Author's response to reviews

Title: Delayed surgical treatment for a traumatic bilateral cervical facet joint dislocation using a posterior-anterior approach. A case report.

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Author's response to reviews: see over
Reviewer 1

Q1. First of all, what is the indication for a combined posterior anterior fusion / instrumentation? In general, an anterior stabilization is regarded to be sufficient. I understand that an open reduction from posterior was required to overcome the locked facet joints. Was this the main reason for the dorsal instrumentation? Or were there major concerns about the stability in case of a purely anterior stabilization? The decision should be discussed in view of the most recent data from the literature.

We thank and agree with all the reviewers for the many suggestions they made to improve our manuscript. The case under discussion is an old bilateral cervical facet joint dislocation fracture. To reduce the C5–C6 facet joint, half of the facet joint was resected on the right side, and one quarter of the facet joint was resected on the left. In this regard, we considered that an anterior plate was insufficient for stabilization. We discussed the reason for performing a bilateral posterior facetectomy, installing unilateral lateral mass screws, and anterior plating for the patient, and reviewed the literature. We have revised the manuscript as follows.

“Several authors have reported surgical methods for old bilateral cervical facet joint dislocation fractures as described above. Lee et al. reported that when patients were neurologically intact, an anterior approach was more commonly chosen than a posterior approach, and combined approaches were more commonly chosen for bilateral facet injuries.[14] In the current study, we selected a bilateral posterior facetectomy, unilateral lateral mass screws, and anterior plating for our patient. To reduce the facet joint, half of the C5–C6 facet joint was resected on the right side, and one quarter of the C5–C6 facet joint was resected on the left. We considered that an anterior plate was insufficient for stabilization. Furthermore, half of the C5–C6 facet joint was resected, so we could not use lateral mass screws on the right side.”

References

Fig. 4
“X-ray imaging and CT 6 months after surgery. (a) Anterior-posterior view. (b) Lateral view. (c) CT of C5. (d) CT of C6. R: right side. L: left side.”

Q2. It is highly unusual to perform a dorsal unilateral instrumentation. This was done because the insertion of the lateral mass screws on the right hand side failed. Therefore, the authors should address the question what the benefit of a unilateral instrumentation is. In addition, looking at the a.p. view of the postop films there is some concern about the correct positioning of the lateral mass screws. Have the screws been checked with a CT scan?

*Half of the C5–C6 facet joint was resected on right side, so we could not use lateral mass screws there. We added CT after surgery as the reviewer suggested. Lateral mass screws were plated in lateral mass.*

Q3. The authors should also comment on the initial decision to perform a non-operative treatment. In view of the expected instability and the potential damage to the spinal cord it might be worthwhile to present the precise arguments for a conservative treatment option. Looking at the references the more recent literature should be considered.

*We revised the manuscript as follows.*

“*Currently, there is evidence in several articles that closed reduction in an awake and alert patient is relatively safe.[15, 16] There is, however, no agreement regarding whether such a maneuver is safe in an obtunded or intubated patient. Most surgeons would agree that an open reduction with or without a decompression should be considered in patients following MRI evidence of a failed closed reduction or what is considered to be a dangerous herniated disc before reduction [14]. We attempted closed reduction while the patient was awake, but this had failed. Therefore, we selected open reduction.*”
References


Q4. Finally, the authors should seek the help of a native speaking colleague.

*We asked a native English speaker with expertise in the field to check the text again.*

Reviewer 2

Q1. The readers might be interesting about surgical findings and reduction technique. Did the authors have any difficulties in their reduction of facet joints? How much resections of facet joint did the authors perform before reduction? If the author add these informations, it would be more helpful for readers.

*We thank the reviewer for their suggestions. We revised the text by adding the following sentence according to the reviewer’s suggestions.*

“We performed a partial resection of both C5–C6 facet joints for reduction using a posterior approach. Half of the C5–C6 facet joint was resected on the right side, and one quarter of the C5–C6 facet joint was resected on the left side.”

Q2. If the author add axial view of MRI which is caused of radicular pain, it would be more helpful for readers.

*We added an axial MRI view to the Figures and Figure legends as the reviewer suggested.*
**Fig. 2**

“MRI showing spinal canal stenosis and swelling of the spinal cord 8 weeks after the traffic accident. (a) T1-weighted sagittal image, (b) T2-weighted sagittal image, (c) T2-weighted axial image.”

Reviewer 3

Q1. In the second paragraph in the introduction section, the authors mentioned that an injury is considered as old when the interval between the accident and correct diagnosis is longer than 3 weeks. Is there a clear consensus about this definition?

*As mentioned in ref. 8, the definition is generally correct.*

Q2. In the first paragraph in the case presentation section, the authors mentioned as follows: “A 76-year-old man experienced a motor traffic accident. He presented with neck pain and arm pain of the right side. Motor weakness or paralysis was not observed.” The author should provide precise description about his neurological findings, even if the patient did not have severe neurological deficit. For example, which part of neck the patient hurt, or the distribution of arm pain. Is that C7 area?

*We revised the text to provide a clear description of our patient’s neurological condition as follows:*

“He presented with neck and arm pain on his right side, but motor weakness and paralysis were not observed. His arm pain corresponded to right C6 and C7 dermatomes.”

Q3. Postoperative C5 palsy is a common complication after cervical spine decompression surgery. Were there any reports about the relationship with delays in diagnosis?

*We did not find any report concerning C5 palsy and delays in diagnosis.*