MEDICAL PRACTICE

Contemporary Themes

Human immunodeficiency virus and drug misuse: the Edinburgh experience

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Abstract

During 1985 many drug abusers who lived in Edinburgh were found to be infected with the human immunodeficiency virus (HIV). As a result an alternative counselling and screening clinic for testing for antibodies to HIV was established for use by drug abusers. Four hundred and forty one patients were counselled in the first year, and over 60% were either drug abusers or their sexual contacts. One hundred and fourteen (26%) patients were positive for HIV antibody, and 100 (88%) of these were current or former drug abusers. The HIV seropositivity rate in drug abusers was 52% but was only 7% in their sexual contacts. Services were provided for these people as well as counselling before and after the test. The cost of this counselling service for the first year was £27 000 or £61.22 per patient.

The unexpected mobility of 23% of the Edinburgh drug abusers, particularly to other areas of Britain, suggests that similar services need to be set up elsewhere.

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Introduction

In the United Kingdom 88% of the notified cases of the acquired immune deficiency syndrome (AIDS) have implicated homosexuality or bisexuality, but only 1% of notifications have implicated intravenous drug abuse alone as a high risk activity. In the United States, however, at least 17% of reports have implicated intravenous drug abuse.[1,2] Only 14 (2%) cases of AIDS have been reported in Scotland, and one was in a drug abuser.[3] In England and Wales drug abuse alone has been implicated in only 232 (5·7%) of 4001 reports of human immunodeficiency virus (HIV) antibody positivity.[4] But in Scotland 618 (61·3%) of 1008 reports of HIV antibody positivity have implicated drug abuse[5]: 607 (60%) have come from Edinburgh, and this is second only to the North West Thames region in England. Seropositive rates of between 38% and 65% in drug abusers have been reported in three studies.[5-7]

Intravenous drug abuse with opiates predominates in Edinburgh,[6,7] and comparisons of self reported habits between drug abusers in Edinburgh and Glasgow or Edinburgh and south London show much more sharing of needles in Edinburgh.[8,9] Thus when HIV was introduced into Edinburgh in 1983 it spread rapidly. When national screening of all blood donations was introduced in October 1985 it was obvious that an alternative testing site was required for this population.

City counselling and screening clinic

A self referral clinic was established in the Edinburgh regional infectious diseases unit to provide open access for counselling and HIV antibody testing. The clinic started on 16 October 1985 to coincide with the start of testing of all blood donations by the National Blood Transfusion Service.

Apart from self referrals, patients may also be referred by social workers, drug self help groups, general practitioners, and other hospitals. The HIV antibodies are detected by a competitive enzyme linked immunosorbent assay (ELISA) and confirmed by a conventional ELISA. Doubtful positive

tests are confirmed by immunofluorescence or Western blotting. So far there have been none in these patients.

The clinic is supervised by a consultant in infectious diseases (RPB) and is held in the outpatient department of the infectious diseases unit of this hospital. There are four hour sessions five times a week, and each session is staffed by a medical officer, nurse counsellor, and receptionist-secretary. Although the cost of staffing covers one part time medical officer and one part time nurse-counsellor, the sessions are shared by three medical officers and two nurses.

The clinic has its own telephone line with an answering machine which informs out of hours callers of clinic hours. Most patients are offered an appointment within one or two days of telephoning. The clinic presents a fairly non-medical image as it does not conduct a full clinical examination and assessment. Because it was expected that most of the patients would be drug abusers, a medical officer is present at all times. Phlebotomy is often difficult in drug abusers, and they tend to use services such as ours as a primary care system. Although this is generally discouraged, a medical officer needs to evaluate the problems.

The aim of the clinic was to offer a confidential service. Thus all records are kept in the clinic, and there is no other record of attendance unless patients take up the offer of medical screening. Our aim has always been to persuade our patients of the advantages of informing their general practitioner of their HIV antibody state. We were often left not knowing whether to inform other doctors of the results. We then decided to obtain written permission at the first visit to inform the patient's general practitioner of the test result. The results are otherwise given out only to the patient at a clinic attendance. Contact tracing is not undertaken, but the patients are encouraged to bring their sexual or needle sharing partners to the clinic. When the clinic opened there was no written material specifically for drug abusers, and leaflets were produced for these patients.

Pretest counselling

Each patient is allocated at least 30 minutes for the initial appointment, although in practice this is not strictly adhered to. The patients receive a printed sheet which explains simply the advantages and disadvantages of HIV antibody testing, and this is discussed at the counselling session. The main objectives of the pretest counselling are general education regarding HIV, including how it is transmitted, risk activities, and how to reduce the risk. Specific risk activities are assessed for each person and advice given. In view of the high default rate and the almost invariable lack of comprehension when the result is positive as much information as possible is provided at the first visit.

Because of the prolonged incubation period for seroconversion our policy is to offer repeat testing for up to one year after a person's last risk activity, and during that time the person is advised to assume that he or she is seropositive in terms of risk reduction measures. Advice on contraception and supplies are also provided.

The implications of the test are then discussed, and if the patient decides to proceed blood is taken for HIV antibody and hepatitis B marker tests. A further appointment is given for one week later, when a confirmed result is available. No other specific screening is undertaken—for instance, to exclude sexually transmitted diseases—but if the medical officer considers it necessary referrals are arranged to departments of genitourinary medicine, dermatology, psychiatry, etc.

One important function of the clinic is to be a point of contact for providing advice and information to health care workers, social workers, occupational nurses, and foster mothers, as well as to people who are worried, whether or not they are in identified high risk groups. The clinic staff are therefore an important resource for disseminating information to many people apart from those directly concerned with this infection.

Post-test counselling

At the return visit patients whose antibody test result is negative are given advice which depends on their suspected exposure time and risk factors. If there has been a high risk activity within the past 12 months the patient is advised to attend the clinic again for further testing in six to 12 months.

Patients whose test is positive are counselled about reducing the relevant risk, with the initial emphasis on reducing the progression of the disease in the patient and spread of the virus in the community. Depending on the circumstances this includes advice on safe sex and safe drug use, advice with regard to sexual and needle sharing partners, advice on diet and physical activity, and reassurance about lack of transmission to non-sexual non-needle sharing partners. For women it also must encompass the risk of pregnancy.

Obviously a big problem with current drug abusers is how to cope with their drug addiction. In Edinburgh there is no coordinated policy for managing drug abuse. There is no drug dependency unit, and inpatient facilities for voluntary detoxification are restricted to one bed in each of the seven general psychiatric wards. Abstinence has until now been the major goal in dealing with drug abusers, but with the appearance of HIV these goals need to be adjusted to one of "risk or harm reduction." The long term goal is still abstinence from all drugs, but it is important to start with a more realistic goal for each patient such as substitution therapy in the long term or short term to avoid drug abuse with needles or providing needles and syringes to reduce sharing. Exhorting abusers to use clean equipment is pointless, however, unless it is available, though widespread availability of equipment, as in Italy, does not ensure a lack of sharing. Education is needed to emphasise the dangers of needle sharing and the importance of cleanliness and sterility in the use of equipment. Celibacy is not considered a realistic means of dealing with sexually transmitted HIV infection. The message is education with regard to "safe sex." Similarly, a message based solely on abstinence is unrealistic for drug misusers.

One third of our patients with HIV are women, and the prevention of pregnancy is important on the grounds of progression to AIDS in the mother as well as preventing transmission to the child. The rate of infection for babies who are born to seropositive mothers is not well documented and varies from 0% to 65%. At present we can advise only that the chance of becoming infected appears to be roughly 50%.[10] In the USA only one quarter of seropositive mothers were well two and a half years after delivery.[11] These mothers, however, were selected by having already given birth to a child with AIDS, and these data may not apply to Edinburgh. As with other drug abuse problems it is necessary to do more than offer advice such as "avoid pregnancy" or "use barrier contraceptives." With the help of the family planning service in Edinburgh the clinic is now acting as an outpost of the service to offer on site advice on contraception and supplies. Occasionally, urgent referrals for termination of pregnancy are necessary.

Further management

Patients with a positive HIV antibody result are offered appointments for further counselling as well as an appointment for a medical examination. Because one third of the affected patients are women Edinburgh will probably continue for some time to be faced with pregnancies and children affected by HIV. Our aim was to offer medical services for both mother and child at one clinic to try to overcome the problems of a haphazard lifestyle. One session is devoted to the follow up of children who are at risk of HIV infection, and the services of a nurse counsellor from the screening clinic, a consultant in community child health, an infectious diseases physician, and a liaison health visitor to help coordinate follow up are used. The mothers are encouraged to attend routine baby clinics but our clinic coordinates their immunisations and medical care. With the help of our obstetric colleagues we hope to develop a system to ensure that none of these families is unintentionally lost to the medical services.

The dental health of drug misusers is generally poor, and their attendance at dentists is as irregular as for all other medical services. In Edinburgh there was already a procedure for dealing with patients with hepatitis B, and with the help of the Lothian area dental service we can offer treatment for these patients. In the near future a dental surgery on site should reduce the poor dental attendance.

Results

A total of 441 new patients had been counselled at 980 clinic attendances by 30 September 1986, and there were 402 (41%) non-attendances. Three hundred and forty five (78%) of the patients were from the city of Edinburgh, 55 (12·5%) were from the rest of the Lothian region, 27 (6%) were from other parts of Scotland, three (0·5%) were from England, and 11 (3%) gave no address.

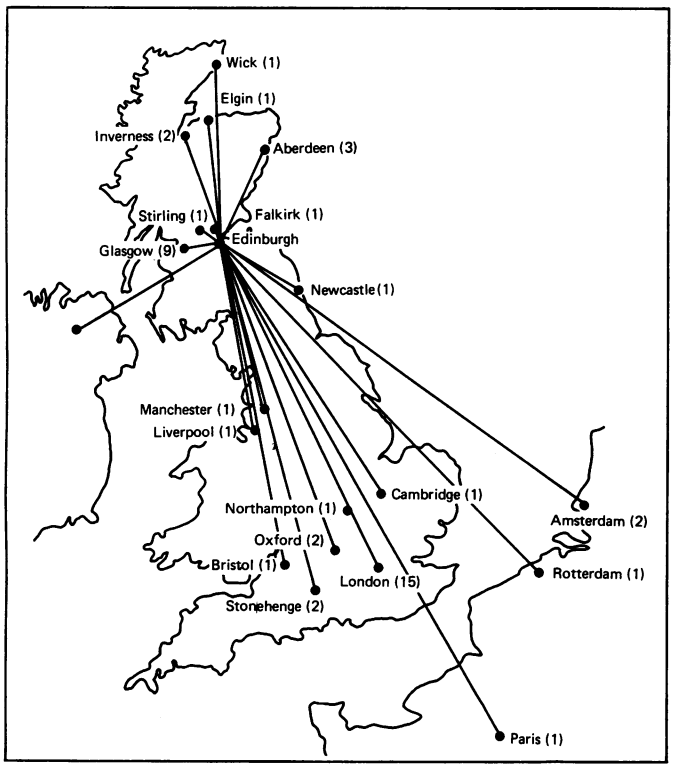
A total of 30 (6·8%) people declined HIV testing after pretest counselling, and, not surprisingly, those with the least risk were more likely to decline testing (table). One hundred and fourteen (26%) HIV positive patients were counselled, 100 (88%) of whom were current or former drug abusers. A total of 191 patients admitted to intravenous drug misuse (119 (62%) men and 72 (38%) women) and the seropositivity rate was 52%. None of the drug abusers admitted to practising homosexuality. The mean age of drug abusers was 26 years (25 years for those who were seropositive and 27·5 years for those who were seronegative ($p<0·01$)). The mean age of onset of intravenous drug abuse was 20 years (18 years for those who were seropositive and 22 years for those who were seronegative ($p<0·0001$)). The male to female ratio was 1·6:1 (1·3:1 for those who were seropositive and 2·1:1 for those who were seronegative). Forty three (60·5%) of the women were HIV antibody positive compared with 57 (49·5%) of the men, but this difference was not

significant. Forty four (23%) Edinburgh based drug abusers had shared needles in 48 other locations, and of these, 52% were positive for HIV antibody (figure). On 1 January 1986 the family clinic for seropositive mothers and their newborn children was established and by 30 September 1986, 23 babies at risk and their mothers had been counselled and examined.

City screening clinic: October 1985 to September 1986

Risk group	No attending (% of total)	No HIV antibody positive (% of risk group)	No declined test (% of risk group)
Intravenous drug abuser	191 (44)	100 (52)	5 (3)
Sex with intravenous drug abuser	88 (20)	6 (7)	3 (3)
Homosexual or bisexual	40 (9)	4 (10)	3 (8)
Sex with someone who is not a drug abuser	53 (12)	0	5 (9)
Other	69 (16)	4 (6)*	14 (20)
Total	441 (100)	114 (26)	30 (7)

* All related to iatrogenic contamination of blood products.



Locations where 44 Edinburgh drug abusers who attended the city screening clinic shared needles.

The total cost of this counselling and screening service in the first year was £27 000: £18 500 in salaries, £3000 in initial equipment, £2500 in consumables, and £3000 for HIV and hepatitis B testing. The cost per patient in the first year was therefore £61.22 or £27.55 per attendance. A total of 2080 hours were available for counselling per year. Allowing about one hour for counselling each patient and a 15% time loss for holidays and 40% for default appointments, roughly 1000 patients could have attended. This number of patients in subsequent years would cost £21 000 for counselling and £7300 for HIV and hepatitis B testing, or £28.30 per patient. A more compliant population would reduce costs even further to roughly £20 per patient, made up of £12 for counselling and £8 for HIV and hepatitis B testing.

Discussion

The demand for the facility that we offer has been confirmed with 441 new patients attending in the first year, 63·5% being either drug abusers or their sexual contacts. In Edinburgh five of seven HIV positive blood donors who were identified by the blood transfusion service were former intravenous drug abusers, and this further emphasises the importance of offering alternative testing sites.[7] The clinic has counselled a total of 114 (26%) HIV positive people, 88% of whom were intravenous drug abusers. The fact that HIV infection is common (52%) among drug abusers but is less so among their sexual contacts (7%) has been confirmed. This supports the results of previous work suggesting that HIV infection in drug abusers is spread by needle sharing rather than by sexual activity.[7]

Those in Edinburgh who are affected are characteristically young, have markers of current or past infection with hepatitis B virus, and are more likely to share needles and syringes frequently.[8,9] By comparison HIV positivity in Glasgow is only 4·5% and in England only 10%.[12,13] This geographical variation for drug abusers has also been noted elsewhere. In New York the HIV positivity among drug abusers who entered detoxification programmes was reported to be 87% compared with only 1·7% among Californian drug misusers, and in Italy the difference between two adjacent provinces was 90% compared with 10%.[14-16] These differences presumably reflect local variations in drug abuse, drug administration, date of arrival of virus, etc.

Not surprisingly, people with the least risk were most likely to decline the test after counselling, 20% *v* 2·6% of drug abusers. Overall 7% declined testing compared with 16% in the USA, where the positivity rate was 17% compared with our rate of 26%.[17] Our default rate after testing is 21%, which compares favourably with 30% in the USA.[17] An overall default rate of 42% is of concern as this means that counsellors are underused. Cost and distance do not seem to be factors in the default rate, and it may be a feature of either lifestyle or the anxiety associated with screening for this particular virus.

Most HIV counselling and screening in the UK has been undertaken by genitourinary medicine clinics, and as this has been an additional workload separate costing has not been readily available. Our HIV counselling and screening clinic was set up de novo for a particularly difficult risk group. For many reasons it was thought necessary to have a medical officer on site at all times, and this obviously adds to the expense. We can, however, provide a realistic estimate of the cost of providing a counselling and screening service. In the first year the cost was £61.22 per patient without taking into account the cost of premises, which were available at no extra cost to the health board. With increased numbers of patients and a lower default rate this cost could fall to about £20 per patient. At present there are calls for widespread voluntary screening in, for instance, antenatal clinics, and £20 per patient is a realistic cost of providing such a service.

The mobility of drug abusers has not been well appreciated, and we have shown, as others have, that abusers who are based in Edinburgh share needles in many locations (figure).[6] Presumably this mobility also applies to other abusers who are not based in Edinburgh. Recent reports suggest that the HIV seropositivity rate is rising in England and Wales,[13] and it will not be long, therefore, before other cities in the UK have a problem with HIV similar to Edinburgh's. This, and the fact that the spread of HIV by needles occurs at five to seven times the rate by sexual intercourse, should re-emphasise the fact that if this disease becomes disseminated into the general population it will do so from heterosexual parenteral drug abusers.

More generalised screening and counselling facilities are needed, especially for drug abusers, to delineate the problem further and prevent the transmission of HIV to other drug abusers, their sexual contacts, and children.

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How To Do It

Take a teaching ward round

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The traditional form of teaching in British medicine has been an apprenticeship and for many specialties the cornerstone of this teaching has been the ward round. This approach of basing teaching on close contact with patients is not typical of medical teaching in all countries, and in some British schools there has been an unfortunate drift away from the bedside and into the lecture theatre and seminar room. Medical educationalists have emphasised the importance of problem based learning—which is the essence of patient based teaching ward rounds where the problem presented by the patient has to be not only dealt with but identified in the first place.

What makes a good ward round? We all have memories from our own student days, many relating to charismatic, sometimes fearsome, consultants' ward rounds but these memories often include the patients and their conditions. Our recall of these patients presented on rounds, far superior to our memory of pages of textbooks, testifies to the effectiveness of those teaching rounds.

The medical curriculum is becoming more and more crowded as everybody wants to teach the essential facts of his specialty. A course covering all possible options would have to be several years longer than at present, and teachers therefore need to be selective and deal with the principles and approaches entailed in different subjects rather than with straight facts. If the division of time in the course is right then during each attachment the student will see on the wards the conditions that are important for hospital practice in that specialty.

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There is increasing pressure on teachers' time as well as on students' and you may be tempted to combine business and teaching rounds. Resist this temptation. There is no harm in taking students on business rounds, particularly if they know about all the patients as they should, but don't fool yourself that this can replace their teaching round. It is impossible to devote enough time and thought to teaching in the context of the business round.

There are four main elements to the teaching round; the ward, the patients, the students, and the teachers.

The ward

For many of us cuts in the numbers of beds and shared wards have deprived us of a personal ward and a devoted sister, who would control the ward and maintain absolute silence in it during the teaching round. Sanity is best maintained by arranging ward rounds clear of meal times and regular floor polishing sessions. There are advantages in having notes and *x* ray films available and an accompanying nurse, not least because it introduces the students to a team approach to care.