Triceps Tendon Avulsion in Elderly Male

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Background

Orthopedic injuries, including tendon ruptures, are commonly encountered in the emergency department. Triceps tendon rupture is rare, comprising less than 1% of all tendon injuries[1]. It is frequently caused by sudden increase of an eccentric load onto contracting triceps muscles[1], such as through a fall onto an outstretched hand.

Objective

This case report describes an instance of triceps tendon avulsion presenting in a seventy-year-old male, as well as important aspects of triceps tendon avulsion management.

Case

A seventy year old male presented to the emergency department with left arm pain after a fall. The patient had reportedly been leaning on a wooden fence when it collapsed under his weight, causing him to fall on an outstretched arm. The patient heard a “pop,” and after the fall, reported a sensation that “something was missing” in the back of his arm. He endorsed pain in the posterior aspect of his arm superior to his left elbow.

On exam, the patient was found to have a soft, non-tender mass superior to the olecranon process without any bruising to the area noted. While the patient was able to flex his elbow without difficulty, he exhibited weakness upon attempted extension, and felt pain while attempting the terminal degrees of extension. He also reported pain in the left elbow while trying to use his arms to rise from a seated position.

X rays of the patient’s elbow (Figures 1 and 2) demonstrated “flake sign,” visualization of a piece of bone avulsed from the olecranon process on lateral views. This sign is considered pathognomonic for triceps tendon rupture[2].

Orthopedic consultation was obtained upon diagnosis. Upon request by orthopedics, the patient was subsequently placed in a posterior arm splint and referred to orthopedics for outpatient management.

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Figure 1: lateral x-ray of the left elbow demonstrating “flake sign” (white arrow), a piece of bone avulsed from the olecranon process.

Figure 2: external oblique view of the left elbow on x-ray once again demonstrating the avulsed piece of bone (white arrow) from the olecranon process

Discussion

Triceps tendon rupture is a rare presentation of tendon rupture. This patient presented following a typical mechanism of injury, and displayed the pathognomonic “flake sign” on his elbow x-rays. As in this patient’s case, diagnosis of triceps tendon rupture can be made by a combination of clinical examination and imaging findings. While this patient’s diagnosis was confirmed by x-ray, clinicians can also consider use of ultrasound to confirm the diagnosis. In the hands of a skilled provider, ultrasound can also demonstrate the presence a partial or complete triceps tear[3]. Another important consideration in the diagnosis of triceps tendon rupture is the frequent co-occurrence of distal radius or radial head fracture. Physicians should therefore also obtain x-rays of the wrist in cases of a suspected triceps tendon rupture[1].

When a triceps tendon rupture is confirmed, emergency providers should always ensure patients have timely follow up with orthopedics in case surgical management is warranted. Surgical outcomes are typically positive, with 89% of patients returning to preinjury levels of activity[2].

Conclusion

Triceps tendon avulsion is a rare cause of tendon rupture, diagnosed by examination and imaging with x-ray or ultrasound. Providers should be careful to consider concomitant occurrence of radial fracture, as well as to ensure a patient has close orthopedics follow up.

References

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