2023-02-09

Dear Editor:

Thank you for your letter with suggested revisions of our manuscript "Unusual capitate fracture with dorsal shearing pattern and concomitant carpometacarpal dislocation with a 6-year follow-up: A case report" (Manuscript NO.: 81905, Case Report). We have revised the manuscript in accordance with your comments and carefully proofread the manuscript to minimize typographical, grammatical, and bibliographical errors.
Please find below are a point-by-point description of the revisions made according to the editor's and reviewers' comments.

Part A (Reviewer 1)

1. **The reviewer's comment:** I would recommend the author to give more detailed information about the surgery method. It seems to be an essential part for a case report.
The author's answer: We have provided detailed information about the surgery as follows:
"Through a dorsal approach, a longitudinal skin incision was made over the 3rd carpometacarpal joint, followed by blunt dissection. The extensor tendon was identified and protected. The dorsal intercarpal ligament, distal fragment of the capitate fracture, and ruptured capsule were identified. After removing fibrotic tissue, the distal fragment of the capitate fracture was rotated by 90 °in the sagittal plane, and an oblique shearing fracture pattern was observed. After reduction and repair of the capsule, we fixed the fracture using Strut Plate 1.3 (DePuy Synthes, Paoli, PA, USA), a mini-locking plate. The wound was closed in layer."
(TREATMENT section, lines 142–150)

2. **The reviewer's comment:** And for the discussion part, the "take away" lessons of the case was not sufficiently described. For example, How to avoid misdiagnosis? How to avoid complications of nonunion?
The author's answer: We have revised the "take away" lessons of the case as described below:
"For diagnosis, physical examinations and radiographic images of the hand

were important. If follow-up CT of the hand was available, the fracture pattern of capitate could have been precisely described and surgical plan could be adequately prepared. To avoid nonunion complications, open reduction with rigid internal fixation with a locking plate could be an appropriate approach." (DISCUSSION section, lines 208–212).

3. **The reviewer's comment:** Is there any points of attention in the surgery?
The author's answer: Some points of attention have been added as follows:
"Through a dorsal approach, a longitudinal skin incision was made, followed by blunt dissection. The extensor tendon was identified and protected. The dorsal intercarpal ligament, distal fragment of the capitate fracture and ruptured capsule were identified. After removing fibrotic tissue, the distal fragment of the capitate fracture was rotated by 90 °in the sagittal plane, and an oblique shearing fracture pattern was observed. After reduction and repair of the capsule, we fixed the fracture using Strut Plate 1.3 (DePuy Synthes, Paoli, PA, USA), a mini-locking plate."
(TREATMENT section, lines 142-150)

4. **The reviewer's comment:** Since numerous cases reports about capitate fractures were available, is it necessary to compare these cases?
The author's answer: We have compared some studies about surgical treatments as follows:
"Open reduction and internal fixation with Kirschner wires or headless cannulated compression screws in displaced fractures and fracture dislocations have been reported[2,5,9,10]. For rigid fixation, stability and early rehabilitation, we used a locking plate to fix the unique fracture pattern."
(DISCUSSION section, line 198–202)

Part B (Reviewer 2)
1. **The reviewer's comment**: Little information is provided on the mechanism of injury. Is it possible to expand them? Was the left wrist area included in any imaging examination (e.g. traumascan) during the initial examinations, prior to the transfer to another centre?
The author's answer: No initial examination and image studies of the left wrist were found in the medical records prior to the transfer to another center. Initial physical examinations are very important in multiple injury patients and, if neglected, doctors may misdiagnose an injury.

2. **The reviewer's comment**: Compared to the previously published case reports on this subject, the description of the procedure performed is very scarce. For example, we do not have any information on the condition of soft tissues. I would suggest expanding this aspect of the work.
The author's answer: The surgical procedure description has been expanded as follows:
"Through a dorsal approach, a longitudinal skin incision was made over the 3rd carpometacarpal joint, followed by blunt dissection. The extensor tendon was identified and protected. The dorsal intercarpal ligament, distal fragment of the capitate fracture and ruptured capsule were identified. After removing fibrotic tissue, the distal fragment of the capitate fracture was rotated by 90° in the sagittal plane, and an oblique shearing fracture pattern was observed. After reduction and repair of the capsule, we fixed the fracture using Strut Plate 1.3 (DePuy Synthes, Paoli, PA, USA), a mini-locking plate. The wound was closed in layer."
(TREATMENT section, lines 142-150)

3. **The reviewer's comment**: The scope of postoperative rehabilitation was not discussed in the paper. The nature of the patient's work is also unknown (which may affect the healing process).
The author's answer: The postoperative rehabilitation has been further described in detail as follows:
"His hand was immobilized with a short-arm splint for 2 weeks. Finger active range of motion rehabilitation were allowed immediately after operation. Wrist active range of motion and forearm rotation were allowed 2 weeks postoperatively. Full weight-bearing was allowed 4 weeks postoperatively, and he returned to his electronic technician job."
(OUTCOME AND FOLLOW-UP section, line 153-158)

4. **The reviewer's comment**: In the opinion of the reviewer, a single case does not justify the conclusion that "after which short-arm splint immobilization for 2 weeks and full weight-bearing 4 weeks postoperatively are advisable." If authors wish to present such recommendations, they should refer to a wider group of treated patients (possible literature reference) or adequate guidelines. In the absence of such, I would suggest deleting the quoted fragment.
The author's answer: The quoted text has been deleted.
(CONCLUSION section, lines 217)

5. **The reviewer's comment**: I would suggest standardizing the figures. I suggest changing image C in Figure 1 to correspond to image A in Figure 2 (CT image, cross section, bone window) instead of VR reconstruction.
The author's answer: The images have been changed according to the reviewer's suggestion.
(Figure 1, image C)

Many grammatical and typographical errors have been revised.
We thank you and all of the reviewers for the helpful advice.

Sincerely yours,

Yeong-Jang Chen