Author’s response to reviews

Title: Occult posterolateral rotatory dislocation of the elbow with olecranon fracture in a child: a case report

Authors:

Takahito Fujimori (takahito-f@hotmail.co.jp)
Kohji Kuriyama (ronakuri@mx2.canvas.ne.jp)
Koji Yamamoto (yamamoto@chp.toyonaka.osaka.jp)
Hisao Moritomo (moritomo@ort.med.osaka-u.ac.jp)
Hideki Yoshikawa (yhideki@ort.med.osaka-u.ac.jp)

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Author’s response to reviews: see over
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Dr. Michael Kidd AM
Editor-in-Chief, Journal of Medical Case Reports

Dear Dr. Michael:

This is a revision of MS: 4747817396456247 entitled “Occult posterolateral rotatory dislocation of the elbow with olecranon fracture in a child: a case report” We carefully considered the suggestions made by the referees.

Referee #1 (Dr. Udo Rolle)

Dear Dr. Udo Rolle

We appreciate your comments.

Referee #2 (Dr. Jan-Hendrik Gosemann)

The authors present a case of an 11-year old Asian boy with a minimally displaced olecranon fracture and lateral epicondylar avulsion fracture after a motor vehicle accident. First diagnosis was made by plain x-ray and computed tomography. Stress radiographs under general anaesthesia revealed severe posterolateral rotatory instability. The boy was taken to theatre where the lateral epicondylar osteochondral fragment and lateral collateral ligament complex were fixed. After surgery lateral instability was reported to have disappeared. The authors conclude that early initial repair after careful physical examination and interpretation of radiographs can produce excellent results. They also state that delayed diagnosis or surgery may cause chronic instability or non-union leading to further surgery.

Dear Dr. Jan-Hendrik Gosemann

We appreciate your proper abstract for our manuscript.

This is an interesting case, describing a rare combination of a minimally displaced olecranon fracture and lateral epicondylar avulsion fracture combined with severe posterolateral rotatory instability. The authors present a well-written manuscript. However, some major remarks arise while reading this manuscript:

- It is mandatory that every presenting patient should be examined carefully
and thoroughly. Early diagnosis/treatment is important for every trauma patient to decrease morbidity and sequelae. What’s new?

As you pointed out, every patient should be examined carefully. However, orthopedic or trauma surgeons sometimes tend to rely on radiographic diagnosis. Especially, in a country without major trauma center, acute child fractures like in our case correspond to borderline field among orthopedics or emergency department. Although a concept of posterolateral rotatory instability (PLRI) is known in orthopedic doctors specializing in upper extremities, provocation test has not been widely recognized yet among physicians of first contact. Moreover, PLRI in a child case itself is less common. One of a lesson in this report is to suspect unapparent instability without being drawn to apparent olecranon fracture. We would like to re-emphasize the importance of physical examination. A concept of acute PLRI in a child is also a new light.

- Radiation exposure should be avoided whenever possible, especially in the growing patient. In children magnetic resonance imaging should be considered if possible. What was the purpose of CT diagnostic? The authors should inform the reader about the decision making process and discuss advantages and disadvantages of the chosen diagnostic/treatment pathway.

The purpose of CT was accurate evaluation for complicated fractures. As you mentioned, MRI might be suitable for ligament damage. However, CT was more suitable for trauma including fractures. Even though osteochondral fragment was invisible in plain radiograph, CT could make these fragments and proximal radioulnar joint more visible. Reconstructed images helped creating strategy for surgery. Another advantage of CT was more accessibility, quickness, and cost-effectiveness than MRI.

We revised sentences in Case presentation section as follows:

To exclude other possible complicated fractures, computed tomography (CT) was performed. CT revealed an oblique olecranon fracture running from proximoradial to distal ulnar (Figure 2). The proximal radioulnar joint of the elbow was intact and Monteggia equivalent type of fracture was denied.

We revised sentences in Discussion section as follows:

The direction of the fracture line in the olecranon detected by CT, running from proximoradial to distal ulnar, confirms that varus stress was placed on the olecranon. In this case, CT was useful for evaluating these complicated fractures. However, magnetic resonance imaging might be another choice of diagnosis method, considering radiation exposure.
- The conclusion that delayed diagnosis or surgery may cause chronic instability or non-union leading to further surgery is hypothetical and cannot be based on the presented case/data.

As you pointed out, these sentences were not suitable in conclusion section. We mentioned the same things in discussion section above. So we omitted these sentences in Conclusion.

Referee #3 (Dr. Zacharias Zachariah)

Dear Dr. Zacharias Zachariah

We appreciate your comments.

Sincerely,
Takahito Fujimori, MD
Department of Orthopedic Surgery
Osaka University Graduate School of Medicine
2-2 Yamadaoka, Suita, Osaka 565-0871, Japan
Telephone: +81-6-6879-3552; fax: +81-6-6879-3559
E-mail: takahito-f@hotmail.co.jp