

AVULSION INJURY OF TRICEPS TENDON—A CASE REPORT

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ABSTRACT:

Introduction: Triceps tendon ruptures are uncommon. It is caused by rapid, severe elbow flexion. They could be related with olecranon avulsion. They are frequently observed in bodybuilders, football players, and weightlifters. Early cases are treated with primary repair, and late cases are treated with reconstruction using tendon grafts.

Background: Triceps tendon avulsion is one of the rare tendinous injuries. Such injuries can easily be missed, and should be kept as a differential diagnosis in all patients who present with pain and swelling at the back of the elbow after a traumatic event.

Discussions: A 39 years old man came to ortho OPD with pain in the right elbow due to self-fall on right outstretched hand. He had chronic kidney disease. On examination mild swelling present over right elbow, tenderness present over the olecranon process of right elbow posteriorly, muscle power of triceps-1/5 and loss of active extension of right elbow.

Methods: Triceps tendon was found to be retracted 2cm proximal to the olecranon. The avulsed fragment was removed. The triceps tendon is surgically repaired with ethibond and transosseous Krakow sutures. The sutures were removed after 15 days.

Results: After three weeks, mobilisation of the right elbow was initiated. Except for the final 10 degrees of extension, the patient's right elbow regained its usual range of motion after five weeks of surgery.

Keywords: *Triceps avulsion, Primary repair, Krakow, Ethibond*

INTRODUCTION:

Triceps tendon tears are rare. It occurs as a result of sudden forceful elbow flexion. They may be associated with avulsion at olecranon. They may be seen in bodybuilders, football players, and weightlifters. Treatment is with primary repair in early cases and reconstruction with tendon grafts in late presentation.

CASE REPORT:

Clinical history:

- A 39-yr old man came to the ortho OPD with pain in the right elbow from 1 day.
- h/o self-fall on the right outstretched hand.
- Had chronic kidney disease from 3 years.

Examination:

- Mild swelling present over right elbow
- Tenderness present over the olecranon process of right elbow posteriorly.
- Muscle power of triceps- 1/5
- Loss of active extension of right elbow.
- No limb length discrepancy seen.
- No neurovascular deficit seen.

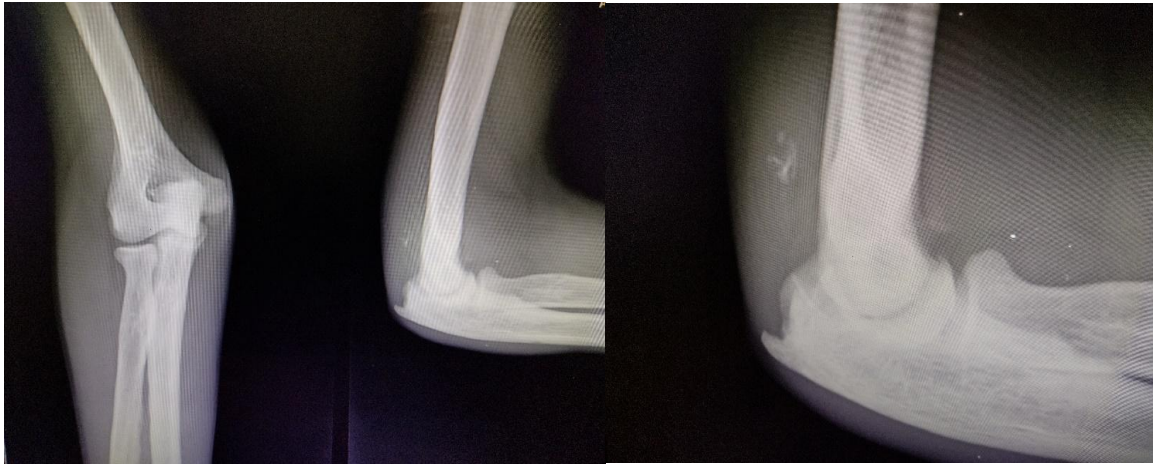
General condition:

- Conscious, coherent & oriented
- BP: 110/80 mm Hg, pulse rate: 80/min, afebrile

Investigations:

- Hb: 10.6
- Calcium: 7.4 mg/dl (N. 8.6-10.2), corrected to 8.6 four days later
- Phosphorus: 4.2 mg/dl (N. 2.5-4.5)
- S.creatinine: 3.3 mg/dl
- PTH: 1872 pg/ml (N. 10-65)
- Ultrasound abdomen: B/L small kidneys with grade 3 renal parenchymal changes.
- Patient had chronic kidney disease with secondary hyperparathyroidism.

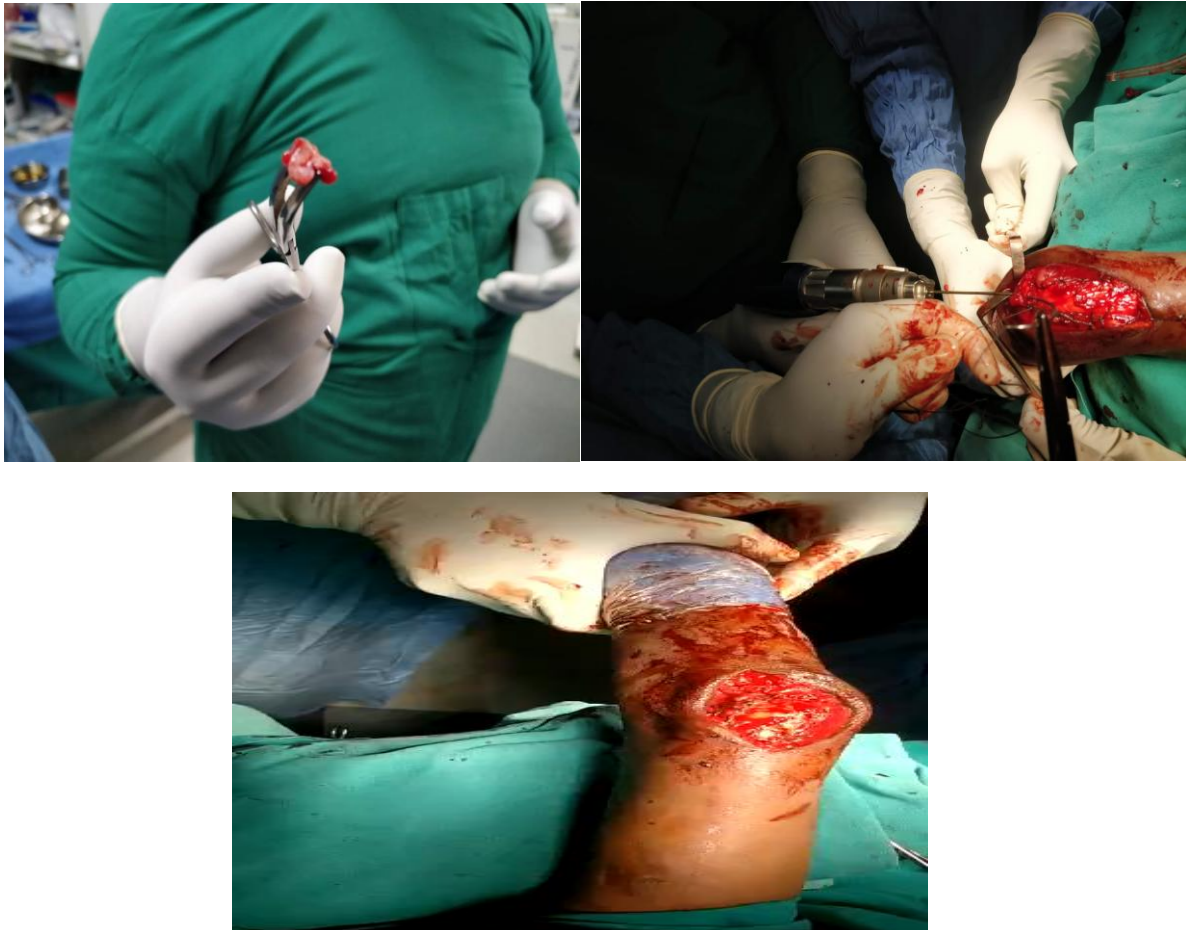
Radiographs:



Pre Operative Xray of right elbow

Surgical repair:

- Triceps tendon was found to be retracted 2cm proximal to the olecranon.
- The avulsed fragment was removed.
- The triceps tendon was repaired using transosseous Krakow sutures.



Intra-operative Images



Post Operative Xray of right elbow

- The sutures were removed after 15 days. Surgical wound healed properly.
- Mobilization of right elbow was started after 3 weeks.
- After 5 weeks postoperatively, the patient regained normal range of motion at the right elbow, except for terminal 10 degrees of extension.

DISCUSSION:

Triceps tendon avulsion or rupture is a rare injury, the “least common of all tendon rupture & is difficult, can be missed easily because of the low degree of suspicion of triceps rupture. In addition, pain in acute injury prevents appropriate physical examination such as active elbow extension. injuries” (6). The diagnosis of acute triceps tendon

The common differential diagnoses of elbow injuries include a sprain, radial head fracture, olecranon bursitis and fractures around the elbow joint (7). Likewise, swelling masks the palpation of the gap. Furthermore, tiny avulsed flecks of bone are easily missed in an overcrowded emergency room where speedy evacuation and disposal of patients is a tendency.

Usually occur at the osteotendinous junction.

Mechanism of injury in such cases is usually; a fall on an outstretched hand when a sudden deceleration stress is put on a contracted triceps muscle or rarely after direct trauma due to assault. Such injury can be seen in football players and weight-lifters (9-11) where substantial force is required to rupture a tendon in a healthy adult, but some local and systemic factors alter the integrity of the tendon and can lead to rupture even after a small trauma. Systemic causes such as chronic renal failure, steroid use, diabetes mellitus, hyperparathyroidism, rheumatoid arthritis, osteogenesis imperfecta and local causes like local steroid injection, olecranon bursitis and attritional changes due to degenerative arthritis are associated with tendon weakening.

Risk factors for triceps tendon avulsion due to trivial trauma:

Most common Systemic causes-

- Chronic renal failure
- secondary hyperparathyroidism
- Rheumatoid arthritis
- Hypocalcemic tetany
- Osteogenesis imperfecta
- Anabolic steroid usage.

Most common Local causes-

- Local steroid inj.
- Degenerative arthritis

Hence early repair of complete triceps tendon rupture is recommended for good functional outcome.

Results: After three weeks, mobilisation of the right elbow was initiated. Except for the final 10 degrees of extension, the patient's right elbow regained its usual range of motion after five weeks of surgery.

Range of movements 4 months after surgery

**Conclusion:**

Avulsion of triceps tendon is rare injury it can occur after direct or indirect trauma, and usually occur at the osteotendinous junction. Early repair of complete triceps tendon rupture is recommended for good functional outcome.

References:

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