Incidence of hepatitis C virus and HIV among new injecting drug users in London: prospective cohort study

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In England, the low prevalence of HIV among injecting drug users during the 1990s was attributed in part to the introduction of harm reduction interventions in the late 1980s. Also, the prevalence of hepatitis C virus in the late 1990s was thought to be relatively low compared with other countries, at around 40% overall and 15% among those who had been injecting drugs for less than six years. We carried out a prospective cohort study of new injecting drug users in London to estimate the incidence of hepatitis C virus and HIV.

Participants, methods, and results

In 2001, we recruited from community settings mainly in London, but also in Brighton, 428 injecting drug users who were aged below 30 years or had been injecting for six years or fewer. All had injected in the previous four weeks and could provide addresses for follow up. They completed interviewer administered questionnaires and provided oral fluid specimens and optionally dried capillary blood spots for testing for antibodies to hepatitis C virus and HIV using published methods. They were followed up 12 months later. We calculated incidence using standard person time methods.

Most of the participants (91%) were recruited in London. The mean (SD) age was 27.4 (5.3) years, and 29% of the participants were women. Three fifths (61%) of the sample at baseline had been injecting for less than four years, and the median frequency of injecting was 2.5 times a day. Most (71%) mainly injected opiates, although just over half (53%) had injected cocaine or crack in the previous year.

Development of hepatitis C virus and HIV among new injecting drug users in London was 2.5 times a day. Most (71%) mainly injected opiates, although just over half (53%) had injected cocaine or crack in the previous year. Participants reported high levels of injecting risk behaviour, with 24% at baseline reporting injecting in the previous four weeks with needles and syringes used by someone else, and 53% sharing injecting paraphernalia. The baseline prevalence of antibodies to hepatitis C virus was 44% and of antibody to HIV was 4% (table).

The overall follow up rate was 70%, and we found no difference between those followed up and those lost to follow up for sociodemographic characteristics or injecting risk behaviour. The incidence of antibodies to hepatitis C virus was 41.8 cases per 100 person years and of antibody to HIV was 3.4 cases per 100 person years (see table).

Comment

The incidence of hepatitis C virus in England is high and of HIV higher than expected. These findings are corroborated by ongoing surveillance data, and suggest that transmission may have recently increased. In London, the overall incidence of hepatitis C virus among those in many cities worldwide, and an incidence of HIV comparable to that among men who have sex with men attending clinics for sexually transmitted infection in London. Possible explanations for the rising incidence include changes in patterns of injecting drug use, with greater injection of crack and injecting risk behaviour in newer injecting drug users than in those injecting in the early to mid-1990s. In addition there may have been increases in the size of the population of injecting drug users in London. Recent estimates suggest that current injection in the previous four weeks with needles and syringes used by someone else, and 53% sharing injecting paraphernalia. The baseline prevalence of antibodies to hepatitis C virus was 44% and of antibody to HIV was 4% (table).

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What is already known on this topic

Injecting drug users are at high risk of acquiring HIV, hepatitis C virus, and other bloodborne infections.

What this study adds

The incidences of hepatitis C virus and HIV among new injecting drug users in London are 41.8 and 3.4 per 100 person years, respectively.

Current drug policy is failing to maintain historical levels of protection from bloodborne viruses among this high risk group.

Innovative strategies are required, specific to hepatitis C virus and to HIV, to change behaviour and to deliver health education messages and harm reduction strategies early enough to make a difference.

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Averting a change to the date of the royal succession

I will be 90 years old in 2005 and have a very clear memory of an episode which took place at my home in Mansfield in 1926 when I was 11. My father, H L Flint, was a general practitioner but was much involved with cardiology. We understood (rightly or wrongly) that he was the first person in the Midlands able to take electrocardiographs. One fair-sized room in our house was his surgery. (Panel patients had a scruffy place in the town.) The electrocardiograph took up nearly the whole length of one wall. The patient sat with both feet and arms in saline baths and was wired up to the machine. Moreover, wires were run through our house and garden, over a high wall, through a neighbour’s garden, and so to the General Hospital, which stood high above us, to enable hospital patients to be wired up there, too.

At that time, the then Prince of Wales kept his hunters at Melton Mowbray (about 35 miles away). His vet was worried about the health of the Prince’s favourite hunter, “Tarzan.” He had heard of my father and asked whether it would be possible to take an ECG of Tarzan. After consideration my father decided to have a try. In due course, the horse arrived with the vet, groom, and an equerry, in a large horsebox. When this was arranged, my mother promptly decided to go and stay with my mother, so we still have the details in a letter I wrote, telling my mother all about it.

My father was a very cautious man. In those days, any medical man who advertised was liable to be struck off the register. My two brothers were much younger than I, so in those days, any medical man who advertised was liable to be struck off the register.

I am going to record the finding my father found that Tarzan had “heart block.” The Prince was informed that he must never ride the horse again. Two weeks later the horse dropped dead while galloping around its field.

My father was a very cautious man. In those days, any medical man who advertised was liable to be struck off the register. Needless to say, the local press got wind of the affair and photographers waited outside for ages and took photos of Tarzan with me included, but fortunately without my father.

My two brothers were much younger than I, so never appeared from the nursery, where they watched the proceedings through the window. One brother, now a retired consultant physician, told me that when he started medical school electrocardiographs of this size were still in use.

It is interesting to speculate that, had this ECG not been taken, the Prince of Wales might have suffered a fatal accident while riding Tarzan to hounds, and the affair with Mrs Simpson and the resulting abdication would never have taken place.

Margaret Hope Robinson submitted by J G Strong, consultant physician, Royal Glamorgan Hospital, Llantristant CF72 8XR, Rhondda, Gloucestershire

Prevalence and incidence of hepatitis C virus and HIV antibody among new injecting drug users in London, 2001-3

<table>
<thead>
<tr>
<th>Viral antibodies</th>
<th>No positive/total</th>
<th>Prevalence (95% CI)</th>
<th>No of seroconversions/total</th>
<th>Incidence rate per 100 person years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis C virus</td>
<td>187/428</td>
<td>43.7 (38.9 to 48.5)</td>
<td>13/151 (2.72 days)</td>
<td>41.8 (31.9 to 54.7)</td>
</tr>
<tr>
<td>HIV</td>
<td>187/428</td>
<td>4.2 (2.5 to 6.6)</td>
<td>9/273 (360 days)</td>
<td>3.4 (1.8 to 6.6)</td>
</tr>
</tbody>
</table>

Contributors: AJ, ML, SJ, JP, GVS, and AJH designed and conducted the cohort study. TMcD conducted the laboratory testing, overseen by JVF. AJ undertook the statistical analysis; she is guarantor for the paper. All authors contributed to the writing of the paper.

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