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Seropositivity to LAV/HTLV-III in 11 European Countries

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Abstract—*The ECP Working Group on AIDS has evaluated data on seropositivity to LAV/HTLV-III supplied by members in 11 Western European countries. The period covered is 1981–84. The rise in LAV/HTLV seropositivity parallels the incidence of cases of AIDS in the different countries. LAV/HTLV now spreads freely within Europe and spread has become less dependent upon promiscuity. The epidemic is about to enter Eastern Europe. Intravenous drug abusers appear to be the risk group experiencing the most rapid spread at present. Furthermore, seropositivity in males and females outside the traditional risk groups seems on the rise, and as in the US the percentage seronegative in individuals with PGL is quite high. AIDS is rapidly becoming a major cause of cancer in young adults. A coordinated European preventive effort is urgently needed.*

INTRODUCTION

INFECTION with LAV/HTLV-III is rapidly becoming an important cause of malignancy and fatal opportunistic inflammations in Europe (Table 1), but the prevalence of the LAV/HTLV-III infection has not previously been studied in a European context. The present report from the European Organization for Cooperation in Cancer Prevention Studies (ECP), Working Group on AIDS, contains an evaluation of the present (December 1984; some months of 1985) situation based on data from 11 countries.

MATERIALS AND METHODS

Questionnaires were submitted to selected centers of AIDS research, mainly in large European cities, asking for information about the total number of subjects tested for antibodies against LAV/HTLV-III and the number of seropositives for the years 1981–1984 in the following groups: healthy male homosexuals, patients with diagnosed acquired immunodeficiency syndrome (AIDS) and with persistent generalized lymphadenopathy(PGL), parenteral drug abusers, hemophiliacs, and non-risk group members. Information was received from research groups in the following countries: Denmark, England, Finland, France, Germany, Hungary, Italy, Spain, Sweden,

Table 1. Total number of AIDS cases reported in 17 European countries and estimated rates per million population

Country	December 1984	Rates*
Austria	13	1.7
Belgium	65	6.6
Czechoslovakia	0	0
Denmark	34	6.6
Finland	5	1.0
France	260	4.8
Germany F.R.	135	2.2
Greece	6	0.6
Iceland	0	0
Italy	14	0.3
Netherlands	42	2.9
Norway	5	1.2
Poland	0	0
Spain	18	0.5
Sweden	16	1.9
Switzerland	41	6.3
United Kingdom	108	1.9
Total	762	2.0

*Based on 1983 populations, INED, Paris.
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Switzerland, and Yugoslavia. Sera from healthy male homosexuals were in most cases collected at sexually-transmitted disease clinics and most control males and females were blood bank donors. All participating groups have used an enzyme-linked immunosorbent assay (ELISA) sometimes supplemented with Western blot and/or immunofluorescence. The total number of cases studied was 10301. Their distribution by risk group is given in Fig. 1.

RESULTS

LAV/HTLV-III seropositivity in one or more categories was registered in all participating countries except Hungary. As shown in Fig. 2 and Table 2 seropositivity varied from 88% among AIDS patients to 0% among controls. Seropositivity in male and female controls was not seen before 1982.

Seropositivity among the healthy homosexuals was registered in all participating countries except Hungary (1984). The Italian data show a rise from 1% in 1981 to 3% in 1982, 6% in 1983 and 19% in 1984. For the Danish group the figure for 1981 was 9% and for 1984 26% of seropositivity.

Data for drug addicts in Italy show an increase of values starting with 3% in 1982, 9% in 1983 and 21% in 1984. A similar trend is reported for Switzerland: 0% (1981), 10% (1982), 31% (1983) and 46% (1984).

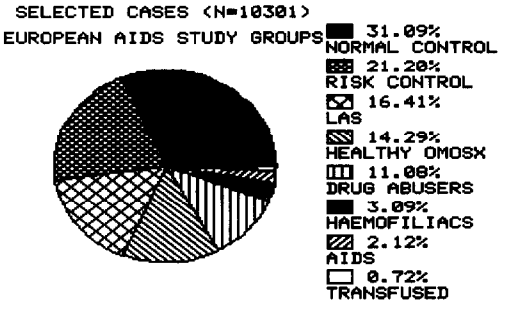

Fig. 1. Cases studied by the ECP Working Group on AIDS. Risk controls are persons not belonging to the classical risk groups, but mainly in sexual contact with persons from these groups.

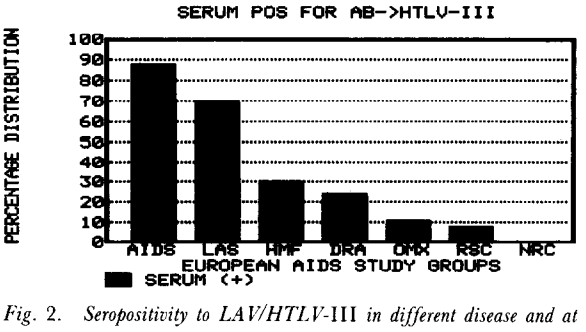

Fig. 2. Seropositivity to LAV/HTLV-III in different disease and at risk groups in Europe. Cumulated data for all participating research groups and for the years 1981–1984. AIDS, LAS (lymphadenopathy); HMF (hemophiliacs), DRA (drug abusers); OMX (homosexuals); RSC (at risk controls); NRC (low risk controls).

Out of 72 male sexual contacts to members of risk groups in France as many as 44 were seropositive (61%).

In a West Berlin prison inmates considered at risk for hepatitis B infection due to present or post drug abuse were tested in 1984: 66 out of 274 males (24%) were found positive for anti-HTLV-III. The figures for female inmates were 16 positive out of 47 tested (34%).

Data showing the total number of seropositive cases in the reported longitudinal studies of homosexuals, hemophiliacs, and drug abusers are shown in Fig. 3.

The prevalence of seropositivity in patients with PGL (persistent generalised lymphadenopathy) varies widely in different studies: For 1984 Italy had 72% (290/402) positivity, Sweden 94% (63/67), England 87% (133/153) and Germany 57% (210/490) Fig. 4.

DISCUSSION

Sera from many European countries, examined retrospectively and prospectively indicate a progressive increase in LAV/HTLV seropositivity during this decade. This rise parallels the incidence of cases of AIDS and PGL and differs in extent between different countries. Thus France, West Germany and the United Kingdom have higher

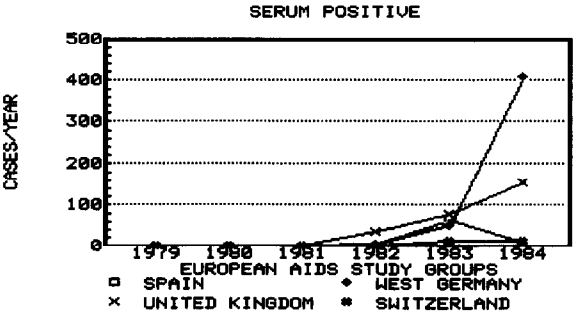

Fig. 3. Time incidence curve for seropositivity to LAV/HTLV-III found by four research groups from different European countries. The curves do not give the percentages found positive in each study and do not give the number studied in each group.

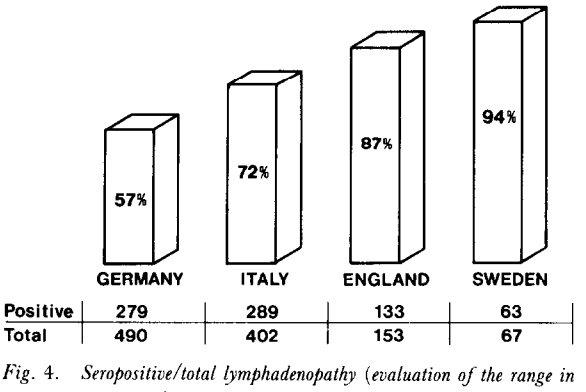

Fig. 4. Seropositive/total lymphadenopathy (evaluation of the range in four selected countries in 1984).

Table 2. Selected data on seropositivity to LAV/HTLV-III in six European countries 1981–1984

		1981	1982	1983	1984
Male homo-sexuals	*Italy*	1/86(1%)	2/62(3%)	5/84(6%)	26/134(19%)
	Denmark	22/250(9%)			34/131(26%)
	Finland			10/160(6%)	24/225(11%)
	Hungary			0/43(0%)	0/39(0%)
i.v. drug abusers	*Italy*		2/80(3%)	6/67(9%)	119/564(21%)
	Switzerl.	0/26(0%)	4/91(10%)	14/45(31%)	15/33(46%)
	Yugoslav.				34/86(40%)
Male controls	*Italy*			0/136(0%)	6/1824(0.3%)
Female controls	*Italy*				1/205(0.5%)

prevalence of antibody in the risk groups than countries with few AIDS cases such as Yugoslavia and Finland. There is no evidence, at present, of LAV/HTLV-III seropositivity or AIDS cases in Hungary. The first cases of AIDS had a strong link with individuals in the United States or Africa and their lifestyle favoured infection by exposure to multiple sexual partners [1]. Detailed investigations of recent sufferers of AIDS and those who are antibody positive indicate that the virus is now being transmitted freely within Europe and, as the prevalence increases, infection is less dependent on promiscuity. Study of the increase in antibody positivity and in numbers of AIDS cases in those countries already involved indicates that in the short term, European countries have a problem of escalation which is similar to that of the United States. If ways of curtailing the epidemic can be achieved countries with no apparent problem or a low incidence may be spared the tragic consequences of the infection.

The distribution of seropositivity within the risk groups is similar to that seen in the United States and the low prevalence in blood donors is reassuring. The curiously high seronegative rate seen in individuals with PGL in the United States is also found in European countries.

Until recently there has been a low level of AIDS cases reported among European intravenous drug abusers [2]. Recent data from the major European cities reveal an alarming spread of the infection in this recognised risk group [1].

Equally disturbing is the rapidly increasing positivity in male and female prisoners with a history of drug abuse in Berlin (Fig. 5). This information, together with evidence of sexual transmission to female partners of risk group individuals, highlights the likelihood of the virus entering the general population. It is becoming increasingly likely that most European countries will soon start to see the problems associated with LAV/HTLV-III infection in pregnancy—i.e. transmission to the offspring by transplacental spread with the risk of infantile AIDS and the possibility of deleterious effects on the pregnant woman.

It cannot be over-emphasized that, serious as this problem is, many of the studies are based on highly selected sera. Antibody studies are normally conducted in laboratories in major cities on individuals attending clinics in those city hospitals. For this reason antibody prevalence figures for clinic-attending homosexuals in e.g. London, Paris, Rome and Berlin may not accurately reflect the prevalence of the infection in homosexuals in other regions of those countries.

What of the future? Nobody can predict the future of this epidemic in terms of numbers of seropositive individuals or the implications of seropositivity. Although there has been little evidence that lifestyle changes, in the highest prevalence areas, have had an impact on the rise of seropositives; modifications of this type (safe sex techniques, condom usage, etc.) may be particularly important in lower prevalence countries [3, 4].

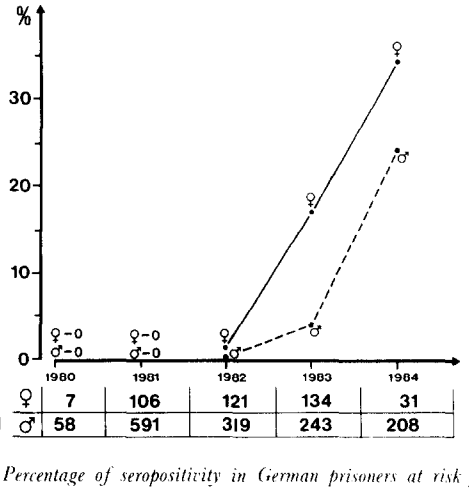

Fig. 5. Percentage of seropositivity in German prisoners at risk for hepatitis due to a history of drug abuse.

There is an urgent need for all countries to recognise and accept the risk posed by this virus to the population. This recognition should be accompanied by a rapid introduction of community based health education including teaching of school children. Counselling services must be established for those people in the risk groups and those who are found to be infected with the virus. Once the virus starts to spread within a risk group population this type of health education programme is likely to be less effective. There is also a need for a grand scale perspective study of the long term fate of seropositive persons.

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