Reviewer's report

Title: Human Immunodeficiency Virus (HIV) types Western blot profiles as surrogate markers of HIV disease progression and predictors of vertical transmission among pregnant women in Harare, Zimbabwe

Version: 1 Date: 2 July 2010

Reviewer: Elizabeth Dax

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Major Compulsory Revisions

The Reviewer regards this as an important paper about Western blot (WB). The WB has lost favour more recently. In fact, the WB can be used not only as the STILL most specific supplemental test for diagnosing HIV infection (when appropriate interpretation criteria are applied), but also to yield other important diagnostic information. The Reviewer thinks that this point of view should be presented more boldly in the manuscript!

The manuscript suffers from inaccuracy of language. For example, Results, Para 2 First sentence: There were two stillbirths each among the HIV-1 positive and negative mothers and these were excluded from analysis. Do the Authors mean “Two mothers in the HIV-1 positive and in the HIV-1 negative groups had stillbirths and these women were excluded as subjects”?

Specific

Abstract

The abstract should be re-written after other changes are made.

Introduction:

Line 2: Should read 20 million not 2 million
Line 3: “HIV is thought to have to have arisen…” should read “HIV has been shown to have arisen…” [2-5]
Line 10: HIV-2 is confined to West Africa” should read “HIV-2 is largely confined to…..”

Para 1, last lines: “Distinguishing HIV types within a population is important for surveillance purposes, antiretroviral therapy and diagnostics.” Would be better framed as.. “Distinguishing the type of HIV within a population is important for accurate surveillance and diagnosis as well as administration of appropriate antiretroviral therapies.”

Para 2, Lines 1-3: The Reviewer is of the opinion that this is no longer an accurate statement. A large proportion of diagnoses are now carried out using rapid tests and without WB confirmation. Herein, lies a great value of the present work. It is important to realize that the WB can yield information other than just
the band patterns that predict accurately infection. Therefore this statement could be restructured to suggest that classical algorithms using EIA and WB have been replaced by use in series of more than one EIA (rapid or otherwise) because of difficulties with WB. However, WB can yield important information.

Para 2, last line: ..as the most specific antigen for diagnosing HIV-2.

Para 3, Line 4: Do the Authors mean with developing immunodeficiency?

Last sentence: In the present study the aim was to……..  

Methods:

Infants’ tests: can the Authors provide a reference to support the categorization of the time of the infants’ infection?

Results

Notoriously HIV-1 infection can cross react with HIV-2 proteins (i.e. immunological specificity is not absolute). Were the “dual infections” analysed by other methods?

Pages 9 -10: The sentence does not make sense.

Page 11, 1st para: antibody “reactivity” is used generally, rather than “reactions”. The second sentence requires refinement!

Discussion:

The Reviewer suggests that in the Discussion, the Authors emphasise the value of WB.

Did the Authors inspect band densities at all? This may be worth comment.

Conclusion

The reviewer disagrees with the first part of the statement “Western blot test is simple, easily interpreted and relatively cheap at the same time providing a wealth of information on the serological aspects of the patients.” The WB is a most useful test but it is neither simple nor easily interpreted by unskilled users.

Grammatical

Introduction Line 5: the world’s

Page 2, Last line: “indiscriminately” should read “without distinguishing antibody to individual antigens.”

In this is a nested, case-control study where the cases and controls were sampled from a cohort of pregnant women attending 3 antenatal clinics, all around the city of Harare, Zimbabwe. All were being studies for Prevention of Mother-To-Child Transmission (PMTCT) and were naive to antiretroviral therapy.

Infants tests, Infants HIV-1 infections should both be infants’. There are also other instances of the possessive’ not being recognised in the paper.

Criteria and data are pleural. Therefore, the correct verb form should be used
following their use.

Ninety-three percent of the women were married and 90% had at least one child.

Results, Para 1, last line: “formerly employed” Do the Authors mean formally?

Compared with rather than compared to.

Respectively should be preceded by a comma.

Statistically significant [although technically if some parameter is greater or lesser than another followed by a p value, the use of the term “statistically significant” is redundant.]

Page 9, second para: after 9 months post partum. After is redundant.

Page 10, end of 1st para: “chronic HIV-1 positive infection” should read “chronic HIV-1 infection”.

Discussion, Para 2 first sentence: “that “ should be deleted.

It is unclear from the language in this paragraph which are present findings and which are comparative findings.

Figures and Tables

Table 1: The legend does not make sense. In the table legend explain what the p value refers to.

To refer to “disease stages” based on whether the subjects sero-converted during the follow up time is not exactly logical. Perhaps the Authors should refer to acute and chronic infection and rather than “disease stages” as “stage of infection”

Table 2: Please revise the legend.

Figure 1: The legend should make the figure stand-alone and should therefore include a better explanation of what the Figure is about.

Level of interest: An article of importance in its field

Quality of written English: Not suitable for publication unless extensively edited

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