

Peer Review File

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Reviewer A

The authors report a case with intradural cervical herniated nucleus pulposus. It is a rare case but there are some issues as follows.

Comment 1: The structured abstract is difficult to understand. The background section should be described the background for this report.

Response 1: This feedback is much appreciated. We have changed the background section to state the following, “**Intradural disc herniations (IDH) are uncommon and can be found in the cervical spine. It is commonly associated with Brown-Sequard Syndrome (BSS)**”

Changes in the text: We have added this background information on page 2, lines 10-11.

Comment 2: The novelty of this report is unclear. It should be considered and described.

Response 2:

Changes in the text:

Comment 3: The MRI findings to distinguish from other type of disc herniations should be considered.

Response 3: The authors have gone in-depth to describe the specific MRI findings that would point us to an intradural disc herniation. Starting on page 7, line 21, all the way to page 9, line 2, we describe MRI findings that would distinguish this type of disc herniation from others.

Changes in the text: none

Comment 4: The procedure of fusion was not presented in the text. It should be described.

Response 4: Thank you for the feedback. As stated on page 6, line 6, patient received an anterior cervical discectomy and fusion at C6-7. The rest of the procedure that deviated from the norm was highlighted on page 6, lines 7-16.

Changes in the text: none

Comment 5: The follow up period is six months. It looks too short to discuss the surgical outcome. Was bone union confirmed after the anterior fusion?

Response 5: We appreciate your feedback. We agree that time for confirmed fusion is not possible given the follow up interval. However, we wanted to highlight how to diagnose intradural cervical disc herniation in this study. The management of this is a fusion. Also, patient has symptomatic improvement and a follow up MRI showed no evidence of compression on the cord

Changes in the text: none

Comment 6: There are no figure legends.

Unfortunately, the novelty of this report is unclear. There are also some issues in the description.

Response 6: Thank you for the comments. Figure legends are on page 12. They are labeled A and B, corresponding to the images

Changes in the text: none

Reviewer B

It was a pleasure to review your interesting manuscript. I formulated some comments and corrections. Please take them as advice to improve your manuscript.

Best regards,
Your Reviewer

For further communication: page, line-line

Comment 1: ABSTRACT

Background: a sentence about rare conditions is required here before introducing the case in the Methods section.

2, 11-12: please clarify or summarize.

Conclusion: this is not a conclusion but the result. Please add a take home message for conclusion as the strategy allowed adequate decompression etc...

Response 1: Thank you for the feedback. We have added this background information on page 2, lines 10-11. For the conclusion, we have also added a take home message on page 3, lines 1-3.

Changes in the text: “**Intradural disc herniations (IDH) are uncommon and can be found in the cervical spine. It is commonly associated with Brown-Sequard Syndrome (BSS).”**
“**Advanced imaging with an MRI could lead to the diagnosis of an intradural disc herniation and surgical intervention via the anterior approach could facilitate removal of the disc and adequate dura repair”**”

Comment 2: INTRODUCTION

3, 12: “BSS” should be explained first.

Response 2: Due to this feedback, page 3, lines 15-17 has been moved to page 3, lines 12-14.

Changes in the text: Switched the order of sentences

Comment 3: PATIENT INFORMATION

3, 21: “A 42-old male patient developed ...” instead.

3, 22: please clarify or summarize the BSS found on the patient.

4, 16: could you quantify the “significant” weakness?

Response 3:

Page 3, line 21 has been changed.

Page 4, lines 1-2 describes the BSS symptoms.

A quantification of the significant weakness was added

Changes in the text:

“A 42 year old obese male patient developed..”

Page 4, lines 1-2 reads “bilateral upper extremity numbness, right upper extremity weakness and right lower extremity weakness”

Page 4, lines 20-21 reads “(grade 4 to 4+ out of 5)”

Comment 4: TIMELINE

5, 4-11: this part should be represented by a Figure.

Response 4: Thank you for the suggestion. The timeline of when the patient was seen and received surgical intervention is clearly outlined through text. Since the patient received surgery the next day after intervention, we felt that a figure would be unnecessary

Changes in the text: none

Comment 5: DIAGNOSTIC ASSESSMENT

5, 22-23 + 6, 1-2: please erase these sentences as they are rehearsal. BSS scenario should be mentioned before as it appears logical that you describe a BSS scenario in the clinical description.

Response 5: These lines have been erased

Changes in the text: Page 5 lines 22-23 and page 6, lines 1-2 have been erased

Comment 6: THERAPEUTIC INTERVENTION

6, 6: please erase the first sentence.

6, 8: “on obvious rent” what does this mean?

6, 10: please explain “CSF” prior. “after removal” instead.

6, 15-16: “repaired using”, please add the trademark names and city/country of Dura-gen and Dura-seal.

Response 6:

Page 6, line 6 was erased

Page 6, line 8 was modified

Page 6 line 10 was changed.

The addition of trademark names and city/country was added

Changes in the text:

Page 6, line 8 was changed to state “an obvious indentation”

Page 6, line 10 was changed to state “after removal”

Page 6, lines 15-16 now read “**DuraSeal and DuraGen ((Integra LifeSciences, Princeton NJ).**”

Comment 7: FOLLOW-UP

6, 19: please re-write the sentence with a summary and no “post-op”.

7, 2-3: it is important to quantify the preoperative weakness and postoperative improvement. Please could you provide these numbers from 0 to 5?

7, 6: which work?

7, 6-8: do you have preoperative scores? PROMIS and NDI should be explained prior.

7, 10: “Cervical MRI”.

Response 7:

Page 6, line 19 has been modified and “post-op” has been removed

We have graded post-operative weakness.

Unfortunately, we do not have pre-operative scores.

We have specified that this is a cervical MRI.

Changes in the text:

Page 6, line 19 has been revised and now reads “**Immediately after the surgery, patient had improvement of his right sided weakness**”

Page 7, line 8 states “**...(grade 4 to 4- out of 5)...**”

Page 7, line 14 reads, “**Cervical MRI...**”

Comment 8: DISCUSSION

7, 15-18: please erase these sentences as a rehearsal from the Introduction. Please summarize here the most important finding in this case.

8, 2: “indicator”, I presume?

8, 3: “finding is”.

8, 4-5: I agree with you, but a reference would be welcome to justify your declaration.

8, 8-9: may I ask to you to add this information in your Diagnostic description or in the Figures’ caption if there was, actually?

8, 15-16: same comment for 8, 4-5.

9, 1: “and it seems that it would be the most useful” instead, or something like this, considering a summary of literature findings and yours in the described case.

9, 7: “repair of the dura”.

Response 8:

Page 7, lines 15-18 were deleted. The important finding is listed on page 7, lines 19-20.

Page 8, line 2 is meant to read indication.

Page 8, line 3 has been changed

As stated, the authors did not see the findings from page 8, lines 4-5 and lines 8-9 and lines 15-16. Additional description of what was seen is found on page 8, lines 19-20.

Changes in the text: Multiple deletions as above.

Page 9, line 7 now reads “repair **of the** dura”

Comment 9: Overall remark for your Discussion: you forgot to discuss causes of intradural disc herniations. I suggest you to add a paragraph here. Your patient was a smoker and also obese, what about his work? Is there any known risk factor in the literature that could explain such condition?

Response 9: While the causes of intradural disc herniations are variable, the focus of this paper is to discuss how to diagnose this on MRI and also on the management of this scenario. We do not feel like adding a description of the causes of intradural disc herniation would add any novelty to the paper.

Changes in the text: none

Comment 10: Conclusion: actually, there is no conclusion of your case report. Please, add it as a final take-home-message, considering effective treatment with early decompression, unusual finding, and good result with neurological recovery after 3 months. You should emphasize that your described strategy offered a safe and effective treatment for an unusual condition.

Response 10: Thank you for noticing the lack of a conclusion. This has been added.
Changes in the text: Page 9, lines 10-14 have been added and now reads “**Conclusion: Triangular configuration of the disc seen on MRI is probably the most useful sign for preoperative diagnosis of an intradural disc herniation. We performed an anterior cervical decompression and fusion shortly after the patient presented, which resulted in good neurological recovery after 3 months. Overall, this anterior approach is a safe and effective treatment for intradural disc herniation.**”

Comment 11: FIGURES

12, 2: “Cervical MRI” instead.

12, 3 and 6: “T2-weighted sequence” instead. To avoid rehearsal, you may add “T2-weighted sequences” on the title of the Figure 1.

Figure 1: you should add the signs described in the Discussion, with reference to the authors who described them first.

Figure 2: you cannot add the caption within the title. Please add the 3-month information in the title and a separated caption.

Overall remark: you may add some radiographs to illustrate the case with surgical considerations, probably in the Timeline which should be an illustrative way instead of text. It is a summarized history of the case from the beginning with some MRI images to the postoperative result.

Response 11:

Added “Cervical” to page 12, line 2.

We feel that the sign has been adequately described in the discussion and the caption we already have is adequate to describe the finding.

We have added “at 3 months” to the description of Figure 2.

We appreciate the reviewer’s attention to detail. However, the novelty of the case report is in the finding on MRI. There is nothing specifically found on radiographs that add to the case report

Changes in the text: As above.

Comment 12: CARE CHECKLIST

Honestly, I am not a big fan of this checklist, but as it’s considered as quality criterium of your case report, it should be completely filled, in particular with the names of the considered section on the right column. Please, add modifications of your manuscript and then correct your CARE checklist.

Patient perspective: you may ask the patient (by phone) what his feeling regarding diagnosis, treatment and result was, and add this to your manuscript. It will improve its quality for the Readers.

Response 12: The CARE checklist has been updated

Changes in the text: Updated CARE checklist