Partial Rupture of Triceps Tendon

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Patient: 44 years, male

Clinical History:

Triceps tendon ruptures are rare. We report a case of a partially ruptured triceps tendon in a fit and healthy bodybuilder.

Imaging Findings:

A 44-year old man presented with pain in his right upper arm. He was a bodybuilder and, following a trivial fall onto his flexed right elbow, had subsequently tried to return to his gym activities during which he felt a sudden severe sharp pain in the right posterior upper arm on extending his elbow to resistance. There was no significant past medical history and denied any drug use. Clinically, he had swelling and tenderness proximal to the olecranon process with a boggy swelling over the distal triceps. He had weakness in extending his elbow but was nevertheless able to actively extend it. There were no sensory neurological symptoms or signs.

Plain radiography of his elbow revealed an olecranon traction spur as well as bony avulsion fragments proximal to the distal olecranon.

An ultrasound scan was subsequently performed. This showed partial rupture of the distal triceps tendon, involving the superficial fibres. The superficial fibres were retracted and lay approximately 5 cm above the olecranon process. A small haematoma was noted at the site of rupture. The deep fibres were intact. Fragments of bone were also noted at this site, consistent with the plain radiograph findings of an avulsed fragment of the olecranon. Ultrasound of his left elbow, performed for the purpose of comparison, was within normal limits.

The patient was treated conservatively with the elbow held in partial flexion. He gained a full range of motion and is currently undergoing strengthening exercises, which he is expected to fully regain.

Discussion:

Triceps tendon rupture is an uncommon injury. The tear usually occurs at the tendon-osseous junction and is usually accompanied by avulsion fractures of the olecranon process [1]. The majority of ruptures occur following a fall onto the outstretched hand or following direct impact to the arm [1]. However, the injury is also recognised in patients whilst weight lifting [2]. Partial rupture of the tendon is even more rare. Clinical diagnosis is usually obvious but the findings may occasionally be subtle or difficult to assess because of swelling and pain. In this case, the fact that the patient could extend his elbow, although weakly, suggested an incomplete rupture and highlights the need for imaging. MRI provides an excellent overall view of the elbow extensor mechanism and the extent of a tear and muscle retraction [3]. However, ultrasound, together with clinical examination, will often provide the adequate information necessary in order to formulate a management plan, as in this case. Furthermore, the dynamicity of ultrasound gives it obvious advantages over other imaging modalities. Ultrasound should therefore always be considered as the first radiological investigation in suspected triceps ruptures.

Most surgeons will repair complete ruptures surgically. There is, however, no consensus to support either operative
or conservative management in partial ruptures, but these are successfully reported in the literature [4]. In our case, conservative management was chosen and proved successful.

**Differential Diagnosis List:** Partial rupture of triceps tendon

**Final Diagnosis:** Partial rupture of triceps tendon

**References:**


Figure 1

Description: Olecranon traction spur and bony avulsion fragments

Origin:
Figure 2

Description: Origin:
Figure 3

Description: Origin: