Reviewer's report

Title: Hepatitis B Vaccinations Among Koreans: Results from 2005 Korea National Cancer Screening Survey

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Reviewer: James Fung

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General:
I enjoyed reading the current manuscript regarding HBV vaccination in Korea. The authors report the status of HBV vaccination in Korea and the predictors of vaccination uptake.

Major compulsory revisions:

1. The method section should describe the laboratory screening procedure used, including the method used to perform HBsAg and anti-HBs

2. One of the important factors to determine past exposure is determination of anti-HBc – which was not performed or mentioned in the current manuscript. In the 2nd paragraph of the discussion it states that “… more than half (52.3%) were unprotected, which means that they had never been exposed to HBV.” This statement is unfounded in the absence of anti-HBc determination. The authors will need to include whether anti-HBc was performed or not.

3. The authors should be wary of using the term ‘unprotected’ for patients who are negative for both HBsAg and anti-HBs. The anti-HBs titres may decline over time after vaccination, and become undetectable – but with exposure to HBV it will rise rapidly because of memory immunity. This may account for the fact that 23% of these so-called unprotected individuals reported to have been vaccinated – with over half of these completing the 3 scheduled vaccination. Therefore the authors will need to include this in their discussion.

4. As a significant proportion of these ‘unprotected’ individuals may actually be protected – classifying them as unprotected and statistics grouping them as such is likely to be flawed. Additional statistics based on the questionnaire regarding vaccination in addition to HBV serology may lend argument.

5. For HCC prevention – strategies likely to be effective are those that can prevent chronic infection. In Asian patients this would mean vaccination at birth to prevent acquisition of HBV at a young age where the immune system is still tolerant and chronic infection is likely. In fact the vaccination program has been shown to be effective in this respect with HBsAg prevalence of only 2% in those under 20 years of age. For those already HBsAg – regular screening with AFP/US may improve survival and increase treatment options for HCC.
Vaccination in adults, especially in a low risk group – is unlikely to have much impact on HCC prevention. Moreover, in adults (age > 40) – chronic infection is much less likely in truly unprotected individuals whereby acute infection with HBsAg clearance occurs in over 95%. The authors need to be clear on this, especially in their discussion and the final paragraph of their conclusion.

Minor comments:

1. In the abstract, give exact percentages rather than using the term 'About'.
2. In the section under prevalence of HBV infection – the gender differences are described – p values need to be provided.
3. In the conclusion stating that the rate of HBV vaccination is still low – this is only specific for the age group studied and this needs to be mentioned.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.