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HTLV-I screening in Britain

Time for a reappraisal

The human T cell leukaemia/lymphoma virus type I (HTLV-I) was isolated nearly 17 years ago from a patient who had what is now called adult T cell leukaemia/lymphoma. This aggressive condition responds poorly to chemotherapy, with a median survival of only a few months.[1] HTLV-I is also unequivocally linked with tropical spastic paraparesis, a progressive, unremitting myelopathy for which there is no specific treatment. HTLV-I is transmitted through sexual intercourse (especially from men to women), breast feeding, sharing intravenous needles, and blood transfusion. Between 12·8% and 63·4% of people receiving blood infected with HTLV-I will seroconvert.[2,3] Fresh blood products (those less than six days old) have a transmission efficiency of 80%.[2]

Transfusion services in Britain do not currently screen blood donors for HTLV-I. This policy is based on a low prevalence of HTLV-I among British blood donors (ranging from 1 in 19 000 donors in North London to 1 in 80 000 in Yorkshire), a low risk of developing the disease after infection, and a high incidence of false positive results on serological tests for HTLV-I.[4,5] But new evidence should prompt a reappraisal of the policy.

HTLV-I is endemic in south west Japan, the Caribbean basin, Africa, the southern United States, and parts of South America. The virus has generally been considered to be of little relevance to Europe, although HTLV-I seropositivity and acute T cell leukaemia/lymphoma have been widely documented in Europe among Afro-Caribbean immigrants.[1] However, there is now increasing evidence of sporadic cases of HTLV-I among white Europeans with no apparently identifiable risk factors.

Information on the prevalence of HTLV-I infection in Britain derives from two sources: studies of blood donors and studies of antenatal patients. The only well described survey of blood donors found a prevalence of HTLV-I and II infection in north London of 0·005% (5:96 720).[4] Four out of the five HTLV-I positive donors were white and were infected through sexual contact. However, in a further report, among 2376 Afro-Caribbean donors the rate of infection with HTLV was much higher at 0.084% (two positive cases).[6] Three surveys of women attending antenatal clinics have found seroprevalences ranging from 0·14% in Birmingham to 0·2% and 0·26% at two London clinics.[7-9]

The lower prevalence of HTLV infection in blood donors than in antenatal patients can be at least partly explained by two factors: firstly, that there was a higher proportion of white people among the blood donors; and secondly, that blood donors are screened to exclude high risk groups, including transfusion recipients and injecting drug misusers, by using surrogate markers such as hepatitis B serology. However, prevalences as high as 1 in 500 suggest that HTLV is more common in Britain, and among white Britons, than was previously thought, at least in urban areas.

To put current risks into perspective, a prevalence of 0·005% (1 in 20 000) in donated blood is similar to the prevalence of HIV-1 and 2 among new donors (1 in 23 000).[4] Seroprevalence of 0·14-0·29% (1 in 400 to 1 in 700) as found in antenatal patients is approximately two to four times the prevalence of hepatitis B and C among new donors (1 in 15 000).[4] Testing blood donations for antibodies to HTLV is mandatory in Japan, the United States, and Canada—all countries where the seroprevalence is higher than in Britain (0·017% in the United States compared with 0·005% in Britain).[4] However, screening is also compulsory in France, where prevalence of infection (0·004-0·011%) is similar to that in Britain,[10,11] and in Sweden and the Netherlands, where the seroprevalence is lower (0·002%).[12,13]

The risk of developing disease after infection with HTLV-I has previously been assumed to be low because adult T cell leukaemia/lymphoma and tropical spastic paraparesis develop in only 2·5-4·0% of cases in which infection is not acquired through blood transfusion and the incubation period is long, ranging from 10 to 30 years. Up to half of people receiving blood transfusions die within one year of transfusion because of their underlying disease.[4] However, many of those who survive, especially patients surviving after trauma or obstetric and transplant procedures, are young at the time of transfusion. There is also evidence to suggest that disease acquired from blood transfusion may occur after a shorter incubation period than non-transfusion acquired disease—for example, within six months of the implicated blood transfusion—with some suggestion that immunocompromised individuals may be more at risk than healthy carriers of the virus.[14,15]

In 1993 the North London Transfusion Service calculated, on the basis of a seroprevalence of 0·005% among their donors, that the estimated 100 HTLV positive donors giving blood each year in Britain lead to up to six new cases of adult T cell laukaemia/lymphoma a year.[4] This figure is likely to be an underestimate. Many donors will give blood every six months, raising the estimated number of infected donations to 200 each year, some of which could be split into as many as

five cellular components for use in paediatrics. Furthermore, transmission may be compounded by secondary infection of sexual partners and offspring.

The cost of preventing a single transmission of the virus has been estimated as £30 000 and the cost of preventing each case of HTLV associated disease as £1·3 million.[4] With the higher rates of transmission extrapolated above, these figures would be more than halved. Selected screening has been proposed as a cheaper alternative to blanket testing of blood donors. However, selecting whom to screen on the basis of ethnic origin is unlikely to prevent viral transmission. Ethnic origin did not predict HTLV infection in four of the five infected donors in the north London study,[4] nor two of the three HTLV-I positive donors in a Dutch study of selective screening.[13] Two of the five infected donors in London and one of the three in Holland had no identifiable risk factors for HTLV infection,[4 13] suggesting that exclusion based on a detailed sexual history is unlikely to prevent transmission either. An alternative approach is to screen first time blood donors. This strategy is being used in Sweden, where the prevalence of HTLV infection is approximately half that in Britain.[12]

Deciding not to screen for HTLV-I may prove to be a false economy. Recent experience with hepatitis C has shown that the cost of tracing and testing donations retrospectively is considerable and legal costs are likely. Surely the case for screening for HTLV-I in Britain is now clear.

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1 Catovsky D, Rose M, Goolden AWG, White JM, Bourikas G, Brownell AI, *et al.* Adult T-cell lymphoma in blacks from the West Indies. *Lancet* 1982;i:639-43.
2 Sullivan MT, Williams AE, Fang CT, Grandinetti T, Poiesz BJ, Ehrlich GD. Transmission of human T-lymphotropic virus types I and II by blood transfusion. A retrospective study of recipients of blood components (1983 through 1988). The American Red Cross HTLV-I/II Collaborative Study Group. *Arch Intern Med* 1991;151:2043-8.
3 Okochi K, Sato H, Hinuma Y. A retrospective study on transmission of adult T cell leukaemia virus by blood transfusion: seroconversion in recipients. *Vox Sanguis* 1984;46:245-53.
4 Brennan M, Runganga J, Barbara JAJ, Contreras M, Tedder RS, Garson JA, *et al.* Prevalence of antibodies to human T cell leukaemia/lymphoma virus in blood donors in north London. *BMJ* 1993;307:1235-9.
5 Flanagan P, McAlpine L, Ramskill SJ, Smith AG, Eglin R, Parry JV, *et al.* Evaluation of a combined HIV-1/2 and HTLV-I/II assay for screening blood donors. *Vox Sang* 1995;68:220-4.
6 Salker R , Tosswill JHC, Barbara JAJ, Runganga J, Contreras M, Tedder RS, *et al.* HTLV-I/II antibodies in UK blood donors. *Lancet* 1990;336:317.
7 Nightingale S, Orton D, Ratcliffe D, Skidmore S, Tosswill J, Desselberger U. Antenatal survey of seroprevalence of HTLV-I infections in the west midlands, England. *Epidemiol Infect* 1993;110:379-87.
8 Tosswill JHC, Ades AE, Peckham C, Mortimer PP, Weber JN. Infection with human T cell leukaemia/lymphoma virus type I in patients attending an antenatal clinic in London. *BMJ* 1990;301:95-6.
9 Banatvala JE, Chrystie IL, Palmer SJ, Kenney A. Retrospective study of HIV, hepatitis B and HTLV-I infection at a London antenatal clinic. *Lancet* 1990;335:859-60.
10 Coste J, Lemaire JM, Barin F, Courouce AM. HTLV-I/II antibodies in French blood donors. *Lancet* 1990;335:1167-8.
11 Courouce AM, Pillonel J, Lemaire JM, Maniez M, Brunet JB. Seroepidemiology of HTLV-I/II in universal screening of blood donations in France. *AIDS* 1993;7:841-7.
12 Giesecke J. HTLV screening of Swedish blood donors. *Lancet* 1995;345:978.
13 Vrielink H, van der Poel CL, Reesnik HW. Efficacy of selected versus random blood donor screening for anti-HTLV-I antibodies. *Vox Sang* 1995;68:251-2.
14 Osame M, Izumo S, Igata A, Matsumoto M, Matsumoto T, *et al.* Blood transfusion and HTLV-I associated myelopathy. *Lancet* 1986;ii:104-5.
15 Chen Y-C, Wang C-H, Su I-J, Hu C-Y, Chou M-J, Tun-Ho L, *et al.* Infection of HTLV type I and development of human T-cell leukaemia/lymphoma in patients with hematologic neoplasms: a possible linkage to blood transfusion. *Blood* 1989;74(1):388-94.

New incentives for general practitioners in London

An opportunity that must not be wasted

The London Initiative Zone, encompassing an area of about 16 km radius from Piccadilly Circus, was set up by the Department of Health in 1993 "to concentrate attention and resources on developing primary care in the inner city."[1] Since then there have been schemes to improve general practice premises and expand primary care teams and community health services. General practice is the focus for primary care in Britain; but contented, keen doctors are likely to provide better care than unhappy and frustrated ones, and the morale of general practitioners in Britain has been steadily deteriorating.[2] The Royal College of General Practitioners and the BMA's General Medical Services Committee have established task groups to review professional recruitment and morale and recommend ways of improving them.[3 4]

Low morale has many causes, including increasing workload and professional isolation, inappropriate administrative tasks, unrealistic patient expectations, and an uncertain future. In London as in other large cities, high costs, social deprivation, a high turnover of patients, and the impact of closing hospital beds all combine to increase stress, while vocational training often fails to equip doctors with skills necessary for inner city practice. Other important reasons for decreased job satisfaction and failure to recruit general practitioners include a lack of protected study time to keep up with the advance of medical knowledge (an absolute requirement for all clinicians) and lack of opportunity for careers to evolve and develop.[4] Many practitioners feel more fulfilled if they can combine patient care with teaching, a clinical assistantship, or research. Many recently trained practitioners do not want to plunge immediately into full time clinical work. Kirwan and Armstrong report lower levels of "burn out" among part time family doctors.[5]

Two initiatives have recently been launched to address these problems within the London Initiative Zone. The educational incentives programme will use a variety of educational routes to aid recruitment and enhance job satisfaction in general practice, while the workforce flexibilities programme will use financial incentives to attract practitioners and develop practice services. The educational incentives are open to all general practitioners within the London Initiative Zone, but the financial incentives are restricted to single-handed and twohanded practices. Funding is from money new to the NHS, and substantial sums are involved. Between them the programmes will receive a total of up to £35m, and they are currently funded up to 31 March 1997. Both will be evaluated.

The central part of the educational incentives programme is the funding for several hundred (from a total of over 1500) general practitioner principals within the London Initiative Zone, allowing them to take time off clinical work for professional development, to introduce new services, or to undertake undergraduate or postgraduate teaching. Fellowships are being established for young doctors to develop teaching and research skills and to work part time in