Reviewer's report

Title: Abdominal Ultrasonography in HIV/AIDS Patients in Southwestern Nigeria

Version: 1 Date: 24 September 2007

Reviewer: Jose Varghese

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General:

This is a prospective controlled study of a population of asymptomatic HIV positive patients in the Ibadan region of Nigeria during a period of one year. It documents the abdominal ultrasound findings in these patients compared to a HIV tested but negative control group. The results show that an abdominal abnormality is found on US in 41.7% of the HIV positive patients, of which splenomegaly, extrahepatic bile duct dilatation and renal parenchymal changes were significantly more increased compared to the control group. However, gallstones and ascites were significantly more common in the control group.

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

1. Patients and Methods - Para 1, line 9: Do not state that “The inter-observer agreement was good” unless an inter observer agreement analysis was performed and the results found to be ‘good’. Indeed if this was performed, please give details in the methods section. Otherwise, do not mention it.

2. Please explain in the Methodology section, how the measurements of various organs were made (measurements off the hard copy, using electronic calipers on the US monitor, etc), how was the data recorded (paper, electronically, etc), who recorded the data (radiologist, assistant, nurse), and how they were stored during the period of the study (in the clinic, computer, personal files of the radiologist).

3. Discussion – Para 2, line 13: Extrahepatic bile duct dilatation has been attributed to aids related sclerosing cholangitis (ARSC) in this discussion without too much supporting evidence. ARSC is due to infection of the biliary system with Cryptosporidium or Cytomegalovirus (CMV), resulting in marked gallbladder wall thickening, intra and extrahepatic duct thickening with stricture formation leading to intervening areas of intra and extrahepatic bile duct dilatation. In this study, there is no finding of gallbladder wall thickening, no mention of bile duct thickening (increased echogenicity), and no areas of intrahepatic bile duct dilatation. In addition, these patients are not jaundiced or symptomatic in any way. There is certainly no isolation of Cryptosporidium or CMV. So I don’t see how the finding of extrahepatic bile duct dilatation is readily attributable to ARSC - please give explanation.
4. Discussion – Para 3, line 1: I agree that US is useful in the evaluation of the presence, location, number and size of lymph nodes. However, I disagree that in retroperitoneal nodes, it is possible to consistently determine internal characteristics such as presence of fat and color flow using a 3.5 MHz probe. Furthermore, there is considerable overlap in the morphological findings of benign versus malignant nodes and these features should not be relied on making histological predictions. If the author feels differently, references should be given and examples of infective versus malignant nodes illustrated.

5. Conclusion: How does further clinico-pathologic data improve the sensitivity and specificity of Ultrasonography? US diagnostic accuracy would only improve with advances in US technology (eg, harmonic imaging, elastography, etc) and use of ultrasound contrast agents, etc. Clinico – pathologic data puts the US findings into context, so that better diagnosis and treatment is possible for the patient.

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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):

1. Introduction - Para 4, line 1: Please expand on the phrase “Sub-region”

2. Patients and Methods – Para 1, line 2: Were these 391 HIV positive patients examined in a consecutive fashion, or were there some exclusion? Were all patients suitable for US examination with all examinations being successful, or were there some limited studies due to patient size, etc?

3. Patients and Methods – Para 1, line 6: Please state in the Methods section that the control patients were HIV-negative status based on serological examination (as given in the Results section). Also, why did the control patients have their HIV status checked: did they have abnormal symptoms, signs, risk factors? Can they be considered true controls if affirmative for the previous question.

4. Extrahepatic bile duct measurements: was this in fasting patients? Where was the measurement taken – above or below the level of the right hepatic artery? This should be given in the methods section.

5. Results- Para 2, line 1: Table 2 does not show the significant abdominal US findings – need to carefully relabel all these tables.

6. Results- Para 2, line 5: it is stated that 2 hypo echoic lesions were found in the spleen and later given in discussion that one of these was due to lymphoma. No new results information should be given in the discussion section – the fact that one of these was a lymphoma and this was diagnosed should be given in the results section. An image of this lesion should be instructive.

7. Results – Figure 1 – Fatty infiltration of the liver is not particularly interesting
and should be removed.

8. Results – Figure 2 – Images of gall stones are not particularly interesting – I would remove this.

9. Results - Para 3, line 3 – Define what is meant by dilated extrahepatic bile duct dilatation (>6mm, >7mm?). Also give the duct size measurements (range, mean).

10. Results – Para 5, line 1 – Give size range of lymphadenopathy – what was the largest node? Show an image of a particularly enlarged lymph node group.

11. References: Reference 14 not quoted appropriately.

Discretionary Revisions (which the author can choose to ignore):

1. In the results section, it would be nice to have more clinical details of the patients such as comorbid conditions, clinical findings, a laboratory results (eg. Liver function tests), etc.

2. In the discussion section, it would be interesting if the author can discuss the value of detecting US abnormalities in asymptomatic HIV positive patients as in this study; can this lead to further testing or prophylactic treatments that would lead to a better outcome for the patient compared to leaving diagnosis till patients become symptomatic?

3. Discussion - Why is ascites significantly greater in HIV negative compared to positive patients?

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, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: 'I declare that I have no competing interests'