Author's response to reviews

Title: Intramedullary neurocysticercosis presenting as Brown Sequard Syndrome

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Author's response to reviews: see over
Dear BMC Neurology Editorial Team:

With this cover letter, we will submit the revised manuscript (1179628498140633) entitled, “Intramedullary neurocysticercosis presenting as Brown Séquard Syndrome” for publication in BMC neurology. We would like to thank reviewer’s for the careful and constructive reviews. Based the comments from the referees, we re-write the manuscript was we have made changes of the manuscript, which are detailed below.

- **Reply to the evaluation by the first referee**

This reviewer pointed out two things.

1. Inaccurate/incomplete reporting of the recovery
   **Answer:** The description of the recovery was incomplete in the initial manuscript. We add a detailed description of the patients recovery after surgery and follow-up until last month. Please see the revised manuscript.

2. This is the third known report on an Intramedullary Spinal Neurocysticercosis presenting as a Brown-Sequard Syndrome. The authors cite another paper where 53 cases of Intramedullary Spinal Neurocysticercosis leading to spinal cord symptomatology have been presented.
   **Answer:** We did a more extensive revision of the literature and found fifty six cases reported of intramedullary neurocysticercosis until 2013, just two of them with clinical presentation of Brown-Séquard syndrome. Intracranial neurocysticercosis is common, but the spinal type is rare, it has been reported that it accounts for only 1.0-5.8% of cases, and isolated spinal neurocysticercosis without intracranial involvement is extremely rare, as the case we are presenting. We clarify in the manuscript that this is an isolated spinal neurocysticercosis case. And we believe this is a rare case presentation even in countries were neurocysticercosis is endemic.

- **Reply to the evaluation by the second referee**

- Discretionary Revision n° 1: at line 80 about MRI procedure, i ask why you didn't used a contrast procedure
  **Answer:** We did a contrast procedure, unfortunately in our country we do not keep the digital images saved because de MRI equipment is from a private company and the physical images were lost from the patient. The MRI revealed a contrast-enhancing intramedullary mass.

- Discretionary revision n° 2: At line 86 during surgical procedure did you see any mass lateralization that justufy the brown-sequard sybdrume symptoms? I think this woud be useful for the explaination
  **Answer:** we did see mass lateralization. The cyst was localized to the left lateral aspect of the cord, with cord displaced to the right. We add this description to manuscript.
- Discretionary Revision n° 3: in lines 95-97 the clinical improvement isn't clear and in this way is incomplete the case report

**Answer:** The description of the recovery was incomplete in the initial manuscript. We add a detailed description of the patients recovery after surgery and follow-up until last month. Please see the revised manuscript.

- Minor Essential revision n° 1: at line 33 'interanl' is a mistake, correct 'internal'

**Answer:** it was a mistake, we made the corrections to internal.

**• Reply to the evaluation by the third referee**

Line 53-4 (Major Compulsory Revision): The surgery can reveal a cystic lesion. It may contain organisms that appear to be tape worms. However, I suspect that ‘cysticerci scolex’ cannot be revealed at surgery. Also, although I am not an expert on parasite terminology, I suspect that this term is not the most appropriate. I have read a few papers and looked at some resources and classifications, and this term does not appear. I suggest the authors seek advice and clarification regarding the most appropriate term to use.

**Answer:** The pathological finding depends upon the stage of the cyst. In the vesicular stage, the larva is approximately 5 mm diameter, with a marginal projecting nodule (scolex) surrounded by clear cyst fluid within a thin capsule. We remove the term scolex in most of the descriptions, and detailed that after excision it was possible to see the cyst in its vesicular stage and the larva inside with a marginal projecting nodule (scolex) surrounded by clear cyst fluid within a capsule.

- Line 56-7 (Minor Essential Revisions): Suggest reword first sentence of conclusion. Should at least consider adding 'in settings where Taenia solium is endemic’ after ‘lesions’

**Answer:** we added the to the manuscript the suggested words.


**Answer:** All references indicated have now been cited in the revised manuscript.

Line 72: where was the hospital?

**Answer:** Guatemala City, Guatemala. City and country were added to the case description.

-Line 73 (Major Compulsory Revision: Diagnosis of Brown-Sequard Syndrome not possible with unilateral neurological deficits. I suspect that the fist mentioned ‘right’ should in fact be ‘left’
**Answer:** It was incorrect in the text, the first mentioned was in fact left instead of right. We made the correction to the revised manuscript.

Lines 81-97 (Major Compulsory Revision): Text should be rewritten so that the figure details are better integrated into the flow of the text. The reader should be directed to the relevant figure at the appropriate spot. The figure captions should not be part of the text. **Answer:** Figueres captions were removed from the text and appropriate re directed to figure description and text was rewritten to a better integration in the text.

- Suggest include in the discussion detail regarding regions where tape worm and cysticercosis are endemic, including references.

**Answer:** We add a description of regions were cysticercosis is endemic.

Line: 100 (Minor Essential Revisions): 1-5% of what? **Answer:** 1-5% of all cases of neurocysticercosis. This text was added to the manuscript.

- Line 110 (Minor Essential Revisions): Authors should elaborate what are ‘routine blood tests’. Routine can vary from hospital to hospital, country to country. The phrase is meaningless in an international journal. **Answer:** routine blood test was replaced for complete blood count.

-Line 124 (Minor Essential Revisions): Reference needed. -Only 4 references are cited in the text but 15 are shown in this section (Major Compulsory Revision) **Answer:** it was a mistake, we have now cited all the references in the revised manuscript.

- **Reply to the evaluation by the four referee**

**Answer:** we clarify in the revised manuscript the countries were neurocysticercosis is endemic and corrected the spelling.

With best wishes,

Elda M. Salazar Noguera, MD.