



Letter to the editor

Comments on: “Mini hook plate fixation for thumb ulnar collateral ligament avulsion fracture: A technical report” of Shingo Komura, Akihiro Hirakawa, Kyohei Ishizuka, Yasuharu Matsushita, Haruhiko Akiyama, published in Orthop Traumatol Surg Res 2019;105(3):429–433



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Dear Editor-in-Chief,

We read with great interest the recent original article by Shingo Komura et al. “Mini hook plate fixation for thumb ulnar collateral ligament avulsion fracture: A technical report” published in Orthop Traumatol Surg Res [1]. The authors reported 2 cases of thumb ulnar collateral ligament (UCL) avulsion fractures treated with two-hole mini hook plates by adapting 1.5-mm variable angle locking hand plates. During the operation, a two-hole mini hook plate was made by adapting a 1.5-mm VA locking T-plate, and the plate was cut at the oblong hole of the plate to make a hook large enough to lift the avulsion fragment. After the surgery, early rehabilitation was allowed and it restored stability of the metacarpophalangeal (MP) joint of the thumb. The clinical outcomes were satisfactory.

As we know, thumb ulnar collateral ligament injuries are among the most common injuries of the hand [2,3]. A stable, pain-free thumb base is very important for various sports, activities of daily living, gripping, and key pinch. Thumb UCL injuries for more than 3 weeks old have poor clinical outcomes with surgical repair, probably due to attenuation of the remnant ligament, and reconstruction procedure is recommended to be performed [4–6]. For acute, complete ruptures less than 3 weeks old, repair of the anatomic ligament should be performed, as long as the native tissue has adequate length and good quality [7]. For avulsion fracture of the proximal phalanx, there are several fixation methods, including suture anchors, transosseous sutures tied over buttons, hook plate, repair of the UCL to the adductor or to the periosteum, and dynamic transfers [8–10]. Suture anchor fixation is the most used method of the ruptured ligament to the base of the proximal phalanx [2,10,11]. The patients who underwent suture anchors were usually treated

with a splint for two weeks and immobilized by a removable splint [12]. Compared with the uninjured sides, the suture anchor group recovered to 97% range of motion and 101% pinch strength [12]. Now there is a trend toward earlier mobilization to prevent thumb stiffness.

The interfragmentary screw technique requires that the fragment should be at least three times that of the screw, and Kirschner-wire and extension-block-pin fixation alone are not compressive and are not stable enough to allow immediate post-operative joint motion [13]. Emily et al. [14] compared the biomechanical properties of hook plate fixation and suture anchor fixation for collateral ligament fracture-avulsions of the thumb in a cadaver study, and concluded that the hook plate construct provides stronger fixation than a suture anchor for thumb UCL fracture-avulsions. Kang et al. [15] used a hook plate in thirteen patients with a phalangeal avulsion fracture, and the affected digits included six little fingers, three long fingers, two index fingers, and two ring fingers. All cases achieved union without complications, and had a good to excellent result and the average total interphalangeal motion was 149° [15]. The implants of eight cases in this series were removed. This technique is similar with Shingo Komura's. However, they used a single-hole plate, and they think a single screw distal to the fracture is usually sufficient [15]. In Shingo Komura's study, a cortical screw and a locking screw were used to achieve rigid fixation [1]. Therefore, we want to know what are the advantages of hook plate fixation when compared to suture anchor fixation, since suture anchor fixation can also provide enough stability and allow early mobilization. Besides, whether an additional locking screw is necessary for these two cases, or what are the indications for using an additional locking screw. Third, when the fractures are free, whether the hook plate fixation is still useful, or it should be combined with UCL repair. Finally, whether a second procedure is needed to remove the plate and screws.

We hope the authors to provide more details on the above mentioned points regarding surgical technique, so that the excellent results as shown by the authors can be replicated by other surgeon.

Disclosure of interest

The authors declare that they have no competing interest.

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Contribution

Feipeng Gong, Zhiqiang Fan and Xiaozheng Tang contributed equally to this article.

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