Author’s response to reviews

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

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"Changing epidemiology of non-traumatic spinal cord injury: a prospective cohort with MRI evaluation in Uganda." Abdu kisekka Musubire, MBChB, M.MED; David B Meya, MBChB,M.Med; Katabira T Elly, M.D, FRCP; Ana Claire L Meyer, M.D; Paul R Bohjanen, M.D,PHD; David R Boulware, M.D, MPH; Frank Minja, M.D

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Reviewers comments

Reviewer 1

Comment 1. Authors have addressed all major and minor concerns I have raised previously. One thing I would like to point out is that the actual image acquisition parameters of the listed pulse sequences (i.e., image resolution, TR/TE, flip angle, etc) are still missing. Although the authors claim otherwise in the response, the lines 58/59 does not include the requested additional information. However, I acknowledge that this information, while informative to readers, may not be essential for the ultimate goal/purpose of this particular manuscript. I would still
encourage the authors to include this information so others will be able to replicate the authors' study.

Response 1: I greatly appreciate this concern. I have now included the full MRI protocol we used. Page 4 and page 5, Lines from number 44 to line 63

Reviewer 2

Comment 1. Overall language, grammar and syntax of the manuscript needs revision. Ideally, it should be revised by a professional editing service or by an English-speaking author. It will improve the readability and flow of ideas.

Response 1: I have incorporated the language, grammar and syntax edits from an English-speaking author in the whole manuscript.

Comment 2. The focus of the article is the evaluation and documentation of the epidemiological pattern of non-traumatic SCI by MRI. The title should be revised to accurately reflect this aim and objective. A suggested revision is "Epidemiology of non-traumatic spinal cord injury in Uganda: a single center, prospective study with MRI evaluation"

Response 2: Thanks a lot for the suggestion. I have incorporated the suggested title.

Comment 3. Keywords are missing. The authors should consult the MeSH database https://meshb.nlm.nih.gov/ to select 5-7 appropriate keywords. Make sure that the keywords are not the same words used in the title.

Response 3: Thanks for the comment and the guidance. I have visited the following sites where I used the autogenerated https://meshb.nlm.nih.gov/MeSHonDemand and then I used the terms that are listed as MESH headings in the descriptor page https://meshb.nlm.nih.gov/record/ui?ui=D005500 to generate the key words.

Comment 4. Page 5, Line 39-40. The authors mention "There are few reliable national data concerning the etiology of non-traumatic SCI in sub-Saharan Africa" Please reference some of these data sets/studies to support this statement.

Response 4: I have referenced this data. Page 3 Line 22
Comment 5. Page 6, Lines 49-50. How can SCI lead to Triplegia? It is either Paraplegia or Quadriplegia depending on the site and level of lesion. Please revise or justify.

Response 5: This is revised to include only Paraplegia and quadriplegia. Page 4 Line 30

Comment 6. Page 6, Lines 54, 55. Please explain how the data were collected. Were they retrieved from an electronic data base or filled in by a paper and pen questionnaire. Who collected the data and at which point and place (e.g., Outpatient or inpatient; emergency department or Neurosurgery ward).

Response 6: Data was collected on hard paper forms from patients admitted on the neurology ward. This information is available on page 4 Line 35-39

Comment 7. Page 6, Line 66, 67. The authors have mentioned "For clinical outcomes, we assessed the one-year mortality and functional outcomes…." However, no functional outcomes have been documented in the results and discussion sections. This should be clearly explained as what functional outcome measures were used in this study. The mobility outcomes mentioned in Page 10, lines 116-117 are not complete functional outcomes but only mobility outcomes.

Response 7: We intended to report the functional outcomes using SCIM but were limited by the number of patients that came back for review. Hence, we are reporting only the mobility outcomes. Outcomes were assessed either physically or by telephone interview. This has been documented as a limitation. Page 12 line 186

Comment 8. In addition, (if possible) the authors should also present improvement or deterioration in the neurological grade/ASIA score at the end of one year.

Response 8: Information on outcomes was limited by the number of patients that reported for the physical exam. Page 13 line 195

Comment 9. Page 7, line 81,82: "Participants presented late to hospital with 50% (51/103) reporting symptoms for a duration of more than one month" This is an important finding and a frequent happening in the developing world. It would be interesting to read about the possible causes for this delay in presentation in the discussion section.

Response 9: This information has been provided on page 10 line 142-145
Comment 10. Page 8, Table: Lines 33-37. The authors have categorized AISA A-C in the same group. This is incorrect and should be revised. ASIA A is complete sensory and motor lesion while ASIA B and ASIA C are incomplete injuries and cannot be categorized with ASIA A.

Response 10: Thanks for the clarification. This was done to reduce the number of groups for statistical analysis. This data has been segregated in table 1 as suggested page 7.

Comment 11. The authors have not mentioned the limitations of the study, e.g., a small sample size (there are studies with thousands of patients, and a study with 103 will be considered a small sample size), and the study is from a single center of a single country -Uganda.

Response 11: This limitation is now documented page 12 Line 183-187

Comment 12. This is an important study, and authors should suggest future recommendations considering their findings.

Response 12: More MRI use especially in intradural lesions page 12 line 191-194

Comment 13. The number of references is too much for an original research article. Consider reducing the number of references.

Response 13: References have been reduced to 24

Comment 14. Also, some of the references are not in the correct Vancouver style, specifically, the names of the journals have not been abbreviated appropriately, e.g., 20, 34, 38-41. Either mention DOI with each reference or omit it all together to maintain uniformity.

Response 14: All references in Vancouver style