HTLV-I/II associated disease in England and Wales, 1993-7: retrospective review of serology requests

Jennifer H C Tosswill, G P Taylor, R S Tedder, P P Mortimer

Apart from HIV two exogenous retroviruses (human T cell leukaemia viruses type I (HTLV-I) and type II (HTLV-II)) infect humans. HTLV-I infection is endemic in Japan, the Caribbean, Africa, and Melanesia and is found among immigrants from these regions in Europe. HTLV-I infection is associated with a 1-5% lifetime risk of adult T cell leukaemia/lymphoma,[1] a 0.25% lifetime risk of HTLV-I associated myelopathy,[2] and other inflammatory conditions (uveitis, alveolitis, and arthritis).[1] HTLV-II infection is endemic in some native American and African peoples and among injecting drug users and has been associated with neurological disease.[1] Between 1986 and 1992, 100 cases of HTLV-I associated myelopathy and 44 cases of adult T cell leukaemia/lymphoma were diagnosed in the United Kingdom.[3] Adult T cell leukaemia/lymphoma was first described in 1977 and patients with it have a mean life expectancy of only six months, so most of the 44 cases were probably incident cases. However, HTLV-I associated myelopathy causes prolonged morbidity and was not recognised as a clinical entity until 1985; thus the 1986-92 data may include many prevalent cases. We therefore sought to determine the incidence of HTLV-I/II related diseases in England and Wales since 1992.

Methods and results

A serological diagnosis of HTLV-I infection is essential for the diagnosis of related disease, and case ascertainment was therefore based on a review of requests made to two national reference laboratories. Samples repeatedly reactive in screening assays were further examined for HTLV-I and II type specific antibodies by Western blot (GeneLabs HTLV 2.3/2.4, Singapore) or Select-HTLV (Biochem ImmunoSystems, Montreal). Clinical data on HTLV-I/II infected subjects first tested in 1993-7 inclusive were collected from referral forms, with additional medical details being requested from the referring centres as appropriate.

Subjects who were seropositive for HTLV-I were classified as having adult T cell leukaemia/lymphoma if this or lymphoma with hypercalcaemia was documented. All other cases of lymphoma were classified as "other lymphoma." Similarly, subjects who were seropositive for HTLV-I were classified as having HTLV-I associated myelopathy if this or myelopathy or "?MS[multiple sclerosis]" or signs and symptoms consistent with myelopathy were documented. All other cases were classified as "other neurology." Of 3900 subjects tested, 264 were seropositive for HTLV-I or HTLV-II, of whom 220 were symptomatic (table). Of the 110 HTLV-I seropositive subjects, 94 (85%) were of Afro-Caribbean origin; 174 (66%) of the subjects seropositive for HTLV-I or HTLV-II presented in London. The female:male ratio was 2:1 for adult T cell leukaemia/lymphoma (mean age 52 (range 26-71)) and 3:1 for HTLV-I associated myelopathy (mean age 56 (28-83)).

About one million people living in England and Wales originate from areas where HTLV-I is endemic (1991 census).[4] Using seroprevalence rates applicable to region of birth for those who were born outside the United Kingdom and the seroprevalence among women of different ethnic groups attending antenatal clinics in London, we estimate that 22 500 people of Caribbean or African origin living in England and Wales are infected with HTLV-I.

Comment

Assuming 22 500 HTLV-I infected people and a lifetime risk of 1-5%,[1] the number of cases of adult T cell leukaemia/lymphoma observed each year (10) falls within the expected range (4-22). Conversely, if the lifetime risk of developing HTLV-I associated myelopathy is 0.25%[2] only one new case a year would be expected in England and Wales, whereas there was an annual incidence of 12 new diagnoses, with no significant trend since 1992. This suggests either that the lifetime risk of myelopathy among HTLV-I infected people in the United Kingdom is about 3% and not 0.25% or that HTLV-I infection is more widespread in the population than we estimate.

These data have important implications for cost efficacy studies of interventions to prevent HTLV-I transmission in Europe (for example, antenatal or blood donor screening) as until now analysts have mainly relied on Japanese data.[5] Furthermore, the possibility of other HTLV-I associated conditions (uveitis, arthritis, alveolitis) seems to be rarely considered by clinicians.

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Virus Reference Division, Central Public Health Laboratory, London NW9 5HT
Jennifer H C Tosswill *scientist*
P P Mortimer *director*
Department of Genitourinary Medicine and Communicable Diseases, Imperial College School of Medicine, St Mary's Hospital, London W2 1PG
G P Taylor *lecturer*
Department of Virology, Royal Free and University College Medical School, University College London, London W1P 6DB
R S Tedder *professor*
Correspondence to: G P Taylor
g.p.taylor@ic.ac.uk

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Known HTLV-I infections by year and diagnosis in England and Wales, 1993-7

	No of cases						Annual incidence (95% CI)
	1993	1994	1995	1996	1997	Total	
HTLV-I associated myelopathy	18	10	9	16	10	63	12.6 (9.7 to 16.1)
Other neurology	2	3	3	4	5	17	3.40 (1.98 to 5.44)
Adult T cell leukaemia/lymphoma	20	9	6	10	6	51	10.2 (7.6 to 13.4)
Other lymphoma	2	3	5	3	7	20	4.0 (2.44 to 6.18)
Polymyositis	1	1	0	1	2	5	1.00 (0.32 to 2.34)
Strongyloides stercoralis infection*	3	2	1	3	0	9	1.80 (0.82 to 3.42)
Other medical conditions†	5	2	5	2	4	18	3.60 (2.14 to 5.70)
HIV-1 infection	1	2	0	0	1	4	0.80 (0.22 to 2.04)
HTLV-II infection‡	3	0	1	1	0	5	1.00 (0.32 to 2.34)
No information	3	8	7	4	6	28	5.60 (3.72 to 8.10)
Total of clinical requests	58	40	37	44	41	220	44.0 (38.4 to 50.2)
Contact§	6	7	9	6	2	30	NA
Donor¶	2	3	2	7	0	14	NA
Total of all requests	66	50	48	57	43	264	NA

NA=Not applicable.
*Includes one case of strongyloidiasis in a patient with lymphoma
†Excludes other recognised HTLV-I associated diseases.
‡Includes one case of HTLV-II associated myelopathy.
§Asymptomatic individual tested for HTLV-I/II because a family member or sexual partner ws known to have HTLV-I/II infection.
¶Blood donor screened for HTLV-I/II.

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Bullying in school: are short pupils at risk? Questionnaire study in a cohort

Linda D Voss, Jean Mulligan

University Child Health, Southampton General Hospital, Southampton SO21 16YD

Linda D Voss
senior research fellow

Jean Mulligan
data manager

Correspondence to:
L D Voss
linda.voss@phnt.swest.nhs.uk

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Bullying is still prevalent in schools and is clearly stressful for victims.[1 2] It may also have undesirable consequences for bullies, with antisocial behaviour persisting into adulthood. Victims are generally reported to be weaker than the bullies.[2 3] This would suggest that very short pupils are more likely to be victims and less likely to be the aggressors. The Wessex growth study allowed us to examine the prevalence of bullying, as experienced or perpetrated by pupils of different heights.

Subjects, methods, and results

Ninety two short normal adolescents who had been below the third centile for height at school entry[4] and 117 controls matched for age and sex completed a bullying questionnaire, derived from work by Whitney and Smith.[5] There were no refusals or any significant differences in sex or social class between the groups. Mean age (range) was 14.7 (13.4-15.7) years. Mean height SD scores were: short pupils -1.90 (-3.53 to -0.01), controls 0.31 (-1.41 to 2.15). Additional data on bullying, collected the previous year, were available from teachers' written reports and parental interviews.

The table summarises the data. More short pupils than controls claimed to have been bullied at some time in secondary school. This difference remained significant after logistic regression controlled for social class. Short boys were more than twice as likely as control boys to be victims and much more likely than control boys to say that bullying upset them. Significantly more short pupils than controls said that bullying had started in junior school. Short pupils had as many good friends as did controls (72/92 (78%) *v* 95/117 (81%)), but significantly more spent break time alone at least once a week (9/92 (10%) *v* 2/117 (2%), P = 0.032). In many cases bullying had stopped, but significantly more short pupils than controls, regardless of sex, reported current bullying.

Teachers also reported that significantly more short pupils than controls were victims of bullying. Parents reported more bullying, generally, than either teachers or pupils, and parents of controls were as likely as parents of short children to say that their children were bullied. According to teachers, bullies were to be found in both height groups, but whereas significantly fewer control girls than control boys were bullies, short girls were as likely to be bullies as both short and control boys.

Comment

This report suggests that short children are more likely to be bullied than their taller peers. More short pupils also report a degree of social isolation—the result, or possibly even the cause, of their victimisation. These data are important since the Wessex growth study has previously found few significant psychosocial prob-

Numbers of victims of bullying and bullies among short pupils and controls of average stature (pupils', parents', and teachers' reports). Figures are numbers (percentages) of respondents

	Short pupils (n=92)	Controls (n=117)	P value
Pupils' report			
Victim of bullying in secondary school:			
Total	42 (46)	30 (26)	0.003**
Boys	25 (46)	13 (21)	0.005**
Girls	17 (45)	17 (32)	0.273
Bullied in both junior and secondary schools:			
Total	24 (26)	13 (11)	0.018*
Boys	14 (26)	4 (7)	0.013*
Girls	10 (26)	9 (17)	0.526
Bullying currently occurring:			
Total	21 (23)	4 (4)	<0.001**
Boys	11 (21)	2 (3)	0.006**
Girls	10 (26)	2 (4)	0.003**
Upset when bullied:			
Total	31 (76)	16 (55)	0.120
Boys	17 (71)	3 (25)	0.014*
Girls	14 (82)	13 (77)	1.000
Parents' report	n=88	n=116	
Victim of bullying in secondary school:			
Total	37 (43)	44 (38)	0.605
Boys	24 (46)	25 (39)	0.562
Girls	13 (37)	19 (37)	1.000
Teachers' report	n=84	n=103	
Victim of bullying in secondary school:			
Total	31 (37)	23 (23)	0.047*
Boys	17 (36)	12 (23)	0.227
Girls	14 (38)	11 (22)	0.169
Bullies others in secondary school:			
Total	13 (16)	16 (16)	1.000
Boys	6 (13)	13 (25)	0.234
Girls	7 (18)	3 (6)	0.093

*P<0.05, **P<0.01 (χ^2 test).