CASE STUDY – PRP IN DOGS: Achilles Tendon Injury

PATIENT:
A 3-year old male Husky mix sled dog presented to the clinic 3 weeks after having become sore on the right hind with swelling in his calcaneal tendon. The dog had been confined to an 8x8 pen since the initial onset.

PHYSICAL FINDINGS:
Physical examination findings included firm swelling on the medial side of the calcaneal tendon with pitting edema in the skin starting about 1.5cm from the point of the hock and extending proximally for about 5cm. Range of motion of the hock was within normal ranges. There was 1.5cm less thigh muscle mass on the affected limb.

DIAGNOSTIC FINDINGS:
Ultrasound imaging revealed fluid in between the fibers of the medial gastroc tendon, the lateral tendon and the distal tendon had normal fiber orientation. Because it was not possible to discern the borders of the medial gastroc tendon, the cross sectional area was measured at the mid-point of the swelling (4cm proximal to the point of the hock) the area was 1.19cm2. At that time, shock wave therapy was administered. The dog was confined to a 10 x 12 room and was leash walked 10 min twice daily.

Repeat images were taken 3 weeks later (6 weeks post injury). On physical examination, there was less edema in the skin but the swelling remained about the same grossly. No lameness was observed. Ultrasound showed decreased cross-sectional area 4cm proximal to the point of hock (0.84) and less fluid although pockets of fluid and hypoechoic areas in the tendon were still present. There was more detail seen with fiber orientation.

PRP THERAPY:
It was decided to inject autologous platelet rich plasma (ProTec™ PRP) into the tendon. Ultrasound images pre-injection showed the presence of hypoechoic areas with some increased echogenicity over the previous examination. However, a small amount of fluid was still present between the tendon and the skin. Cross-sectional area was unchanged.

Ultrasound guided intra-lesional injection of autologous PRP was performed. 0.5 ml of PRP was injected divided between 3 areas through two injections sites on the medial tendon. Filling of the defect could be seen. The limb was bandaged for 24 hours with a light compression wrap using gauze either side of the achilles tendon.

Instructions were given for 3 days of rest without walks, then walks were resumed at 15 min twice daily and the length of walks was increased weekly by 5 min, ice if swelling.

FOLLOW UP:
The tendon was reexamined 3 weeks after injection (11 weeks after initial injury). The owners reported no problems at home. Physical examination revealed a marked decrease in swelling, the tendon had remodeled and there was only a small 1cm long thickened area mid body of the medial side of the tendon. Ultrasound findings
showed a decrease in cross sectional area to 0.69cm². There was homogenous fiber density and good alignment with no hypoechoic regions. It was now possible to see definition between tendons.

Confinement at home was continued with walks at 30 min. - 5 min off each time was allowed each walk with the off leash time doubling each week. Isometric exercises were prescribed to strengthen the limb.

**Recheck 1 month later (15 weeks post injury) revealed normal palpation of the tendon and no lameness.**

Training for sled work resumed

_Courtesy of Julia Tomlinson BVSc, MS, PhD, DACVS, CCRP, CVSMT_

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