant areas. In the Scottish outbreak this was initially 6 weeks but was subsequently extended. Communication with staff/donors in implicated areas of current information is important to ensure donors to do attempt to donate in other locations/UK Blood Services.
- III. A recall of blood components that were collected during the outbreak risk period in specific areas/postcodes may be required. Risk assessment will help to determine the level of risk associated with the recall and impact on stock levels versus possibility of infected units remaining in stock.
- IV. Similarly, live tissue donations may be halted in certain areas. Alternatively, and for non-living tissue donors/organ donation, individual risk assessment can be performed.
- V. If UK Blood Services have validated HAV NAT testing in place, this could be switched on for the duration of the outbreak as an alternative to deferral.

3.5 Communication

At various times during the outbreak Blood Services may want to issue communications to specific donors groups in or out with the affected area providing information on the outbreak and guidance for donors should they become infected with HAV. A number of different forms of communication could be used e.g. letters, email, communication via the respective Blood Service websites, signs at donor sessions. In the 2017 HAV outbreak in Scotland these communications (prepared by the Blood Service and circulated to IMT for agreement) were received well by donors. In addition a controlled memo to all Donor Services staff and a set of Q and A's should be prepared to ensure that all staff are giving a consistent message.

3.6 Testing

HAV testing is not regularly performed in UK Blood Services. HAV NAT testing is useful to determine active infection. There are HAV NAT assays available for the current NAT screening

Joint UKBTS Professional Advisory Committee (1)

UKBTS General Information

Road map for UK Blood Services to manage a hepatitis A outbreak

November 2019

platforms used in UK Blood Services although in order to be switched on in an outbreak they would require to be evaluated and KEG/MTEG listed. Alternative external virology laboratories may be able to perform testing. Serological testing (HAV IgG and HAV IgM) may also be useful to determine if implicated donors/recipients are already protected through natural infection or previous vaccination.

3.7 Transfusion-transmitted Infections

Any possible HAV transfusion–transmitted infection should be investigated by UK Blood Services in the same manner as other transfusion transmitted infection investigations.

3.8 End of outbreak

The IMT will determine the time point at which the outbreak can be declared over. For HAV this is generally 100 days after the report of the last case (twice longest incubation period of 50 days). If Blood Services have halted sessions in certain areas, they may want to communicate with the IMT and discuss if collections can be reconvened prior to the official end of the outbreak. It is also possible that the IMT may be stood down before this time period has elapsed and Blood Services may want to continue/discontinue risk mitigation measures after assessing the outbreak data/blood supply requirements.

(1) Joint United Kingdom Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee (JPAC)