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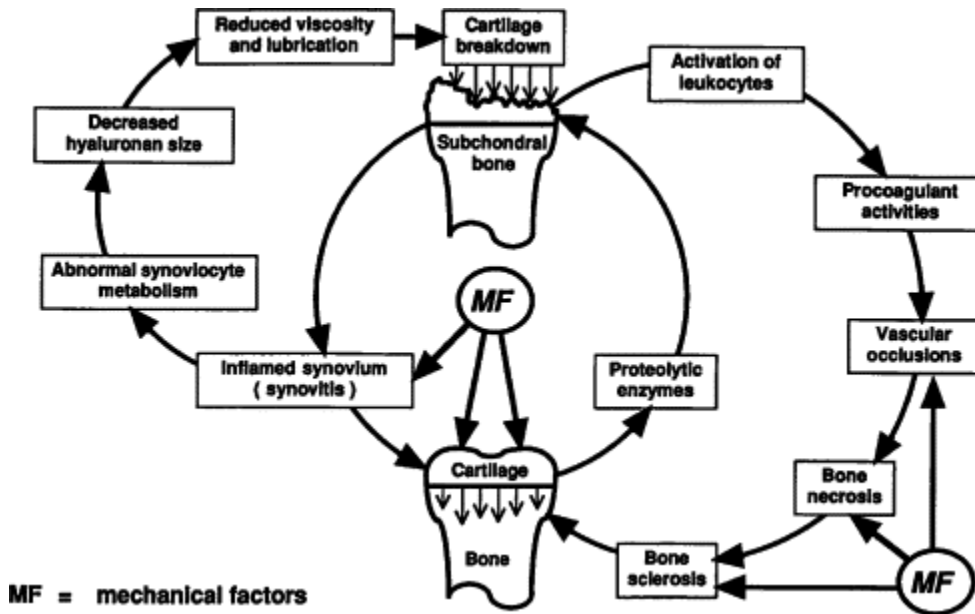
CHANTILLY, FRANCE

IRAP CLIENT INFORMATION

Emma Alsop, BVSc Cert EM (Intmed) MRCVS

Osteoarthritis is also known as degenerative joint disease (DJD) and is one of the main causes of lameness in horses. It is very common in all athletic horses including racehorses. It is the result of multiple factors including age, conformation, traumatic incidences, workload, developmental diseases and many physiological factors. The main signs are lameness, stiffness, poor performance, joint swelling and inflammation. Osteoarthritis occurs when the cartilage surrounding the joints is damaged, which produces pain and inflammation. The damage to the cartilage causes the release of many inflammatory proteins and chemical signals including Interleukin I, which is a cytokine.

The cycle of arthritis



A cytokine is a chemical secreted by the cells of the immune system to attack infections and apoptotic (damaged or dying) cells. The presence of this in the joint results in further cartilage degeneration. The inflammatory process if not regulated by the body eventually becomes harmful as these cytokines stimulate further cartilage damage and inflammation thus creating a vicious circle. All joints can be affected but the areas that are affected the most are knee, hock, fetlock and coffin joints. Usually, therapy involves intra-articular (directly into the joint) medications such as hyaluronic acid and/or steroids, rest, NSAIDS/‘painkillers/anti-inflammatories’, polysulfated glycosaminoglycans (PSGAG) and oral supplements that contain glucosamine, chondroitin sulfate and/or Hyaluronic acid.

Treatment with Interleukin-1 Receptor Antagonist Protein (IRAP) utilizes progressive gene therapy to combat osteoarthritis in your horse. Interleukin-1 (IL-1) is a type of cytokine and is secreted by many types of cells. IL-1 is an important part of the inflammatory response but in the case of your horse’s joints, sometimes can be detrimental. The joint fluid carries a protein called interleukin-1, which plays an important role in inflammation and accelerates the deterioration of tissues like joint

cartilage. Interleukin-1 Receptor Antagonist Protein (IRAP) blocks IL-1 from binding to tissues and inhibits the damaging consequences of IL-1.

The procedure begins with drawing blood from the horse that will be treated into a syringe. The syringe is specially prepared with glass beads that stimulate production of the antagonist protein, resulting in up to 27000 times more IRAP to be produced.



The blood is harvested, incubated and centrifuged to separate the plasma (abundant with IRAP) from the blood. Typically, IRAP treatments are once a week for three weeks and usually, after that time, the horse can return to normal work. Treatment protocols can vary though and this is very case dependent. The harvested IRAP can be frozen and stored for repeat treatments. One harvesting session usually yields 6-10 treatments.





The reason IRAP is so exciting is its' potential for a long-term effect on battling osteoarthritis. Whereas some of the therapies listed above might only have short-term effect, IRAP has the potential to stop the cartilage matrix from being degraded and increase healing. IRAP has the ability to stop the inflammation cycle. The research on IRAP is ongoing but the results have been very encouraging.

IRAP cannot reverse permanent damage that often exists in joints with osteoarthritis already present, but it will prevent further inflammation and reduce progression of the disease. Therefore early treatment is recommended. Other therapeutics may also be required in conjunction with IRAP. A further benefit of IRAP is that it has no withdrawal time for racing as it is a natural product, if used on its own, and the horse is not on any concurrent medication.

If you have any further questions, please do not hesitate to contact the practice,
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