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Papers

Newly diagnosed HIV infections: review in UK and Ireland

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In 2001, 59% of people in the United Kingdom with HIV who were starting treatment had CD4 lymphocyte counts of fewer than 200 cells/μl,[1] mostly because of late diagnosis. We investigated new HIV diagnoses in the UK and Ireland, to assess the occurrence of late diagnosis (CD4 lymphocyte count <200cells/μl) and associated features and to determine if patients had prior presentations that may have been related to HIV infection.

Participants, methods, and results

We did a national case review by sending structured questionnaire forms to adult HIV care providers in the United Kingdom and Ireland for patients presenting with a new diagnosis of HIV infection in January-March 2003 (maximum of 25 per centre). We collected information on clinical and immune status and hospital admissions and symptoms or conditions in the previous 12 months that might have been HIV related.

Of 148 centres, 113 (76%) responded with data on 977 patients. Overall, 301 (33%) presented late (table), and this was more common in older patients (adjusted odds ratio per increase in age group 1.68, 95% confidence interval 1.42 to 1.98; P=0.0001) and in black Africans (1.66, 1.05 to 2.62, P=0.03), but less likely in homosexual men, independent of age and ethnicity (0.63, 0.38 to 1.05, P=0.07). Overall, 401 (41%) were diagnosed via routine screening; this was associated with being young, female, black African, and heterosexual; 664 (68%) were diagnosed in a genitourinary, sexual health, or HIV clinic, which was associated with being young, male, and homosexual, and less commonly associated with being black African. After adjusting for demographic factors (table) in a multivariable model, diagnosis as part of a routine screen and testing at a genitourinary, sexual health, or HIV clinic were both independently associated with a lower chance of late diagnosis (testing as part of routine screen 0.40, 0.29 to 0.55, P=0.0001; testing at a clinic 0.60, 0.44 to 0.82, P=0.001).

In the year before HIV diagnosis, 168 patients (17%) had a clinical episode that was likely to be HIV related, including 58 hospital admissions (18 for tuberculosis). Data show that 35 subsequent hospital admissions may have been avoidable and that 160 patients who had experienced a clinical episode, had a CD4 lymphocyte count below the threshold for initiating treatment according to British HIV Association guidelines,[2] indicating that treatment may have been delayed.

Patients presenting with a new diagnosis of HIV infection in January-March 2003 in the United Kingdom and Ireland. Values are numbers (percentages*) unless stated otherwise

	Total	With CD4 <200 cells/μl at presentation	P value†
No of patients	977 (100.0)	301 (33.4)	
Sex:			
Male	540 (55.4)	147 (29.9)	0.02
Female	434 (44.6)	152 (37.4)	
Age (years):			
15-19	21 (2.2)	3 (15.0)	<0.0001
20-29	312 (32.0)	67 (22.9)	
30-39	444 (45.6)	145 (36.1)	
40-49	153 (15.7)	65 (46.1)	
50-59	32 (3.3)	14 (48.3)	
≥60	12 (1.2)	5 (41.7)	
Ethnic group:			
White	320 (33.3)	70 (23.6)	<0.0001
Black African	576 (59.9)	209 (39.3)	
Other	66 (6.9)	18 (30.5)	
Risk group:			
Heterosexual	660 (69.1)	225 (37.0)	0.0002
Homosexual	278 (29.1)	57 (22.2)	
IDU/Other	17 (1.8)	8 (47.1)	
CD4 count (cells/μl):			
≤50	104 (11.6)	104 (100.0)	NA
51-200	197 (21.9)	197 (100.0)	
201-350	232 (25.8)	0	
351-500	179 (19.9)	0	
>500	188 (20.9)	0	
Not known	77		
Viral load (copies/ml):			
<500	49 (5.7)	10 (21.3)	<0.0001
500-10 000	209 (24.4)	25 (12.1)	
10 000-30 000	144 (16.8)	27 (19.0)	
30 000-100 000	202 (23.6)	77 (38.3)	
≥100 000	251 (29.4)	133 (53.8)	
Not known	122		
US Centers for Disease Control stage:			
A	560 (59.1)	82 (16.1)	<0.0001
B	245 (25.8)	96 (41.9)	
C	143 (15.1)	116 (85.3)	

NA=Not applicable.
*Percentages are based on those with non-missing data (numbers with missing data for CD4 count and viral load are shown for information).
†P values are from χ^2 tests after excluding individuals with missing values.

Comment

We found a significant number of missed opportunities for earlier diagnosis of HIV infection with a high proportion of patients (17%) who sought medical care with symptoms in the preceding 12 months but remained undiagnosed. Many patients are not being diagnosed on routine screening, which accounted for less than half of the diagnoses, most of these occurring in sexual health clinics. This study provides further evidence of late diagnosis of HIV infection, reflecting national trends reported by the Health Protection Agency (www.hpa.org.uk). There are well recognised advantages, including public health and health cost

What is already known on this topic

Many people with HIV in the UK are unaware of their status, possibly up to 30% of those infected

A substantial number of people are diagnosed as having HIV infection at a late stage of disease

What this study adds

Many patients are not having their HIV infection diagnosed on routine screening

Many patients present with advanced disease after initially presenting with HIV related symptoms but with their HIV infection remaining undiagnosed

benefits in addition to personal benefit to the patient, of early diagnosis of HIV and starting appropriate treatment with highly active antiretroviral therapy.[3 4]

To improve this situation, the proportion of people diagnosed as having HIV as part of routine screening needs to increase, with people at risk being encouraged to have an HIV test. Healthcare professionals' awareness of factors associated with late presentation of HIV infection and conditions likely to be related to HIV also need to increase. A wide range of healthcare providers are in a position to detect these HIV infections because patients presented to a number of different locations with a wide variety of diseases and conditions. Improving the offering and uptake of HIV testing both as part of routine screening and as indicated by associated medical conditions should reduce the number of undiagnosed HIV infections.

The British HIV Association audit subcommittee comprises Brook G, Bunting P, Curtis H, de Ruiter A, DeSilva S, Freedman A, Johnson M (chair), McDonald C, Mital D, Monteiro E, Mulcahy F, O'Mahony C, Sabin C, Sullivan A, Tang A, Tudor-Williams G, Welch J, and Wilkins E.

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