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Risk for Hepatitis C Infection in Adolescents and Young Adults Who Received Blood Transfusions in a Neonatal Intensive Care Unit before July 1992

Background

An estimated 3.9 million persons in the United States have hepatitis C virus (HCV) infection, of whom 7% (about 300,000) might have acquired infection via blood transfusion.¹ Persons who received a blood transfusion before July 1992 are at increased risk for HCV infection because before this date, blood banks did not have a reliable test for screening donor blood. The Centers for Disease Control and Prevention therefore recommends routine HCV testing for persons who received blood transfusions before July 1992.² Persons transfused as neonates in a neonatal intensive care unit (NICU) are at particularly high risk for HCV infection because they were more likely to have multiple transfusions and therefore more donor exposures.

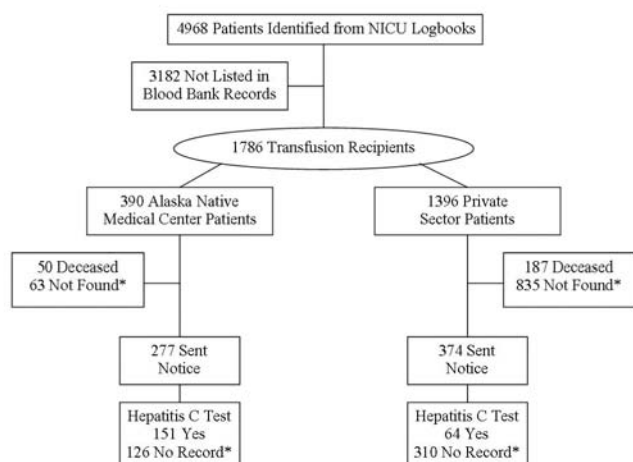
Objective

To identify transfusion recipients who were patients in the Providence Alaska Medical Center NICU before July 1992, and to notify those identified of their HCV risk and encourage them to ask their health care provider for an HCV test.

Methods

Beginning in 2001, staff members from the Alaska Native Tribal Health Consortium and Providence Alaska Medical Center undertook a hepatitis C Lookback Program.³ NICU and blood bank records available from January 1975 through July 1992 were examined (Figure). Persons admitted to a NICU for ≥ 2 days and discharged alive were selected and entered into a database, which was then linked to a blood bank database. Transfusion recipients were identified as having received health care at the Alaska Native Medical Center (ANMC) or in the private sector. All persons who had a current mailing address available were sent a notification letter encouraging them to have an HCV test. Hepatitis C antibody and HCV ribonucleic acid (RNA) test results were determined by ANMC chart reviews or an anonymous, self-report questionnaire sent to private sector persons.

Figure. Neonatal Intensive Care Unit Patients Who Received Blood Transfusions between January 1975 and July 1992



*1334 persons at-risk for hepatitis C infection, but "not tested."
Testing of all persons treated in a NICU before July 1992 is recommended.

Results

Of 1,786 transfusion recipients identified, 651 (36%) were mailed a letter, 215 (12%) had an available HCV test result, and seven (3%; 95% confidence interval, 1%-8%) had a positive hepatitis C antibody test. Of these seven, six were also positive for HCV RNA. None of the infected persons knew of their HCV infection before implementation of the Lookback Program. Age at diagnosis ranged from 13 to 26 years (median: 16 years). Of 147 persons queried, 75 reported no knowledge that they (or their child) had received a transfusion while in the NICU.

Discussion

While we attempted to notify and test all transfusion recipients, 898 could not be located and we have no record of HCV testing for 436 who were sent a notice (Figure, total = 1334). It is likely that many of these children continue to reside in Alaska. Additionally, persons transfused before July 1992 in NICUs outside of Alaska may have moved to the state. Thus, numerous children with unidentified HCV infection likely reside in Alaska. Many will not yet have symptoms. Nevertheless, early identification remains important. Persons with chronic HCV need regular medical follow-up and monitoring of liver function tests. Treatment is available for those found to have advanced liver disease. For those without liver disease, early detection may decrease the risk of co-morbid liver conditions such as cirrhosis by allowing sufficient time for preventive counseling.

Recommendations

1. Health care providers should document transfusion histories for all children admitted to a NICU before July 1992 and document HCV status among transfusion recipients. Patient history does not provide a reliable source for documenting receipt of a transfusion.
2. Health care providers should discuss the risk of HCV infection with persons (or parents of children) who were admitted to a NICU before July 1992 and provide HCV testing as appropriate.

Acknowledgement

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References

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3. Cagle HH, Jacob J, Homan CE, et al. Results of a general hepatitis C lookback program for persons who received blood transfusions in a neonatal intensive care unit between January 1975 and July 1992. *Arch Pediatr Adolesc Med* 2007;161:125-130.