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GUIDELINES FOR PLANNING THE IMPLEMENTATION OF ANTI-HCV TESTING OF BLOOD AND COMPONENTS FOR TRANSFUSION

The following recommendations are based on available information that indicates a strong correlation between anti-HCV in blood donors, and the transmission of non-A, non-B hepatitis (NANB) to blood recipients. Published[1] and unpublished (Alter, H. et al.) data show that of 33 individuals who received at least one blood component that tested positive for anti-HCV, 23 developed hepatitis C (formerly called NANB hepatitis). In contrast, among 93 multiply transfused recipients whose donors tested non-reactive for anti-HCV, only 4 developed hepatitis C. Other studies confirm these observations.[2/3]

All blood and components collected for transfusion should be tested for hepatitis C virus antibody (anti-HCV). This recommendation should be implemented as soon as feasible after enzyme immuno-assays (EIA) are licensed by the Food and Drug Administration (FDA) and adequate supplies become available. Blood centres that are not able to implement testing for anti-HCV within a reasonable period of time should consider alternative arrangements for testing their blood collections in an FDA approved testing facility.

These guidelines should be brought to the attention of local physicians and hospital administrators, so that they may be aware of developments relating to anti-HCV testing which are likely to be relevant to their own planning processes.

Anti-HCV Test Implementation

To facilitate rapid introduction of the anti-HCV test, prior to licensure centres should plan to hire and train needed technical personnel, define equipment and software needs, prepare standard operating procedures, establish donor notification systems and prepare donor information materials.

Blood collection and testing facilities should document steps taken to implement anti-HCV testing. Milestones include: date of test licensure, date equipment and software were ordered, date kits were delivered, dates and duration of training, completion of training and qualification, dates of introduction of prospective and retrospective testing, scheduling and dates of achievement of rotation of inventory in transfusion services. In preparation for routine screening with licensed anti-HCV kits, blood drawing facilities may wish to begin storing samples for retrospective testing, i.e., for a period of time commensurate with the shelf life of red blood cells.

Blood centres should implement anti-HCV testing, including testing of complete inventory, as rapidly as possible. After a blood collecting centre has documented proficiency in anti-HCV testing and scaled up testing to accommodate all ongoing blood

collections, the centre should test samples from in-dated components in inventory (in centre or potentially in hospital inventory) that were prepared from untested units collected previously. The most recently collected should be tested first. If components from units are found to be repeat reactive subsequent to release, the transfusion service that has received these should be notified by the blood provider. The transfusion service should, in turn, notify the transfused patient's physician. Components from repeat reactive units should be recalled by the providing facility; documentation of their disposition shall be part of the collecting facility's records. Disposition may be destruction, use in research, or processing for laboratory use.

Transfusion facilities should be informed by the blood provider when all components have been tested. The package insert, the Circular of Information, should be modified locally to reflect that anti-HCV testing has been performed. Blood or components subsequently issued which have not been tested for anti-HCV should be so labelled. The procedures used during the implementation of anti-HIV-1 testing for components which cannot be tested (e.g., Red Blood Cells, Frozen) should be applied to anti-HCV testing.

When adequate supplies of anti-HCV-negative components are available to accommodate anticipated community needs, remaining (non-essential) in-dated components that have not been tested for anti-HCV should be discarded or designated for non-transfusion use. Untested components returned to the provider may be redistributed if non-reactive for anti-HCV. The provider may designate separate expiration dates and instructions for handling and disposition of different components (e.g. Red Blood Cells, FFP, Cryoprecipitated AFH and Red Blood Cells, Frozen), as well as for components of different ABO groups or specified blood types (e.g., rare units). Transfusion facilities and blood providers should work closely together and co-operate during the period of transition to an inventory of solely anti-HCV-negative units in order to convert the blood supply as rapidly as feasible and to minimise the number of patients exposed to untested components.

Units Reactive for Anti-HCV

Interpretation of screening tests for anti-HCV should follow manufacturers' instructions as provided in the test kit package inserts. Components from a donation that tests repeatedly reactive for anti-HCV by EIA should not be released for transfusion. The component should either be autoclaved or incinerated using appropriate biosafety procedures or labelled as "not for transfusion". The disposition of repeatedly reactive components should be documented. Record keeping requirements for anti-HCV testing and product disposition should be consistent with those for other FDA required tests such as HBsAg and anti-HIV.

If a donation is found to be anti-HCV repeat reactive, the blood collecting institution should determine if components made from previous untested or anti-HCV-negative donations from the same

donor are still within the product dating period. For example, any units of Fresh Frozen Plasma, Cryoprecipitate AHF or Red Blood Cells, Frozen, that are still in inventory should be disposed of as if they were repeat reactive. If such components have been previously issued to transfusion services, the blood collecting institution should retrieve these units, document the retrieval, and establish the final disposition of the component.

Disposition of Recovered Plasma and Autologous Units

The FDA has decided that, at present, no testing for anti-HCV of Source Plasma for further manufacture should be carried out pending the outcome of studies designed to obtain information on the safety of products prepared from screened material. Concerns have been raised that depleting the plasma pool of anti-HCV repeat reactive units may possible reduce the safety and/or efficacy of some plasma derivatives, especially immunoglobulin preparations. In keeping with the interim policy on not testing Source Plasma, the FDA has under review a recommendation that recovered plasma from donors that are reactive for anti-HCV may be used for the manufacture of plasma derivatives. Until a final decision concerning this policy is reached, however, blood collecting agencies are urged to discuss the issue with their specific manufacturers for current practice. For autologous donations found to be repeat reactive for anti-HCV, institutions may wish to adopt an approach that is consistent with their policies for HBsAg and anti-HIV-1 confirmed positive autologous units.

Donors found to have anti-HCV

Predonation information distributed to donors should include a statement that all donor blood will be tested for infectious agents, or viruses, or hepatitis agents. Statements using any of these alternative phrases are adequate to inform donors of anti-HCV testing.

A donor with anti-HCV repeat reactive test results on a single sample should be indefinitely deferred from donating. A blood collecting institution should establish mechanisms to assure that either 1) the individual will not be accepted as a donor in the future, or 2) that donations made by such individuals will not be released for transfusion.

Donors should be notified of their anti-HCV repeat reactive test results. Notification should include written information presented to the donor either by mail or at the time of a face to face interview. Notification of donors should occur whether or not additional, confirmatory testing is performed. If additional, more specific, HCV testing becomes available, blood centres should consider the earliest possible use of such means for generating a medically appropriate message at the time of donor notification. All donors with a repeat reactive anti-HCV test should be informed that they are ineligible to donate blood for the indefinite future. Blood centres should be aware that some state health departments may require donors with repeat reactive anti-HCV results to be placed on a state donor deferral registry, or that such donors be reported to the state or county

health department.

The notification message to donors with anti-HCV should indicate that the donor may be infected with HCV, which may lead to liver disease. Therefore, because of the potential medical significance of this finding, the message should include a recommendation to see a physician for further evaluation. Donors should also be told that the only test available for HCV is a screening test which cannot be confirmed at this time, so the anti-HCV result may be a false positive one.

Blood centres should be prepared to provide all test results related to hepatitis screening (i.e., HBsAg, ALT and anti-HBc) to donors with anti-HCV. The centre should transmit this information to the donor or inform the donor that this information can be forwarded to his/her physician.

Donors indefinitely deferred because of a repeat reactive anti-HCV test cannot be considered for re-entry into the donor pool at this time. When further information about HCV serology becomes available, a procedure for re-entering donors with anti-HCV by the screening assay may be developed. Blood collection centres should be aware that such a procedure may require the retesting of the initial sample. Therefore, it may be useful to retain a frozen specimen for future testing.

"Surrogate" Tests for NANB Hepatitis

ALT and anti-HBc screening of blood donations should continue until it can be demonstrated that NANB agents other than hepatitis C virus are not a significant cause of transfusion associated hepatitis. ALT screening may also serve to identify some hepatitis C virus carrier donors who have not yet developed anti-HCV, as well as indicate some degree of ongoing liver dysfunction in those with anti-HCV.[4] Anti-HBc screening of blood donors may identify HBsAg-seronegative carriers of hepatitis B virus and NBV-delta virus carriers.

Look Back

Anti-HCV testing will have important implications in screening for liver disease among a much larger populace than transfusion recipients alone. Thus, more appropriate uses of the anti-HCV assay can be accomplished through physician and community education. The blood banking organisations will work closely with the Food and Drug Administration, the American Medical Association, the American Hospital Association and anti-HCV test manufacturers in achieving this goal.

The Public Health Service (PHS) has recommended against an effort to identify and notify all past recipients of blood components from donors now found to be repeat reactive for antibodies to HCV ("Look Back"). AABB, ARC and CCBC endorse this position. The PHS will be developing guidelines regarding testing of individuals at risk for HCV infection, including prior transfusion recipients.

References:

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American Association of Blood Banks

American Red Cross

Council of Community Blood Centres

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