

Special Article

Diffusion of HIV-1 Virus Into Non-habitual Categories at Risk in European Countries

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Abstract—The ECP Working Group on AIDS has evaluated the available data on seropositivity to HIV-1 supplied by research groups in 12 Eastern and Western European countries. The period covered is 1985 and 1986. A significantly elevated incidence of seropositives was observed in both females and males in heterosexual contact with members of high risk groups. In contrast heterosexuals with no such contact had an incidence below 1%. For male homosexuals from Italy, Denmark and Switzerland the trend was no detectable increase in prevalence from 1985 to 1986. Hungary and Poland now have a few per cent seropositive male homosexuals, but no seropositives were found in a group of Polish drug abusers.

INTRODUCTION

IN 1985 the ECP carried out an evaluation of the epidemiologic situation in Europe based on reports obtained from population samples studied from 1981 to 1984 in 11 countries [1]. In spite of the important shortcomings regarding sampling techniques, the work produced valuable indications of the future course of the epidemic. The first ECP report emphasized development in the well-known risk groups. The future course of the HIV epidemic may now, however, largely depend upon the spread of HIV to other groups. ECP therefore has carried out an appraisal that extends to data pertinent to the development in non-classic risk groups.

MATERIALS AND METHODS

Completed questionnaires covering 1984, 1985 and 1986 were received from research groups in the following 12 European countries: Denmark, Finland, German Federal Republic, Hungary, Iceland, Italy, Yugoslavia, Malta, Poland, Portugal, Switzerland, Sweden.

All the samples were collected as a part of local

projects aimed at revealing the prevalence of HIV seropositivity. Data were produced by ELISA plus Western blotting tests. The different modifications of the test techniques were all considered acceptable considering the more serious sampling problem. The authors, however, decided to publish only selected data excluding what were considered too small samples or data accompanied by insufficient information.

Information was given about the following groups. Females with sexual contact with bisexual males, with male drug abusers, with seropositive hemophiliacs, with seropositive males outside the male groups mentioned so far and with no known sexual contact to risk groups. Furthermore lesbian and bisexual females were included. For the males the groups were those with sexual contact with drug abusing females, with female prostitutes not known to be drug abusers, with seropositive females outside the above-mentioned groups and with males with no sex or drug contact to risk groups. In addition information was given about homosexual and bisexual males and hemophiliacs.

RESULTS

Females and males with sexual contact with subjects known to belong to high risk groups, but of unknown HIV status, showed a few per cent

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seropositives. A higher rate of seropositivity was found among both females and males in 1986 than in 1985 (Tables 1 and 2). The figures furthermore suggest: (1) that females with sexual contact with bisexual men presently are at less risk than females with sexual contact with drug abusers; (2) the trend for heterosexual partners of drug abusers showed an increase in the risk (1985–1986) for both sexes; (3) non-drug abusing prostitutes represented a low risk to their customers; (4) taken together people having heterosexual contact with subjects of high risk groups showed an increased percentage of seropositivity from 1985 to 1986.

Heterosexual males and females with *no known sex or drug contact* with seropositive and/or risk groups were reported from six countries. The incidence was 0.3% (range 0–0.5%) in males (8/2428) and 0.3% (range 0–1%) in females (7/2255) excluding people of African origin (14 males and six females) and transfusion recipients.

For 1986 there were 32 seropositives among 689 Hungarians tested (4.6%) and 13 among 547 Polish homosexual men tested (2%), figures much lower than for homosexual and bisexual men tested in Central and Northern Europe.

A prospectively studied cohort of 259 male homosexuals in Denmark surprisingly showed no increase in the percentage of seropositivity from 1984 (26% $n = 134$) [2] to 1987 (22% $n = 135$). Testing of

two different groups of male homosexuals in Italy in 1985 ($n = 550$) and 1986 ($n = 708$) [3] gave 25% for both years. A similar study in Hungary ($n = 432$ in 1985 and $n = 689$ in 1986) showed 4 and 5% seropositivity.

Six hundred and fifty-six female and male drug abusers in Poland, tested in 1986, showed no seropositives. The percentage of seropositive drug abusers in 1986 was reported to be far lower in Iceland 2% (3/172) and Sweden 4% (60/1454) than in Italy 71% (329/457) and Switzerland 45% (258/572).

DISCUSSION

The Working Group received data on a much higher number of tests for 1985 and 1986 than was available from the previous study. Basic problems with non-uniform and non-representative sampling methods however remained.

Information was obtained about the prevalence of HIV seropositivity in persons having heterosexual contact with members of the known high risk groups. These data are informative as to the present risk of contact with such groups. The data, however, do not give information about the relative risk of sexual contact with seropositives of the different high risk groups since the prevalence of HIV seropositives among those members of the high risk groups which have heterosexual contacts outside the groups is unknown.

Table 1. Occurrence of HIV seropositivity among female sexual partners of males from high risk groups

Sexual partners	1985			1986			Total		
	Tested	Seropositive		Tested	Seropositive		Tested	Seropositive	
Bisexual men	193	1	(0.5%)	123	0	(0%)	316	1	(0.3%)
Drug abusers	229	6	(2.5%)	298	36	(12%)	527	42	(8%)
Other seropositives	270	0	(0%)	37	3	(8%)	64	3	(5%)
Total	692	7	(2%)	458	39	(8.5%)	907	46	(5%)

The prevalence of HIV seropositivity in the high risk male groups with which the females have sex contacts is not known (eight European countries).

Table 2. Occurrence of HIV seropositivity among male sexual partners of females from high risk groups

Year of testing sexual partner of:	1985			1986			Total		
	Total	Seropositive*		Total	Seropositive		Tested	Seropositive*	
Drug abusers	141	5	(3%)	175	16	(9%)	316	21	(7%)
Prostitutes not drug abusers	391	7	(2%)	493	7	(1.4%)	884	14	(2%)
Seropositives not specified	10	0	(0%)	44	11	(25%)	54	11	(20%)
Total	542	12	(2%)	712	34	(5%)	1254	46	(4%)

The prevalence of HIV seropositivity in the high risk female groups with which the males have sex contacts is not known (eight European countries).

*The seropositives were found in samples from only three countries.

Our data on males and females with high risk sex partners clearly show a higher incidence of seropositives than controls without such sexual contacts. A large Italian study gave comparable results (8.1%) among 9514 persons in contact with risk groups and 7.6% for 2474 unclassified persons who sought tests for HIV [3]. Although not conclusive, the present data also indicate that prostitutes without drug abuse generally have escaped infection and thus are not a great risk to their customers.

The first ECP study [1] reported no seropositives among homosexual men tested in Hungary in 1984. At present there are seropositives among Polish and Hungarian homosexual men, but they are totally absent in the drug addicts tested in Poland. This mimics the situation in Western Europe 6 years ago. The spread to Eastern Europe therefore may now primarily be through homosexual contacts, and not by abuse of intravenous drugs.

That there was no increase in the recent percentage figure for seropositives in a prospective cohort of Danish urban homosexual men studied since 1981 [2] could be due to modifications in sexual behavior. This possibility is supported by a decline in the incidence of syphilis in Danish males [4]. That this may be a trend also in some other European cities is suggested by the Italian data we present here.

Data on blood donors compiled by the WHO regional office in 1987 showed seropositive ratios of from 0.2 to 0.6 per 10,000 in Spain, Italy, Switzerland, France and Denmark [5]. Our data here confirm that the majority population is still largely unaffected by the epidemic. The very existence of seropositives after excluding contact with risk groups, persons of African origin and transfusion recipients may, however, indicate an ongoing diffusion of HIV within the heterosexual not at risk group.

In conclusion, the common European experience now is a significant incidence of HIV seropositivity in persons with sexual contact with the known risk groups. At the same time the incidence remains low in persons without such contacts and some of those found are of African origin.

The ECP group believes that the planning and execution of uniform and more representative samples from Eastern and Western Europe are clearly needed and would yield scientific results worth the effort.

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