Reviewer’s report

Title: Hepatitis B virus infection in male volunteer blood donors in Karachi, Pakistan

Version: Date: 18 February 2005

Reviewer: Keith Sabin

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General
The manuscript presents the analysis of data collected in a case-control study of HBV infection from blood donors in Karachi, Pakistan. This is a useful area of inquiry for directing appropriate prevention activities.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached):

There are several serious problems with this manuscript that I hope could be overcome but that is dependent on what data were collected and are available to the authors.

Throughout the paper, the authors refer to HBV seroprevalence or HBV infection, and this is misleading. It only becomes clear what they are actually measuring, chronic HB infection, in the Methods section where they state that only HBsAg results are used. This is an important condition to understand because it represents the pool of infectious people in the community. However, at not point is this mentioned. Further, there is an assumption made in the prevalence rates that all people who do not test HBsAg+ are not infected and indeed susceptible to infection. What you report is the prevalence of chronic infection, but the denominator contains more than just susceptible people. It is important that, at a minimum, test results for total anti-HBc be included in these analyses. This would represent all people who were ever infected with HBV, of whom the HBsAg+ folks are likely a small subset. The people with anti-HBc+ results have resolved infections and are not susceptible to future infection and should be reported separately if the real interest is in seroprevalence. Further, chronic HBV infection is generally, more commonly the result of infection in early childhood. From birth to age 10, the risk of developing a chronic HB infection reduces geometrically. Chronic infection resulting from acute infection in adulthood is known but not common, relative to childhood infection. It would not be surprising that the risks that led to chronic infection occurred during childhood, either at birth or during the first 10 years of life. Therefore, measures of association for exposures in the recent past have little meaning. Also, case-control studies typically are statistically founded on incident cases. Since these are clearly prevalent cases, the measures of association should be adjusted to become prevalence ratios, not odds ratios. On the whole, while the significant findings are completely plausible, they could represent behaviors associated with SES or some other factor that remains similar from early childhood, e.g., a child who received a lot of injections is still receiving many injections as an adult. I suggest that the analyses be revisited and reconsidered given that this report is focused on chronic infection. The findings that chronically HB infected patients are receiving large numbers of injections suggests that they could be a potential source of infection for new, acute cases of HBV infection.

Other issues:
Is citation 3 actually Gaza, Germany or is it Gaza, Palestinian Authority? The latter, I think.
Many of the citations seem inaccurate and need to be verified more closely. #8 discusses transmission modes in Pakistan but is cited as a global source, even though, vertical transmission is omitted from the list.

Cite Lemon et al. (c. 1990, Lancet, I think) for horizontal transmission.

On page 4, many of the citations on HBV are actually articles on HCV. Further, the final statement of the first paragraph is incorrect. High prevalence of history of HBV among HCC patients is expected anywhere in the world and is not suggestive of high prevalence in a country. High prevalence of HCC in a country would be suggestive of high prevalence of HBV/HCV in said country.

Page 5, Methods: need to explain "exchange basis" because many readers will not know what this means.

Page 8: Death of a family member due to liver disease is highly suggestive of transmission mode, if you know the family member (siblings = horizontal or vertical; spouse = sexual; parent = vertical, etc.)

Page 12: Saliva is not a route of transmission for HBV

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.