

BLOOD DONOR SCREENING FOR HEPATITIS AND HIV

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Donated blood, all over the world, is routinely screened for several infections depending on the endemicity and/or prevalence; these tests vary from continent to continent¹. The first and the most important commandment in blood donor selection is that, the donor should be in a state of good health both medically and surgically. Donors that have any disease such as viral hepatitis, malaria, venereal disease, AIDS are excluded from blood donation². Pregnancy, lactation, infection, and blood donation within less than 12 weeks are temporary contra-indications for blood donation^{2, 3}.

Hepatitis B and C are major health problems globally⁴. In Pakistan, there are 4.5 million estimated carriers with a carrier rate of 3- 4 %⁵. Blood and its products are the most important vehicle for transmission of HBV, HCV and HIV⁶. Routine screening of blood donors has led to identification of persons with anti- HCV and asymptomatic, therefore, the present study was designed to evaluate blood screening practice and outcome from donated blood at a private laboratory.

It was a cross sectional study including 688 blood donors reporting in Fatima laboratory located at Baqai Medical University Karachi, during the period of January to December 2006. Five ml. of venous blood was drawn by aseptic technique. The tests performed for screening purpose included: ABO grouping and Rhesus typing, Hepatitis B surface antigen (HBsAg) antibody to hepatitis C virus (Anti-HCV) and antibody to human immunodeficiency virus (Anti-HIV). The qualitative analysis for HBsAg, HCV and HIV were performed on test device (ACON Company) by immunochromatographic technique.

All the donors were deferred and accepted for blood transfusion according to the screening results. Thirty one (4.50%) were positive for HBsAg, 30 (4.36%) were positive for anti HCV and 1 (0.14%) were positive for anti HIV (Table-1).

Table - 1: Frequencies of HBsAg, Anti HCV, HIV in blood donors

Screening parameters	Total numbers of Donors	Reactive	Non-reactive
HBsAg	688	31 (4.50%)	657 (95.50%)
Anti-HCV	688	30 (4.36%)	658 (95.63%)
Anti-HIV	688	01 (0.14%)	687 (99.85%)

According to the above observations, frequency of HBsAg (4.5%) was greater when compared with HCV and HIV. There are 400 million HBV carriers worldwide, of which more than 250 million reside in Asia⁵. In Northern Pakistan the prevalence of HBsAg was 2.5%.⁶ Therefore, donors must be screened before blood transfusion even if they are healthy looking. In our study, 30 blood donors were found to be anti HCV - reactive. Screened blood bags received from other transfusion centers showed higher rates 4.27% of hepatitis viral infection⁷.

In the present study, frequency of hepatitis C viral infection among blood donors found to be reactive 4.36% and HIV (0.14%). The rate of HCV during screening also observed in another study was 4.2% which is in confirmation of our results⁸. Pakistan despite being a densely populated country, has a low to moderate sero-prevalence of HIV/AIDS. By June 2003, only 2086 cases of HIV and AIDS were reported throughout the country⁶. The risk of HIV transmission through blood transfusion has been estimated to be 1 in 1.3 million blood donors⁶. In conclusion screening of blood donors and deferral procedures is meant to minimize the risk of transmitting an infectious agent from donated blood to the recipient, as well as ensuring the welfare of the donor. People donating blood may seem healthy but they might be the carriers of HBsAg, HCV or HIV.

It is recommended that all the blood transfusion services must follow internationally acceptable standard procedures for screening of blood. Less specific and less sensitive methods for screening will misguide everyone and will promote transmission of these diseases in our population.

Screening results of borderline cases must be rejected for blood donation. Different awareness programs should be created for the public about different risk factors of these diseases.

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