



E-ROUNDS

APPLIED RESEARCH FOR TODAY'S EQUINE COMPANION

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Case File: Lameness Diagnosis and Treatment

Recognizing the benefits of advanced imaging techniques and integrative therapy

Signalment and History

- "Buck," 12-year-old Quarter Horse gelding
- Referred to CSU on February 6, 2012, with significant right front lameness that had been apparent for the previous six months
- The lameness did not improve with previous distal limb nerve blocks and did not respond to flexion tests

Physical Exam

Buck was examined by Dr. Tim Holt for chiropractic evaluation. Dr. Holt determined the horse had restricted motion to protraction of the right scapula as well as a dorsal motion. There was restricted motion of cervical flexion bilaterally and pain associated with movement and stretching of the lower cervical vertebrae primarily C-4, 5, 6 on the right side. Further cervical manual therapy diagnostics were done, pointing concern at lower cervical and shoulder regions with loss of motion and pain.

Overall, Dr. Holt found significant pain in the right shoulder and elbow, lower cervical regions, as well as bilateral psoas muscles and positive Churchill response. Stretches and mild exercises were recommended at that time.

On March 22, 2012, Buck was re-examined and found to be 3/5 lame on the front limb, and moderately positive to shoulder and elbow extension and palpation. He was negative to distal limb and carpal flexions. Lower limb blocks up to the level of the carpus were performed, which were negative. After discussion with the owner,

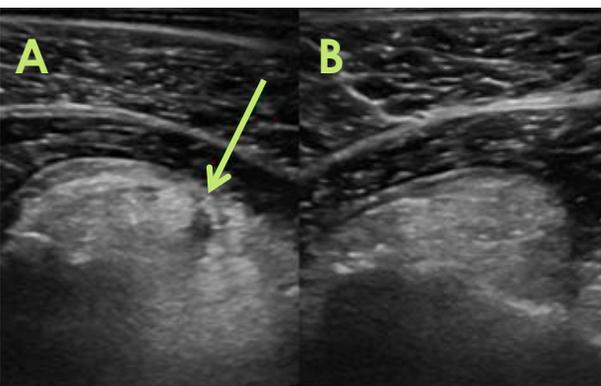


Fig. 1: Transverse image of the right fore bicipital tendon (A) near the origin with left fore tendon (B) for comparison. The green arrow highlights a tear of the fibers characterized by a black area (hypoechoic).

radiographic and ultrasonographic examinations were performed.

An ultrasound throughout the left and right cervical spine and right biceps area revealed mild arthritic changes in the right cervical facets of C3 and C4, and mild changes in the left C2, C3 and C5, C6 areas. Right shoulder ultrasound revealed severe tearing of the origins of the bicipital tendon (Fig. 1).

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At Colorado State University, equine veterinary care is delivered through the collaboration of three nationally recognized equine service centers:

- Colorado State University Veterinary Teaching Hospital Equine Service
- Colorado State University Equine Reproduction Laboratory
- Colorado State University Orthopaedic Research Center

Equine treatment capabilities at CSU are at the forefront of equine veterinary medicine through the shared expertise of these organizations.

Questions regarding this case file may be directed to:

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Buck also had mild bilateral effusion of the bicipital bursa. An observation was made that the tendon tear was not resolving at a rate that would be considered normal healing. Radiographs of Buck's right shoulder (Fig. 2) showed normal joint space, however, there was a smoothly marginated osseous body just caudal to the supraglenoid tubercle. This was thought to be an avulsion fracture. However, this is an uncommon location for a fracture. It was suggested that the opposite leg be radiographed for confirmation. Unfortunately, due to financial constraints, this was not performed. This fragment could not be visualized on ultrasound because it was located axial to the shoulder joint.

Treatment

Platelet rich plasma was injected into the area of the tendon lesion via ultrasound guidance. Because of the location of the possible fragment, surgery was not elected, and instead long-term rest was suggested to facilitate healing.

On follow-up examination (Fig. 3) on May 15, 2012, Buck's lameness had improved to 2/5 lame in the right front and was not painful to palpation of the shoulder area. The owners noted that Buck had intermittent improvement in stride during the last several weeks.

A recheck ultrasound examination showed that the hypoechoic area in the bicipital tendon area was improving and experienced approximately a 25 percent healing response. Limited turnout was recommended to help facilitate healing and maximize strength.

Case Summary

Diagnosis of shoulder lameness can be difficult at times, especially since advanced imaging techniques are often needed. A combination of ultrasound and radiography in this case helped to best characterize the amount of damage and hence give a prognosis for soundness. The prognosis for soundness in Buck is guarded at this time, and it will be dependent upon healing over the next several months.

Follow-up Chiropractic Care

Follow-up chiropractic care will involve no high velocity adjustments, but slow stretching and holding the stretch in gentle protraction then retraction of both forelimbs, as well as motioning in dorsal and ventral directions. Acupuncture will be done every one to two weeks concentrating on the shoulder region as well as scapula and back. Buck was noted to have multiple trigger points involving the wither region (T-3-11) and back (T-17-L-6). These will be addressed with acupuncture and Electrical Acupuncture Stimulation, as well as slow motion palpation. The goal of the follow-up acupuncture and chiropractic care involves increasing flexibility and pain control. The primary acupuncture points used in this case were: LI-16, 17, GB-21, SI-9, LI-11, 10, BL-13, 12, 11, TH-14, LI-15, BL-23, 25, SI-11, 12, TH-16, SI-16.

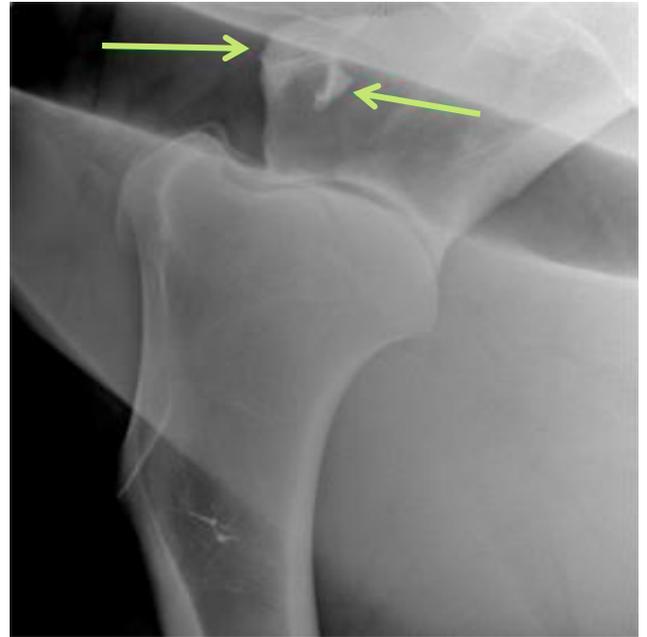


Fig. 2: Lateromedial radiograph of the right shoulder; there is a mildly irregular bone margin at the origin of the biceps tendon (supraglenoid tubercle). A small process, the coracoid process is mildly displaced caudally. This is where the coracobrachialis muscle originates. This is possibly fractured.

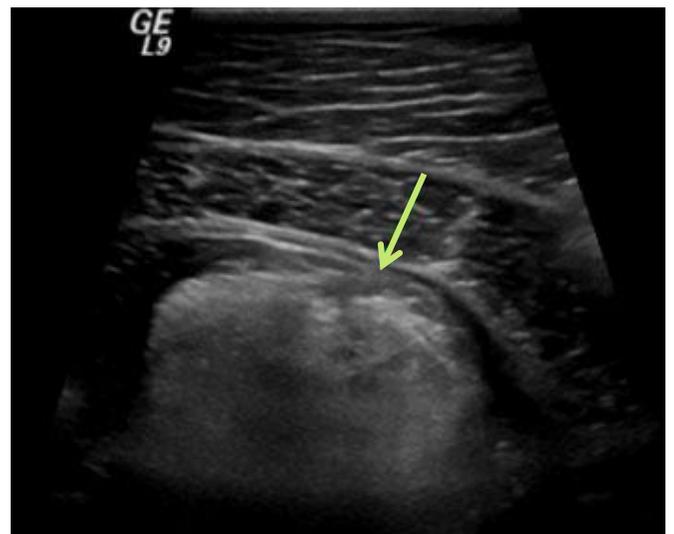


Fig 3: Follow-up ultrasound images of the right fore biceps tendon at approximately the same level, 60 days from initial diagnosis. There is mild increase in fiber healing, shown by the green arrow.

Take Home Message

Shoulder injuries can be difficult to characterize. Many times there is pain in the shoulder area secondary to a lower limb injury, and in this case those more common problems were ruled out before investigating the shoulder. In this case, both radiographs and ultrasound were essential for identifying the lesions in the area. Biological therapy was used for the soft tissue component, which appears to be responding well, but the biggest concern at this time is the rate of bone healing that will occur. Follow-up examinations will be essential to assessing the prognosis of this horse.

Clinicians involved:

Dr. Chris Kawcak, Dr. Tim Holt, Dr. Lacy Kamm, Dr. Britta Leise, and Dr. Alexander Daniel, Dr. Kurt Selberg,
Dr. Myra Barrett

NEW!! Upcoming events at the VTH for rDVMs:

EVENT	DATE(S)	TIME	CONTACT/DETAILS
REFERRING VETERINARIAN DINNER Open Forum and Dinner, sponsored by Merial	09/18/12	4:00 pm to 7:00 pm	Katie Briggs, 970-297-4266 or katie.briggs@colostate.edu
CONTINUING EDUCATION Diagnosis & Treatment of Lameness in the Horse	09/19/12– 09/21/12	8:00 am to 5:00 pm, all 3 days	Tiffany Banfield, 970-297-1273 or vetce@colostate.edu http://www.cvmb.colostate.edu/clinsci/ce/