Author's response to reviews

Title: Delayed Spinal Extradural hematoma following thoracic spine surgery producing paraplegia: A Case Report

Authors:

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Author's response to reviews: see over
Thank you for the excellent comments by the reviewers. We have gone through our manuscript in the light of the above comments and would like to clarify the following points.

**Referee 1. Philipp Lenzlinger**

Point 1:

The time course from the onset of pain and neurological deficit, and decompressive surgery. This information may be of educational value.

Authors' response: we are clarifying that the time period was 2 hrs from the onset of pain and observed neurological deficit. The surgery was performed 3 hrs following the onset of neurological deficit.

Point 2: Could the authors comment on the fact that, the PSEH could develop to this massive extent despite the fact that a drainage was still in place. Was the drain clotted on reoperation?

Authors' response: We have highlighted the point that the drain was put on gravity and not on suction. This is the standard procedure following any durotomy. We postulate that the lack of suction effect would have rendered the drain inefficient in prompt evacuation of the bleed. The drain was not clotted.

**Referee 2: Ashish Diwan**

Point 1: Postoperative epidural bleeds are known and clinicians need to be vigilant. Authors fail to highlight what was different or unique in their case.

Authors' response: Dr. Ashish Diwan has raised a question on the uniqueness of our report. This case report is unique in that although post operative Spinal Extradural hematomas is a known complication in spinal surgery, its occurrence in a symptomatic form in a delayed fashion is a rarity. Venous bleed is the most common reported source. An arterial bleed form paraspinal muscular branches (which is an extraspinal source) causing extradural hematomas with neurological deficit is under reported.
Retrospectively, we think that this point was not sufficiently highlighted in our manuscript, the absence of which had prompted the reviewer to post such a question. We think that we have sufficiently highlighted this uniqueness in our revised version.

We evacuated the hematoma within 3 hrs of the onset of neurological deficit. As the patient has recovered well, we can expect optimal results with prompt recognition and early decompression. This could be of educational value. This fact has been endorsed by Dr Lenzlinger in his review.

Point 2: The assumed argument that patient excessive movement caused bleeding is not justifiable

Authors' response: We postulate that stretching movements of the paraspinal muscles could have resulted in clot dislodgement and secondary hemorrhage. Such a mechanism has also been explained by Neo et al in their report of tetraplegia following cervical laminoplasty.

Point 3: Writing style needs to be modified to improve readability

Authors' response: We have modified the English language syntax to improve readability and to prevent ambiguity.

Point 4: Figure 1 is not necessary

Authors' response: As to Dr. Diwans comment that Figure 1 may not be necessary, we think that Figure 1 gives a self explanatory picture of the unclotted fresh blood in the drain which was probable the first sign that made us think in favour of a bleed. Hence it has not been omitted.

Point 5: Introduction and literature review need beefing up

Authors' response: We have revised our introduction to highlight the above points. We think that the references quoted are apt for the case reported. We have quoted the most authentic papers on the subject. We have given the reference in square parentheses as required by the journals writing style.

Point 6: Words like after should be replaced with following, Done with performed.
Authors' response: The appropriate changes have been made.

Point 7: Description of subspinous laminectomy

Authors' response: A description of subspinous laminectomy has been added.

Point 8: About the acronym PSEH:

Authors' response: The reference of postoperative spinal extradural hematomas as PSEH is nothing new. This abbreviation has been used in various papers describing the subject. Kindly see the noteworthy paper by Kebaish et al on postoperative spinal extradural hematomas.

Point 9: writing in third person

Authors' response: Appropriate changes have been made

Point 10: Change from "our case or patient" to the "reported case"

Authors' response: We have modified those areas.

The abstract has been modified to highlight the uniqueness of the paper. The conclusion part has also been beefed up to drive home our findings to the clinicians.

With these modification, we sincerely hope that our manuscript will be considered for publication. We hope that the concerns raised by the reviewers have been addressed. We have tried to keep the report as coherent as possible. For any clarifications, please feel free to contact us.

With regards,

Dr Shiju Majeed A