Correspondence

Infection with Hepatitis C Virus Transmitted by Accidental Needlesticks

Sir—Garcia et al. [1] describe a health care worker who developed a case of acute infection with hepatitis C virus (HCV) with a very rapid onset (within 9 days) following a needlestick injury. A similar case, with a similarly short incubation period of 2 weeks, was reported by Morand et al. [2] in 2001.

In both cases, HCV RNA testing was performed after the onset of symptoms at week 2 and produced positive results. Garcia et al. [1] conclude that their case “reveals the importance of detecting HCV RNA soon after receipt of a needlestick to provide prompt treatment to the patient, regardless of whether it is necessary, to prevent chronic HCV infection” [pg. 1634]. Similarly, the Centers for Disease Control and Prevention guidelines [3] state that an HCV RNA test may be performed at 4–6 weeks after receipt of a needlestick injury if earlier diagnosis of HCV infection is desired.

We do not completely agree with this approach or with its applicability in current practice. In our prospective surveillance study [4], out of a total of 3735 health care workers who sustained a percutaneous injury from an anti-HCV–positive source and who were followed up for >6 months after exposure (mean duration of follow-up, 9.2 months; range, 6–15 months), we detected 17 workers with HCV seroconversions following a needlestick with a hollow-bore, blood-filled needle (0.5% of subjects; 95% CI, 0.3–0.7). In 11 cases, HCV infection was identified within 2 months after exposure because of symptoms suggesting acute hepatitis. If we had adopted the approach proposed by Garcia et al. [1], obtaining an early diagnosis for the 6 subjects with seroconversion who did not develop symptoms—if of any advantage in treating them—would have required >3724 HCV RNA tests, assuming that a single test was sufficient to detect (or rule out) infection. Because there is no data indicating that early treatment of acute HCV infection is more effective than early treatment of chronic HCV infection [5] and because, in many cases, infection may resolve without therapy [6], the advantage of an early diagnosis though HCV RNA testing is debatable.

Recently, the European Group for the Standardization of the Management of Occupational Exposure to HIV/Blood-Borne Infections, which we coordinate, issued recommendations for the management of health care workers who are occupationally exposed to hepatitis B and C viruses [7], and this document does not recommend performing routine HCV RNA testing of exposed workers other than in cases in which clinical conditions suggest acute hepatitis. However, the possibility of early treatment of HCV infection is considered. In that case, it is recommended that the ALT level be determined at baseline and once a month for 4 months after exposure; a qualitative HCV-RNA test should be performed if an increase in the ALT level is detected.

From a public health perspective, while we wait for definitive data that demonstrates a widespread, sustained clinical advantage to treating HCV early in the acute phase, a conservative approach could be adopted. Compared with the approach proposed by Garcia et al. [1], the one proposed in the European recommendations [7] should be at least as effective at identifying case patients who could undergo treatment and it will require fewer resources.

References

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Reply

In the absence of postexposure prophylaxis for hepatitis C virus (HCV) infection, the current recommendations for postexposure management of health care professionals in the United States [1] are intended to reduce the risk of chronic disease by identifying infected persons early and thereby allowing those individuals to receive appropriate medical management, including antiviral therapy, if appropriate. The ideal timing, frequency, and type of follow-up testing are controversial, as are the timing and regimen of antiviral therapy to prevent chronic infection and disease.

The main reason for the controversy is a lack of data. For example, we recommend that the source of the exposure be tested for antibody to HCV and that all positive results of screening tests be confirmed by a supplemental antibody assay (i.e., recombinant immunoblot testing) [1]. Others might recommend that the source be tested for HCV RNA. However, there are insufficient data to support determination of the need for follow-up solely on the basis of the results of testing for HCV RNA; virtually all studies of the risk of HCV transmission following an occupational exposure have been based on anti-HCV testing. There are also insufficient data on which to base a recommendation for treatment of acute HCV infection because there are no data on the effect of treating patients with acute infection who have no evidence of disease [1, 2]. Treatment begun early in the course of chronic infection might be just as effective and would eliminate the need to treat persons whose infections spontaneously resolve. Even if we considered treating only those who had positive HCV RNA test results 3–4 months after exposure, the appropriate treatment regimen is unknown [3]. Finally, we do not know the frequency of HCV RNA testing or the specific length of HCV RNA testing follow-up that is adequate to document a lack of HCV transmission after exposure to an HCV-positive source.

Determining the ideal approach to the management of health care workers who have been exposed to HCV is particularly problematic because most persons exposed do not become infected, and, of those who do become infected, most are asymptomatic. Developing broad (e.g., nationwide) recommendations for screening in such a situation requires taking into account both practical and scientific considerations [1]. As De Carli et al. [4] indicate, routine HCV RNA testing of every health-care worker exposed to an HCV-positive source would be extremely costly and of low yield. In contrast, HCV RNA testing for the purposes of clinical diagnosis in a person with symptoms of acute hepatitis C, as described by Garcia et al. [5], would usually be considered part of a standard medical evaluation. However, this does not mean that such testing should be performed “soon after receipt of [every] needlestick” [5, pg. 1634]. In the limited studies available, antiviral treatment of persons with symptomatic acute hepatitis C >12 weeks after exposure to HCV resulted in high sustained-response rates [6].

Balanced against all of these issues are the psychological needs of the exposed persons and the knowledge and preferences of the medical professionals who are caring for them. Some health care professionals are so anxious after an exposure that they want to be tested for HCV RNA every week; others do not want to be tested at all. Some physicians offer treatment to exposed persons as soon as their HCV infection is detected; others recommend waiting to determine if the infection will naturally resolve. Thus, until additional data are available on which a consensus can be reached, recommendations for follow-up after exposure to HCV should be flexible.

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Rifampin and Recurrence of Tuberculosis among Patients Infected with HIV

Sir—Korenromp et al. [1] have performed an impressive meta-analysis on the subject of tuberculosis recurrence among patients infected with human immunodeficiency virus (HIV), but we feel their conclusions should be more nuanced, given that their analysis has several methodological limitations, some of which have been addressed by the authors and others of which have not.