What's Your Diagnosis?

Tanner Slead, Class of 2018

Signalment:

8 year, 10 month, Male Castrated, Labrador Retriever

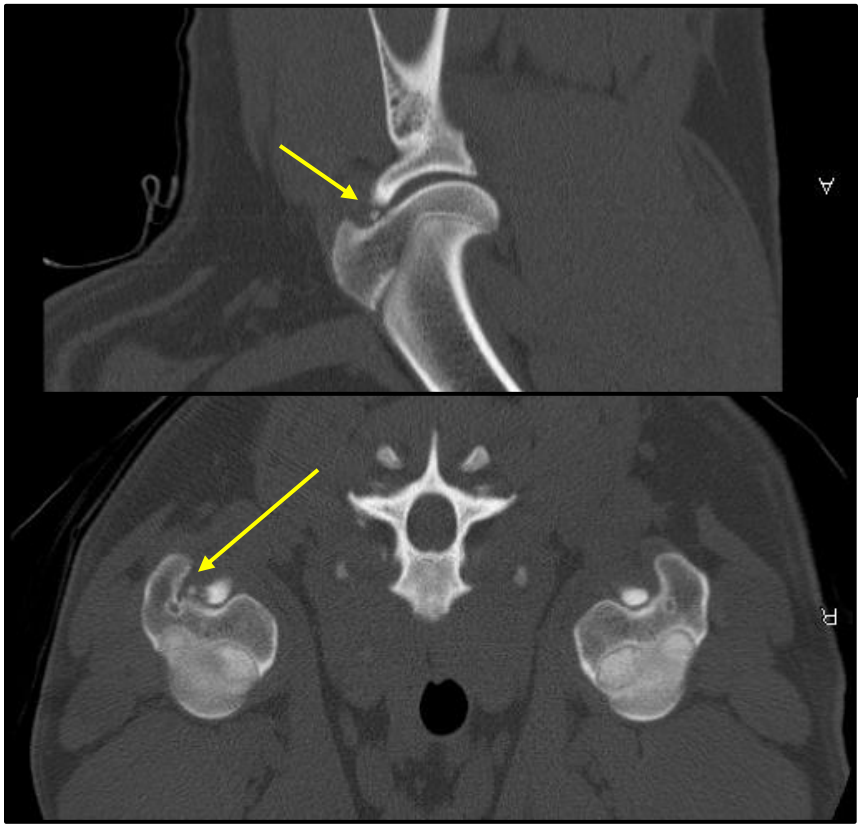
Presenting Complaint:

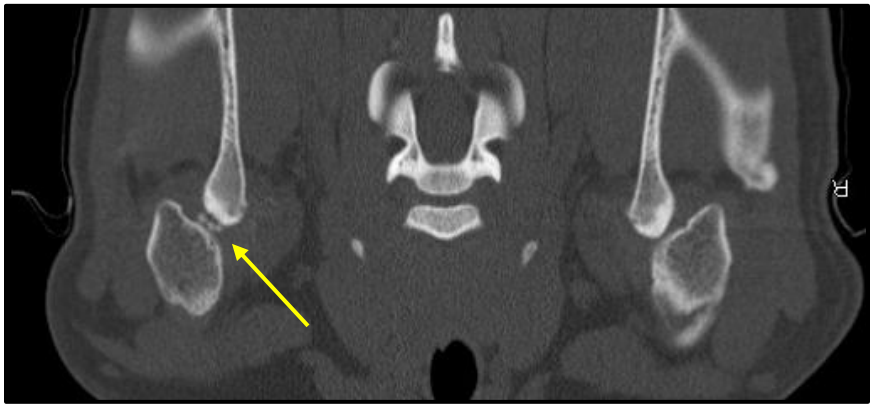
Intermittent lameness of left front leg after activity.

History:

Grizzly presented for a recent intermittent lameness of the left from leg associated with activity. Grizzly was previously diagnosed with a partial bicipital tendon avulsion of his left shoulder via Computed Tomography approximately one year prior. He was sent home with instructions of 4 weeks cage rest, followed by a gradual increase in exercise/activity. No follow-up visit was completed and complete resolution was assumed.

CT: (one year earlier)





Findings:

Left and right elbows: normal.

Left and right shoulders: skeletal and soft tissue structures of the right shoulder within normal limits. Small, irregular, linear, mineral opacity present at the distal edge of the supraglenoid tubercle within the shoulder joint. Not continuous with adjacent scapula or humerus. Adjacent bony structures are sclerotic with irregular margins and varying cortical thickness.

Conclusions: Left bicipital tendon avulsion or enthesopathy.

Presenting Physical Exam Findings:

Upon presentation, Grizzly was not overtly-painful and no lameness was noted. Pain was elicited upon flexion/extension. All other physical parameters were within normal limits.

Bloodwork:

Within normal limits.

Diagnostic Plan:

Radiographs of left shoulder.

Ultrasound of left shoulder.

Radiographs:

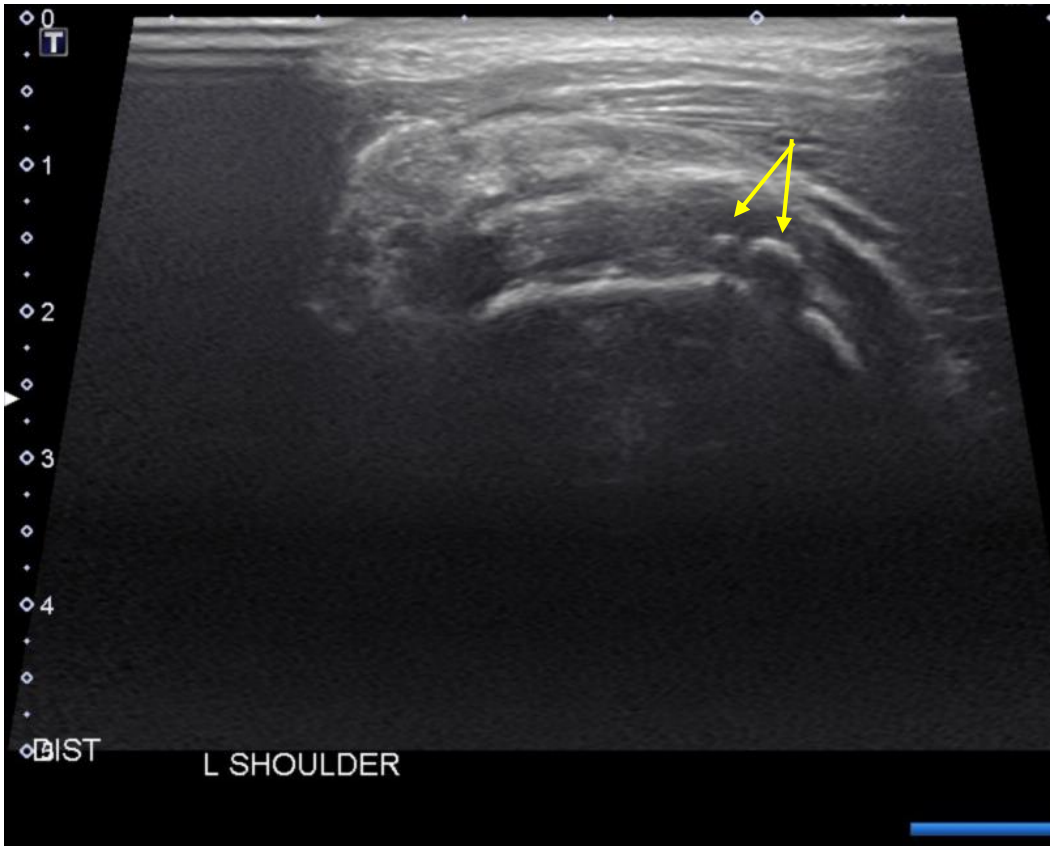
Craniocaudal: **Flexed Lateral::** **Lateral:**

Findings: Small, irregular, mineral opacity structure present distal to tip of supraglenoid tubercle within shoulder joint best viewed on flexed lateral. Irregular, mineral opacity with summation present in same area (distal tip of supraglenoid tubercle) on lateral. Remaining joint structures normal with no increase in soft tissue opacity or widening of joint space.

Conclusions: Mineral opacity in the glenohumeral joint with differentials of avulsion or calcification of the biceps tendon

Recommendation: Ultrasound, followed by surgical release or removal of osseous fragments based on findings.

Ultrasound:



Findings: Two, small, hyperechoic, shadowing, circular structures of varying size located adjacent to the distal supraglenoid tubercle and within the bicipital tendon. Bicipital tendon insertion visualized and attached normally. Normal soft tissue and fluid structures surrounding and within bicipital bursa.

Conclusions: Bicipital tendon avulsion fragment or dystrophic mineralization of the biceps tendon (bicipital tenosynovitis).

Treatment Plan:

Surgery:

Surgical Procedure: *Left Bicipital Tendon Release*

Follow-Up:

Grizzly was sent home with instructions of strict cage rest for 4 weeks along with passive range of motion exercises 3 times daily. Monitoring of his surgical incision with ice packing daily for 2 days post-op were also advised.

Grizzly was also send home on pain medications (Codeine- opioid, and Carprofen- NSAID) to help control pain and Trazadone (anxiolytic) to reduce activity.

A follow-up appointment was only deemed necessary if swelling, lameness, or pain was noted.

Discussion:

Bicipital tendon inflammation (bicipital tenosynovitis) and/or rupture is a fairly common condition seen in many working dogs. These cases often present very similar to the case described above and can be diagnosed with advanced imaging due to a number of characteristic changes. In this case, we were able to appreciate entheseophyte formation (new bone at the level of tendinous insertion) along the edges of its insertion both radiographically and via sonography as well as fractured bone (initially) via CT. Avulsion fractures, or fractures that occur at the insertion of a tendon or ligament, can be medically or surgically managed depending on their location and severity. In this case, medical management was initially deemed appropriate, as cage rest can allow the insertion of the tendon to repair itself and eventually alleviate clinical signs. However, in some cases, the healing process can be incomplete or, more likely, result in deposition of fibrous connective tissue that is neither as strong nor elastic as muscular or tendinous tissue. New bone (entheseophytes) also form at the level of insertion, resulting in further instability and insult of the tendinous attachment. Due to these changes, subsequent insult can result in another rupture or inflammation which is likely the cause for the re-presentation of this case. Once medical management was proven to be insufficient, surgical repair was elected.