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HIV Serosurveillance in Multi-transfused Thalassemic Children

Human immunodeficiency virus (HIV) infection has emerged today as the most dreaded transfusion related complication. Both HIV seropositivity as well as acquired immunodeficiency syndrome (AIDS) have been known to result from transfusion of infected blood or blood products(1). In fact transfusions may be responsible for as many as 22% of all cases of AIDS in children(2).

The thalassemia gene is prevalent in North-West and betathalassemia major is a common hematological condition seen in Pediatric practice. These children, being transfusion dependent, constitute an important risk group for HIV infection. The reported HIV seroprevalence rates in such children vary from 1.09-38.5% in different parts of the world(3-5).

We screened 100 thalassemic children for evidence of HIV infection. These patients had been on a regular transfusion programme for periods varying from 1-12 years. Blood that is used in our hospital is procured from the Blood Bank Society which obtains its supplies from voluntary donors only. Chandigarh is perhaps the only city in India where professional donors are not allowed to donate blood.

There were 77 boys and 23 girls in the study population and the ages varied from 1.5-14 years (mean 6.8 years). A cumulative total of 6971 units had been transfused to these children over the preceding 12 years with the number of transfusions per child varying from 8-250 (mean 69.71).

Serum was tested for HIV-1 antibody by the competitive ELISA method using Welcozyme kits. It was heartening to note that all children were seronegative for HIV-1 antibody. These results also indirectly reflect the absence of, or a very low HIV seropositivity in voluntary donors of the region. It may be noted that at the time when this study was conducted (1989-1990) our blood bank was not routinely screening all donors for HIV antibody.

Needless to say, absence of HIV seropositivity should not slacken our surveillance programme. All attempts should be made to ensure screening of donor blood for both HIV-1 and HIV-2 antibody. Timely institution of these control measures would go a long way in preventing HIV transmission by this route.

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Comments

We read with interest the article by Surjeet Singh *et al.*(1) in which the authors couldn't find even a single case positive for HIV-I antibody at Chandigarh. Their results also indirectly reflect the absence of, or a very low HIV seropositivity in voluntary donors of the region. We all are aware that HIV is a potentially dangerous virus transmitted through blood and children receiving multiple blood transfusions are at a greater risk to get it, more so those cases who have received untested blood like some of the children reported in this study. In contrast to this, in a number of studies the seropositivity of HIV virus among multi-transfused patients was found to range from 4-24.6%(2-4). In a study at our institution in New Delhi, out of 75 multi-transfused children 7(9.3%) were positive for HIV-I antibody by ELISA method which was later on confirmed by Western-Blot technique(5). Out of these 75 cases, 64 were of thalassemia and 11 of other diseases requiring multiple blood transfusions. Similarly, in another study by Sen *et al.*(6), out of 203 cases, 18 children (8.9%) were positive for HIV-I antibodies by ELISA method and 6 children were diagnosed clinical AIDS as per the WHO criteria. There are similar reports from Bombay, Calcutta and Vellore also(2-4). According to an ICMR report(7), the seropositivity in donated blood in India is estimated to be between 0.1-1.5%. Here we would also like to point out that AIDS virus is slowly spreading in India and therefore all efforts must be directed towards proper screening of blood and other blood products because it is the major route of transmission in children receiving multiple transfusions.

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