

## Blood exchanged in ritual ceremonies as a possible route for infection with hepatitis C virus

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### Abstract

**Of 52 blood donors (25 men and 27 women) counselled because their donation tested positive for hepatitis C virus antibody, seven (13.5%) gave a history of practising the ritual of blood exchange in their childhood or early adult life. This practice can cause transmission of blood borne infections or alloimmunisation, or both.**

(J Clin Pathol 1994;47:87)

Hepatitis C virus is a recently recognised cause of non-A, non-B hepatitis. The route and method of infection cannot be determined in some cases. There is a strong association, however, with intravenous drug misuse. The virus can also be transmitted by blood transfusion; sexual contact is considered to be relatively ineffective as a means of transmission of the virus in comparison with hepatitis B and HIV. Tattooing is thought to have been the route of infection in some cases.<sup>1-3</sup>

Screening of donated blood for hepatitis C antibody by ELISA began in the United Kingdom Blood Transfusion Service 2 September 1991. Positive results are supplemented with a recombinant immunoblot assay (RIBA).<sup>4</sup> Donors reacting positively with the latter test are counselled to ascertain the method of infection and offered referral for clinical follow up.

A 39 year old caucasian woman, native to Stoke on Trent, had donated blood on 13 occasions. She was counselled in July 1992, because her serum reacted positively for hepatitis C virus antibody by the ELISA screening test, as well as the RIBA supplemental test. She had never worked in the health services and, on systematic enquiry, denied any recognised risk factors for the infection, but she admitted to having had several "blood-sisters" at school. According to this donor, the practice was widespread in the area at the time (the 1960s) and involved cutting or pricking a finger, hand, or wrist with a sharp object, such as a pin, needle, razor or knife. The bleeding sites of the participants are held together as they are formally recognised as blood-sisters.

All donors subsequently counselled (n = 51) for the same reason as this blood donor were systematically asked whether they had blood-brothers or sisters: six answered affirmatively. They denied history of any recognised risk factor for hepatitis C virus infection. Thus seven of 52 (13.5%) blood donors selected only on the basis of hepatitis C virus antibodies admitted to having a number of blood-brothers or sisters each. The donors' (three men and four women) age ranged from 19 to 45 years, and they come from different localities in the West Midlands.

Most practised the ritual with their peers in the primary school; others practised it up to the age of 17 years, and one donor had his father as his blood-brother. All seven donors with a history of blood-brotherhood/sisterhood were HIV antibody and hepatitis B surface antigen negative and lacked any evidence for red cell alloimmunisation.

Blood-borne infections, including hepatitis B, hepatitis C, and HIV, can be transmitted during these rituals, through exchange of blood, as well as alloimmunisation against HLA and blood group antigens, such as the Rhesus (D). We are not aware of any information from independent sources as to the prevalence of this practice in Britain, which is customary in other cultures. All seven donors indicated that they have practised the ritual after watching it performed in "cowboy/Red Indian" movies. A medical and scientific literature search back to 1960 for reference to association between blood brotherhood or sisterhood and transmission of disease proved negative. Therefore, we feel that it is important to draw the attention to this potentially infectious ritual.

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Accepted for publication  
29 July 1993

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