Author’s response to reviews

Title: Intraoperative injection of absorbable gelatin sponge mixed with cement followed by spinal decompression to treat the elderly with vertebral hemangiomas

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Author's response to reviews:

Dear Prof. John K. Houten and Reviewers:

Thank you for your letter and for the reviewers’ comments concerning our manuscript entitled “Intraoperative injection of absorbable gelatin sponge mixed with cement followed by spinal decompression to treat the elderly with vertebral hemangiomas” (BMSD-D-19-01795). These comments are all valuable and very helpful for revising and improving our paper, as well as provide important guiding significance to our research. We have studied the comments carefully and have made corrections that we hope meet with your approval. The revised portions are marked in red in the paper. Our manuscript has been edited again for proper English language, grammar, punctuation, spelling, and overall style by one or more of the highly qualified native English-speaking editors at American Journal Experts (AJE) (Certificate Verification Key: F94E-8CD3-F793-72A2-55AP). We tried our best to improve the manuscript and made some changes accordingly. The revised portions are shown in red in the paper. The main corrections in the paper and the responses to the reviewer’s comments are as follows:

Afshin Razi, MD (Reviewer 1):

1. Response to comment: (“The elderly with vertebral hemangiomas are rare, which might require surgery.” revise this sentence)

Response: This is a question of English expression. “Elderly patients with vertebral hemangiomas are rare and might require surgery.” (Line 5 Page 2)
2. Response to comment: ("the cases of 13 patients")

Response: This is a question of English expression. We have deleted "the cases of" in accordance with your opinion. (Line 11 Page 2)

3. Response to comment: ("typical", do you mean atypical?)

Response: Thank you for your careful review. The research object we selected this time is indeed a typical Enneking stage 3 invasive hemangioma (invades the spinal canal and causes the corresponding symptoms). In imaging, it is a typical “polka-dot” pattern or “round sign”), not atypical. Atypical hemangiomas are easily confused with spinal tumors.

4. Response to comment: ("absorbable gelatin sponge combined with decompression and vertebroplasty", I think it is better to say decompression with intraoperative vertebroplasty and absorbable gelatin sponge.)

Response: We totally agree with you. We have already revised this text. (Line 14 Page 2)

5. Response to comment: ("basic information", what does this mean?)

Response: This represents age, gender, BMI, and the patient's medical history. Thank you for your suggestion. We changed "basic information" to "general data". (Line 15 Page 2)

6. Response to comment: ("typical aggressive hemangiomas").

Response: Yes, typical, already answered in the above.

7. Response to comment: ("losses", loss)

Response: Already corrected it. (Line 19 Page 2)

8. Response to comment: ("respectively", if you are saying "respectively" then you need to mentioned the groups at the beginning of the sentence.)
Response: Thank you for pointing out this issue. We marked groups A and B in the abstract and rephrased the sentence as follows: “The blood loss of groups A and B was 707.1 ± 109.7 ml and 416.7 ± 103.3 ml, respectively”. (Line 18-19 Page 2)

9. Response to comment: (“no cases of recurrence”, revise this)
Response: We have sent it to AJE experts for retouching and they have not changed. (Line 2 Page 3)

10. Response to comment: (“The recurrence of aggressive 3 hemangiomas might be associated with aging”, where did this come from.? Above you said there was no recurrences.)
Response: This is a very good suggestion. The conclusion is really just our conjecture, and we deleted the sentence. (In the abstract and conclusion sections, this sentence has been deleted).

11. Response to comment: (“and have a risk of recurrence”, with high recurrent rate)
Response: We have already corrected this text. (Line 22 Page 3)

12. Response to comment: (“low technical surgery requirements”, modify)
Response: We have already corrected this text. (Line 2 Page 4)

13. Response to comment: (“leaded”, led)
Response: We have already corrected this text. (Line 3 Page 4)

14. Response to comment: (“statuses”, ?)
Response: Yes, we have sent it to AJE experts for retouching and they have not changed. (Line 9 Page 4).

15. Response to comment: (Line 10-11 Page 4 resection)
Response: "En bloc" refers to total vertebral resection plus lesion removal, which has also been described in other literature. (Ogawa R, Hikata T, Mikami S, Fujita N, Iwanami A, Watanabe K, Ishii K, Nakamura M, Toyama Y, Matsumoto M: Total en bloc spondylectomy for locally aggressive vertebral hemangioma causing neurological deficits. Case Rep Orthop 2015, 2015:724364.)

16. Response to comment: ("years old", years of age)
Response: We have already corrected this text. (Line 12 Page 4)

17. Response to comment: ("literature", study)
Response: We have already corrected this text. (Line 13 Page 4)

18. Response to comment: ("professional", do you need this?)
Response: We have already deleted this text. (Line 2 Page 5)

19. Response to comment: ("neuronal damage", neurologic status .)
Response: We have already corrected this text. (Line 6 Page 5)

20. Response to comment: ("direct", I am sorry what is direct?)
Response: "Direct lateral radiographs" should be replaced with "lateral standing radiographs". We have already corrected this text. (Line 11 Page 5)

21. Response to comment: ("implantation", what does this mean and include?)
Response: “Implantation” should be replaced with "implants". We have already corrected this text. (Line 17 Page 5)

22. Response to comment: (Line 19 Page 5 “usually”, why usually?)
Response: Vertebral hemangiomas are staged according to the Enneking system as follows: Enneking stage 1 (benign latent), Enneking stage 2 (benign active) or Enneking stage 3 (benign aggressive). Enneking stage 3 hemangiomas are invasive hemangiomas that have invaded the spinal canal and compressed the spinal cord. Surgery is a recognized treatment option. What is controversial is the method of surgery.

23. Response to comment: (“The spine was stabilized with 4 or 8 pedicle screws depending on the bone condition”, I would change this to levels ie two level above and below or one level above and below) (Line 21-22 Page 5)

Response: Thank you for your suggestions. The choice of internal fixation is different for each individual. It is not easy to make a conclusion directly.

24. Response to comment: (“unilateral pedicle approach was first considered)”, what does this add?)

Response: We preferred a unilateral pedicle approach over a bilateral approach, as it was easier to achieve complete filling of the vertebral body. (Line 3 Page 6)

25. Response to comment: (“normally”, what do you mean "normally")

Response: We have already deleted this text. (Line 4 Page 6)

26. Response to comment: (“The lesion and entire vertebral body needed to be packed without bone cement leakage to destroy and shrink the malformation”, please clarify this. I do not understand this statement)

Response: Because bone cement can release energy during expansion, the local temperature reaches 80-90 degrees Celsius, and the diseased site can shrink. The corresponding content has been added to the manuscript. (Line 13-16 Page 6)

27. Response to comment: (“direct decompression of the lesion”, does this mean Laminectomy or vertebral resection?)

28. Response to comment: (“Nonnormally”, spell check)

Response: Nonnormally. Yes, we have sent it to AJE experts for retouching and they have not changed. (Line 21 Page 6)

29. Response to comment: (“The general and perioperative data are shown in Tables 1 and 2.”, I would add this to the next paragraph)

Response: We totally agree. We have already corrected this text. (Line 15 Page 7)

30. Response to comment: (“10 patients reported back pain with a VAS score of 6 points (6-8 points). 5 patients had myelopathic symptoms (4 patients had Frankel grade D, and 1 patient had Frankel grade C). 2 patients had radicular symptoms, and 7 patients had pathological fractures. 2 cases involved the bilateral pedicles, and 11 only involved the unilateral pedicles. 12 cases involved the vertebral canal, and the tumors of 3 patients spread to the surrounding soft tissue. 2 patients underwent preoperative CT biopsy confirmed that they had hemangiomas.”, If you are using numbers at the beginning of the sentence change it ie 5 to five)

Response: We have already corrected this text. (Line 7-14 Page 7)

31. Response to comment: (“The average intraoperative blood loss and surgery duration differed significantly between the two groups (P=0.003 and 0.022, respectively; Table 3).”, I recommend adding these data here as these were only differences)

Response: Thank you for your advice. Tabular data are cumbersome. If added, readers will grow tired of reading. Therefore, we did not add much data here.

32. Response to comment: (“drainage”, drain )

Response: We have already corrected this text. (Line 22 Page 7)

33. Response to comment: (“No spinal cord compression symptoms”, No myelopathic or radiculopathic)

Response: We have already corrected this text. (Line 6 Page 8)
34. Response to comment: (“clinical”, delete)
Response: We have already deleted this text. (Line 15 Page 8)

Response: We have already answered this above.

36. Response to comment: (“We started thinking about absorbable gelatin sponge to reduce the amount of bleeding from 2013”, revise)
Response: “We started thinking about an absorbable gelatin sponge to reduce the amount of bleeding from 2013.”(Line 17-18 Page 8)

37. Response to comment: (“litter blood”, little or Less?)
Response: Less. We have already corrected this text. (Line 18 Page 8)

38. Response to comment: (“This was the first to apply multimodal treatments for elderly patients with aggressive hemangiomas to investigate their postoperative efficacy and intraoperative complications and reported the clinical efficacy of absorbable gelatin sponge infusion during spinal decompression surgery”, revise please)
Response: “This was the first study to apply multimodal treatments for elderly patients with aggressive hemangiomas to investigate their postoperative efficacy and intraoperative complications and reported the clinical efficacy of absorbable gelatin sponge infusion during spinal decompression surgery.”(Line 20-22 Page 8)

39. Response to comment: (“In this study, all elderly patients underwent preoperative embolization; after surgery, no patients had blood loss-related complications.”, revise)
Response: “In this study, all elderly patients underwent preoperative embolization; after surgery, no patients had blood loss-related complications.” (Line 9-10 Page 9)
40. Response to comment: ("be not required for", revise)

Response: We have sent it to AJE experts for retouching and they have not changed. (Line 3 Page 10)

41. Response to comment: ("Vertebral decompression", what does this mean)

Response: We have already answered this above.

42. Response to comment: ("we could also find", revise)

Response: We have already corrected this text. (Line 12 Page 10)

43. Response to comment: ("absorbable", capital)

Response: Absorbable. We have already corrected this text. (Line 6 Page 11)

Thank you for your helpful comments.

Nrupen Baxi (Reviewer 2):

Thank you for your review. Thank you very much.

Other changes are as follows:

We have taken this article and all the reviewers' comments very seriously. Our manuscript has been edited again for proper English language, grammar, punctuation, spelling, and overall style by one or more of the highly qualified native English-speaking editors at American Journal Experts (AJE) (Certificate Verification Key: F94E-8CD3-F793-72A2-55AP). We tried our best to improve the manuscript and made some changes accordingly. These changes do not influence the content or framework of the paper. We did not list the changes here but have marked them in red in the revised manuscript.

We appreciate the editors’ and reviewers’ efforts, and we hope that the corrections will be met with approval.

Once again, thank you very much for your comments and suggestions.