Hepatitis C and general practice: the crucial role of primary care in stemming the epidemic

The hepatitis C epidemic is now a public health crisis in the UK; this was the conclusion of the recent Scottish consensus conference on hepatitis C.[1] Since the identification of the virus in 1989, the extent of the epidemic has been gradually unfolding, yet the scale of the clinical problem has yet to be defined. Hepatitis C is often described in relation to HIV, and although there are many similarities between the infections, with useful lessons to be learned for dealing with this 'new' epidemic, it has often led hepatitis C to be characterised as relatively an almost benign and incidental infection. This has had a profound impact on our response to the hepatitis C epidemic.

Since the initial identification of AIDS as an infectious disease in 1981 and almost 20 years after the introduction of an antibody test capable of identifying those infected, it is now possible to identify positive and negative features of clinical practice, both then and now. Then, it was unknown how many infected individuals would progress to becoming ill with AIDS and there was no effective treatment available that might encourage active intervention or support testing individuals for infection.[2] A great deal has been learned about patient care from those early years of the HIV epidemic and it is not too much of an exaggeration to say that, with the profound effect these lessons have had on patients' rights, the relationship between clinician and patient has been significantly reshaped. More is now understood about the natural history of the disease, and with the advance of effective treatment since 1996 — at least in developed countries — our whole clinical approach to HIV has been transformed.

Hepatitis C, however, is a disease for which there are still many uncertainties. This has, like HIV in the early 1980s, important implications for clinical practice. Although it is not a new virus, it was not until 1989 that the organism responsible for the majority of cases of post-transfusion 'non-A/non-B' hepatitis was discovered. The introduction of the antibody test in 1991 has since allowed the scale of the epidemic among past and present drug users to become apparent, and it is this that now amounts to nothing less than a public health crisis.

Worldwide there is limited information about the epidemiology of hepatitis C. However, its prevalence is estimated at some four times higher than that of HIV. Tragically, the main mode of transmission for most of the developing world — where the prevalence rates are highest — has been contaminated medical equipment and blood transfusions.[3] In the US, 1.8 % of the general population is hepatitis C antibody-positive, with approximately 2.7 million people being chronically infected.[4] While there are no reliable population-wide prevalence studies for the UK, studies suggest an antibody prevalence of around 0.5% in the population of England. This translates into more than 200 000 people in England being chronically infected. However, the cumulative total of hepatitis C infections being reported to the end of 2003 was only 38 352.[5]

Hepatitis C is still referred to as 'the silent epidemic', even though in the UK it is now the commonest indication for orthotopic liver transplant and in the US it is the commonest cause of chronic liver disease.[6] It is also an increasingly significant cause of mortality in HIV-infected patients.[7] The reasons for this misleading characterisation are several. Firstly, more than 80% of those infected are undiagnosed and unaware of their condition. Secondly, 80% of acute infections are asymptomatic, and in the 55–85% who go on to chronic infection disease progression is slow and insidious. Perhaps a third reason could be that in the UK drug users are now overwhelmingly the main group affected by the epidemic. Of those infected (where we know of identified risk exposure) 90% acquired hepatitis C through injecting drugs.[5] This marginalised and poorly represented group are all too easy to turn a deaf ear to when it comes to distributing societal resources.

The hepatitis C virus is a single stranded RNA virus and is approximately 10 times more infectious than HIV through blood-to-blood contact.[8] This makes its spread possible not only with needle and syringe sharing, but also via other contaminated equipment such as water, spoons and filters, or even simply through poor injecting hygiene.[9] In this country, as in most industrialised countries, blood transfusions and blood products were a significant source of infection prior to the introduction of heat treatment and antibody screening in the late 1980s and early 1990s, respectively. Other routes of transmission include sexual spread, and although studies show relatively low sexual infectivity, the large numbers of those infected could make this a significant source of infection.[10] Mother-to-child transmission is about 5%, but rising to a 10% risk for HIV co-infected women.[11] Other potential low-risk sources of infection could include contaminated tattooing or body piercing equipment and the sharing of razors and toothbrushes. Significantly, there still remains a proportion of infected individuals for whom there is no identifiable risk factor.

Over the last few years developments in antiviral treatments with pegylated interferon and ribavirin have led to significantly improved efficacy. Trials show cure rates of around 50% in genotype 1 and 80% in genotype 3, the two commonest sub-types in the UK.[12] There is also evidence that treating acute infection, probably within the first year, leads to cure in the vast majority of cases.[13] Cure is defined as viral clearance at 6 months post-treatment completion and there is now accruing evidence that this equates with long-term clearance.[14] The treatment, although long and difficult, with weekly injections for up to 48 weeks in genotype 1, has also been shown to be cost-effective.[15] However, despite these therapeutic improvements there has not been any significant increase in the rate of those being offered treatment, with specialist

services still struggling to engage effectively with infected drug users.[16]

How big a health burden this epidemic is likely to become is uncertain. After signs that the incidence of hepatitis C infection was declining in the late 1990s there is now worrying evidence that it is on the increase, especially among younger injecting drug users.[17] In older drug users prevalence rates can be as high as 80–90%.[18] There is also evidence to show that the rate of disease progression is non-linear and accelerates with time.[19] This suggests that the burden of liver disease is going to increase exponentially over time and will completely overwhelm the current capacity of treatment services over the next decade or so.

Our understanding of hepatitis C is perhaps now in a similar state to that of HIV prior to 1990. We know there is a lot of it about and that it continues to spread among drug injectors. We also have a good idea of how to prevent it. We do not know in how many or in whom or how fast progression to advanced disease is likely to occur. Most progression studies follow specialist centre-based cohorts that have an obvious tendency for referral bias. These studies show high rates of progression to cirrhosis — of the order of 20% or higher for those chronically infected.[20] Many chronically infected patients have multiple low-grade symptoms, including fatigue and some cognitive impairment or 'brain fog'. However, the most serious clinical consequences — cirrhosis, decompensated end-stage liver failure and hepatocellular carcinoma — can take between 20 and 30 years or more to manifest. One message we can be clear on is the importance of limiting alcohol intake in those chronically infected. Alcohol is the single most significant modifiable factor in determining progression to cirrhosis, and many older drug users or ex-users have high levels of alcohol intake.

In the early years of the HIV epidemic, general practice and community care struggled to identify its role in the diagnosis and management of the disease and similar experiences are evident today with hepatitis C. The priority for the GP has to be prevention, both primary and secondary. This means embracing the harm reduction philosophy in order to encourage drug users away from injecting. In particular, there is a need to transmit the harm minimisation message more effectively to young drug users and to provide methadone and other acceptable substitute treatments, to those who need them. This needs to be part of the holistic care that is at the core of general practice and must be available to all drug users.

The issues around hepatitis C are, however, entangled in a mixture of political indecision, poor resources in deprived communities — where there is a parallel epidemic of drugs misuse and injecting — and inadequately considered approaches to problems of testing, counselling, follow-up of positive test results and getting people into treatment. The paper in this month's Journal by Tompkins *et al*[21] identifies some of the serious shortcomings in pre-test counselling and follow-up of homeless drug users diagnosed with hepatitis C. As with HIV, clinicians have a responsibility to test and offer treatment when appropriate. They also have a responsibility to be sure that patients understand the test and its implications and they need to be appraised of the value of on-going monitoring and support, and the availability of and need for timely antiviral treatment.[22,23] These issues are of particular relevance, since the Department of Health hepatitis C strategy now encourages a more proactive approach towards hepatitis C virus testing of injecting drug users.[24]

One serious consequence of the Department of Health strategy is that, given the current resource limitations, the likely subsequent increase in new diagnoses will further overload clinical services. As our experience with HIV clearly demonstrates, improvements in diagnosis and treatment must be matched by increased resources for and availability of treatment. If not, what we are effectively doing, as identified by Tompkins *et al*,[21] is merely adding to the emotional and psychological morbidity experienced by our drug-using patients.

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