SEROPREVALENCE OF HEPATITIS C VIRUS ANTIBODIES AMONGST BLOOD DONORS IN AHMADU BELLO UNIVERSITY TEACHING HOSPITAL (ABUTH) KADUNA

ISA AH, HASSAN A., MAMMAN, A.I., BABABODOK, A.A., MUKTAR, H.M and AHMED, A.J

CORRESPONDANCE: ISA, A.H. Department of Haematology and Blood Transfusion, Ahmadu Bello University Teaching Hospital (ABUTH) Zaria. Email: albarkatwo@yahoo.com Phone no: 080543999861

ABSTRACT

Background: Hepatitis C virus (HCV) is one of the most common transfusion transmissible infections hence the introduction of routine screening for its antibodies in blood donors in most blood banks.

Methods: This was a retrospective study in which the blood donor screening register for all intending donors were reviewed and analyzed.

Results: There were 4,731 potential donors with age range 20-41 years. Eighty six (1.8%) were sero-positive to HCV antibodies with a decreasing incidence over the period under review. The highest incidence was recorded among the age group 31-40 years.

Aim: To determine the sero-prevalence of HCV among blood donors in ABUTH Kaduna.

Conclusion: HCV infection is not uncommon in our environment hence the need to emphasize its routine screening among all potential donors.

INTRODUCTION

HCV is a single stranded RNA virus which until 1989 was named non A, non B hepatitis virus, was responsible for 80% of post transfusion hepatitis (1,2,3). The modes of transmission are sexual intercourse, accidental inoculation (as in intravenous drug use, tattooing, acupuncture) with HCV- contaminated instruments, contact with infected body fluids and vertical transmission (4,5,6). Sickle cell disease (SCD), haemophilia and haemodialysis are risk factors due to the need for repeated transfusion with blood and blood products (4, 5). The seroprevalence of HCV antibodies ranges from 1.1% to 6.7% (7) in the West African sub-region.

Liver disease of variable course is the most common manifestation of HCV infection (4). Pegylated α-interferon and/or Ribavirin are used for the treatment of HCV with variable outcomes (8).

HCV antibody screening was introduced in ABUTH blood bank in 1997 and since then its prevalence has not been determined among blood donors which this paper seeks to do.

Methods: This was a hospital- based retrospective study. It involved a review of the records of all intending blood donors on whom HCV antibody screening was done over a four-year period, from January 2000 to December 2003. The donors were classified and analyzed...
based on age and seropositivity. HCV antibody screening was done with ELISA using Grand Medical Diagnostic (USA) Rapid Test kits.

**Results:** There were 4,731 blood donors over the study period with an average of 1,184 donors per year. All donors were males with an age range of 20-41 years. The highest seroprevalence for HCV was in the age group 31-40 years (41%). Eighty six (1.8%) of donors were seropositive for HCV antibodies (Table 1).

<table>
<thead>
<tr>
<th>Year</th>
<th>NUMBER OF DONORS</th>
<th>SEROPOSITIVE DONORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>914</td>
<td>19</td>
</tr>
<tr>
<td>2001</td>
<td>1,425</td>
<td>29</td>
</tr>
<tr>
<td>2002</td>
<td>970</td>
<td>16</td>
</tr>
<tr>
<td>2003</td>
<td>1,422</td>
<td>22</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4,731</td>
<td>86</td>
</tr>
</tbody>
</table>

**Table 1: HCV Seropositivity among blood donors**

<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 20</td>
<td>2</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>5(6%)</td>
</tr>
<tr>
<td>21-30</td>
<td>7</td>
<td>13</td>
<td>8</td>
<td>3</td>
<td>31(36%)</td>
</tr>
<tr>
<td>31-40</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>14</td>
<td>35(41%)</td>
</tr>
<tr>
<td>≥41</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>15(17%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19</td>
<td>29</td>
<td>16</td>
<td>22</td>
<td>86(100%)</td>
</tr>
</tbody>
</table>

**Table 2: Age distribution of seropositive donors**

**Discussion:** The routine screening of donors is essentially to ensure blood safety, particularly from transfusion transmissible infections such as HIV, HCV and HBV. The seroprevalence of HCV was 1.8% however there was a gradual decline over the study period (Table 1). This may be due to Media health education on the prevention of viral infections especially HIV which share same routes of transmission with HCV.

The finding of HCV seroprevalence of 1.8% among blood donors in ABUTH Kaduna was remarkably lower than the finding by other workers from other parts of the country. Egah et
al (3) reported a HCV seroprevalence of 6% in Jos. Chukwurah et al (8) in South Eastern Nigeria found a HCV seroprevalence of 7.6% while Ayolabi (10) et al (2006) in Lagos reported a HCV seroprevalence of 8.4% all among blood donors. Halim (10) et al (2000) in Benin reported a seroprevalence of 12.3% and Fasola (12) et al (2008) in Ibadan reported a seroprevalence of 3.9%. The significantly lower prevalence in our study may be due to differences in the lifestyle of people in different regions of the country.

Vardas et al in Namibia reported a seroprevalence rate of 0.9% which is lower than our findings in Kaduna. Arthur (13) et al (1997) in Egypt reported 24.8% HCV seroprevalence a value that is significantly higher than all the Nigerian reports. This may be attributed to the method of HCV antibody determination (second generation enzyme immunoglobulin G antibody assay by Abbot). In 2003 Etard et al (7) reported a seroprevalence of 0.8% in Senegalese blood donors which is remarkably lower than our finding but comparative to the Namibian findings.

**Conclusion:** The seroprevalence of HCV was 1.8% and was more prevalent amongst the 31-40yrs age group. There is a need for mandatory screening for HCV antibodies in all blood banks and for continuous health education of the donor population in order to ensure the availability of safe blood.

**References:**

8. Chukwurah EF, Ogbodo SO, Obi GO. Seroprevalence of Hepatitis C Virus (HCV) among blood donors


