

Response to reviewers

Reviewer #1:

Scientific Quality: Grade C (Good)

Language Quality: Grade A (Priority publishing)

Conclusion: Accept (General priority)

Specific Comments to Authors: The content of the article is good. It flows well and is written in a manner that describes the issue very well. In the Literature Review & Discussion section there are some statements most specifically in the fifth paragraph that states that none of the cases included show any history of trauma or direct injury that I feel could probably use some notation to the articles that are being referenced there.

Response:

First, thank you for the valuable time and effort you spent in reviewing our paper. Your feedback is highly appreciated. We have amended this and added the relevant references as requested. (Line 166)

Reviewer #2:

Scientific Quality: Grade C (Good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: This case report was somewhat logically organized. But it should be suitable for publication once the following questions are addressed.

1. Cast presentation: On physical examination, please describe additionally whether multiple bullae were not seen in the lateral compartment skin. For readers understand, please add clinical photos during surgery.

2. Discussion A confirm diagnosis of compartment syndrome is known by compartment pressure measurement. The authors described that they did not measure the compartment pressure because they diagnosed compartment syndrome with MRI images and clinical picture, but this part is judged to cause confusion to the reader. Please describe the limitations by adding the above to the limitations of this paper. In acute compartment syndrome, it is known that irreversible changes occur in muscles after 6 hours and irreversible changes occur in nerves after 8-12 hours. In this case, the diagnosis of compartment syndrome was made after one day and surgical treatment was performed, but it was described that the patient was recovered completely without any deficiencies in the muscles and nerves. Please explain the reason for this additionally in the discussion.

Response:

Thank you for the valuable time and effort you spent in reviewing our paper. Your feedback and comments are highly appreciated.

1. Cast presentation: On physical examination, please describe additionally whether multiple bullae were not seen in the lateral compartment skin. For readers understand, please add clinical photos during surgery.

There were no bullae seen and we have added this under 'Case Presentation' Line 94.

We agree that intraoperative photos would have been of great value if available. Unfortunately, we did not take any intraoperative photos as we were not planning to publish the case at that time. However, as we later screened the literature and found that this is quite an atypical presentation and has not been described a lot in the literature, we thought it would be worth sharing the case with our readers.

2. Discussion A confirm diagnosis of compartment syndrome is known by compartment pressure measurement. The authors described that they did not measure the compartment pressure because they diagnosed compartment syndrome with MRI images and clinical picture, but this part is judged to cause confusion to the reader. Please describe the limitations by adding the above to the limitations of this paper. In acute compartment syndrome, it is known that irreversible changes occur in muscles

after 6 hours and irreversible changes occur in nerves after 8-12 hours. In this case, the diagnosis of compartment syndrome was made after one day and surgical treatment was performed, but it was described that the patient was recovered completely without any deficiencies in the muscles and nerves. Please explain the reason for this additionally in the discussion.

Thank you for raising this point.

Generally, the diagnosis of compartment syndrome is clinical and does not require any further diagnostic modalities. However, in the case of an isolated lateral compartment, the diagnosis can be challenging, especially when there is no significant trauma mentioned in the history. MRI is not routinely done for the diagnosis of compartment syndrome, but as it was readily available at our institution, we elected to do it before considering intracompartmental pressures measurement. However, after the MRI we had enough clues highly suggesting an isolated lateral compartment syndrome. Hence, we took the patient immediately to the OR without delay. Intraoperatively, immediate relief and bulging of the underlying muscles which were under significant pressure was seen and confirmed our diagnosis. However, we agree that intracompartmental pressure measurement confirms the diagnosis and has a significant role when the diagnosis remains vague especially in the setting of unconscious patients. Hence, we have explained this in the Discussion and added this as a potential limitation of the case study as recommended. (Line 159)

Regarding the patient's outcome, it was indeed great that the patient responded well to the management without any residual deficits. As you mentioned, irreversible damage can happen especially when the management is delayed, like what had happened in the 2 cases that presented with a drop foot in our review of the literature. The only explanation to why the patient recovered well is the possibility that he was developing increased pressures at the time when he presented to the other hospital and over the following hours prior to attending our hospital but reaching the threshold to having significant compartment syndrome could have occurred only recently prior to his presentation to our ER. We have included this in the Discussion to cover this point for our readers as well. (Line 169) Thank you.