Reviewer’s report

Title: Epidemiology of non-traumatic spinal cord injury in Uganda: a single center, prospective study with MRI evaluation

Version: 0 Date: 04 Apr 2018

Reviewer: Ann Choe

Reviewer's report:

Title: MRI-evaluated spinal pathologies and mortality outcomes among patients with nontraumatic spinal cord injury in Uganda

Summary: Authors are motivated by the limited literature on Magnetic Resonance Imaging (MRI) patterns and outcomes of patients with non-traumatic spinal cord injury (SCI) in sub-Saharan Africa and wish to provide such information. Authors make observations that 25% of the study population were HIV-infected and 50% had extradural lesions. Death occurred in 42% of the study population and those with the extradural lesions demonstrated highest mortality, at 60%. Authors conclude that increased utilization of MRI is needed to characterize extradural lesions, which seem to occur in lesser number in the study population.

Major comments:

- Methods

  o Parameters for the MRI imaging (resolution, TR/TE, etc) are missing entirely.

- Results

  o No statistical tests to quantitatively assess the actual difference between different groups of study population.

- Discussion

  o While MRI is a useful modality, as authors point out, the modality rare and expensive. Authors also point out that the etiological diagnosis of non-traumatic SCI are usually
established by collating information obtained from not only the MRI scans, but also CSF analyses, blood studies, Chest X-Ray findings, non-neurological illnesses and responses to treatments, as well as CT. In most cases, these alternative methods are probably cheaper and more widely available. Brief discussion on "Why MRI?" is necessary.

- Authors need to provide actual numbers so readers can quantitatively compare results from different parts of the world, without having to look up each reference. An example sentence would be: "The HIV prevalence rates among our participants with non-traumatic SCI 141 are less than in Nigeria [18], comparable to Ethiopia [22], but less than South Africa [6]." Please give exact numbers. This actually applies to the entire paragraph this sentence belongs to. If possible, one should also perform statistical test to determine whether the difference is statistically significant.

Minor comments:

- Title: The authors put a lot of emphasis on extradural lesions, yet such point is missing in the title. Something that better gets the key points across to audience would ensure more readership. This is strictly only a suggestion.

- Abstract

- Statement regarding the relevance of the HIV in the study population is missing.

- In general, abstract is not too effective at conveying the key findings of the study.

- Background

- More in-depth description and statement of importance of the extradural and intradural lesions should be provided, as this seems to be one of the core findings of the study.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No
Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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