

CLINICAL IMPRESSION OF ORTHOKINE (IRAP) TREATING JOINT DISEASE IN THE PERFORMANCE HORSE

Brent A Hague, DVM, Diplomate ACVS, ABVP
Oakridge Equine Hospital, Edmond, OK

Degenerative joint disease in the performance horse has a major economic impact on the horse industry. Conventional therapies including; rest, NSAID's, intra-articular medications, PSGAG, and various oral medications are all valuable as treatment options. Each of these therapies has certain limitations therefore new therapies are constantly coming available and being tested. Orthokine (IRAP) was first used in our practice late July 2004. The following presentation will be a case based discussion of our results to date.

Orthokine is interleukin-1 receptor protein antagonist (IRAP). The mechanism by which it is hypothesized to work is by binding to the IL-1 receptor thus preventing the interaction of IL-1 with the receptor. IL-1 is a major player in the inflammatory cascade causing synovitis and joint pain. By blocking this interaction we hopefully can decrease pain and inflammation in the joint creating an environment more conducive to healing and function.

The process for obtaining IRAP is relatively easy but does require some special equipment such as a centrifuge that accommodates 60 ml syringes and an incubator. The orthokine kit provides a 60 ml syringe containing glass beads to stimulate monocyte production of the antagonist protein and anticoagulant. A jugular vein is aseptically prepared and 60 ml of blood is harvested. The syringes are then incubated at 37 degrees C for 24 hours (\pm 5 hours). The syringes are then centrifuged to separate IRAP rich plasma from the blood. The plasma is then harvested in 4 ml aliquots in a 6 ml syringe and frozen until use. Prior to injecting into a joint, the IRAP plasma is passed through a 0.2 micro millipore filter. Typically 4 ml is injected once a week for 3 treatments. In large volume joints such as the stifle, we have used an 8 ml dose. Depending on the condition being treated, most horses are rested until they receive the second injection and then allowed to go back to training.

Our practice has currently treated 43 joints with orthokine including; 14 stifles, 1 elbow, 3 antebrachio-carpal joints, 3 tarsi, 10 metocarpophalangeal joints, 8 distal interphalangeal joints, 1 proximal interphalangeal joint, and 2 shoulder joints. The response to treatment is variable and largely depends on the degree of DJD present at the time of therapy. Joints with primarily synovitis or mild DJD respond the best. Exposed subchondral bone and/or extensive cartilage damage respond less favorably. This will be discussed in more detail as we go through the cases. In summary, joints with mild to moderate DJD that have become unresponsive to conventional therapies are good candidates for orthokine therapy.