



ARTHRITIS AND OSTEOARTHRITIS

New hope

Usually incurable and frequently the end of athletic life: arthritis and osteoarthritis are also today still the scourge for many horses and their owners. A new treatment, a dual chamber syringe with two different kinds of hyaluronic acid, promises relief. It is presented by the horse specialist, veterinarian Dr. Rüdiger Brems.

EACH OSTEOARTHRITIS starts out with arthritis, an inflammation of the joint. "The joint can be so strongly damaged by the inflammation that degenerative changes in the joint occur, meaning they are due to wear, which can then also be illustrated with radiological methods. Now we speak of osteoarthritis," says Dr. Rüdiger Brems, director of the horse hospital Pferdeklinik Wolfesing. There is a variety of causes: pathological load stress to the extremities due to congenital or secondary malalignment or traumata like, for example, strain or contusions by misstepping, falls or slipping of the horse. "Here, the sensitive synovial membrane, which lines the inside of the joint cavity, and sometimes even the cartilage itself may be damaged and thus, an osteoarthritis may be triggered."

The body now responds to the tissue damage with an inflammatory reaction. This leads to articular effusion by an increase in the amount of joint fluid. The composition of the synovial fluid changes hereby automatically. In the process, the content in hyaluronic acid also decreases significantly. This reduces the ability of the joint to glide, i.e. the joint is not any longer lubricated correctly.

Besides, inflammatory products and enzymes in the joint are generated that attack the cartilage directly and cause additional damage.

By a simple means of examination, the veterinarian can determine if the synovial fluid is of good quality. For this, he puts a drop of the synovial fluid taken from the joint on the thumb and then touches it with the index finger. Normally, an approximately 2.5 to 5 cm long thread is formed then before it tears. The shorter the thread length, the more viscous the synovial fluid. The joint is then not optimally lubricated anymore.

"Naturally, you can also determine the exact composition of the joint fluid with laboratory tests. In particular, it is possible to detect with this if it contains cartilage or even bone cells, which would already indicate a more advanced state of the disease," so Dr. Brems. As therapy, the inflammation in the joint must be alleviated first. There are various substances with which this can be accomplished very well. "For example, you can get a grip on the inflammation with cortisone, but in order to regain the lubricating properties of the joint liquid, hyaluronic acid is clearly better," says Dr. Brems. Cortisone is debated; it is said to have an unfavourable effect on cartilage cells.

With a new method already tested in human medicine but relatively new in equine medicine, the consequences of arthritis can also successfully be alleviated in horses with the so-called dual chamber syringe DualVis, a combination of two different kinds of hyaluronic acid, which are administered in a single injection. In a study in the so-called double-blind design, which included placebos according to the principle of chance (randomised), the patients' sensation of pain during motion and at rest was tested after 16, 52 and 104 weeks, meaning up to two years later. Here, all patients were treated without cortisone and without analgesics¹, in order to ensure unadulterated results. The sensation of pain before the first injection was at the same level for all patients before the first injection, during motion as well as at rest. The dual chamber syringe contains a low-molecular weight hyaluronic acid in the first chamber and a high-molecular weight hyaluronic acid in the second chamber. The low-molecular weight, thinner substance puts a thin film over the interior skin of the joint and fights the inflammation, since otherwise the hyaluronic acid injected into the joint is very rapidly degraded by the inflammatory substances in the joint and might therefore not work sufficiently. The high-molecular weight hyaluronic acid has the structure of tiny ball that are pressed into the joint cartilage, aided by the weight of the horse. Thus, the therapeutic agent cannot escape from the intra-articular space. A gel-like shock absorber develops that widens and pads the intra-articular space, improves the ability of the joint to glide and buffers shocks more effectively.

Significant improvement

In the study mentioned, the superior effect of the dual chamber syringe became more and more obvious already with the second injection after one week, and continued until 104 weeks later. Patients who received the dual chamber syringe felt clearly better.

The new therapy is significantly superior to the all other tested substances. Less pain also means less inflammation, which in turn means for the patient -also the four-legged one- a better ability to withstand stress and improved quality of life. However, osteoarthritis, meaning the consequence of arthritis, is not curable even nowadays. Usually, cartilage once lost cannot be rebuilt again. The most recent laboratory results, however, point to the fact that the cartilage abrasion nearly ceases to progress after treatment with DualVis. That means that for example with young horses, for which due to high stress in early years future joint changes are to be feared, these changes might possibly be prevented.

Schneller mit Jet Lag

BEI REISENDEN MENSCHEN IST DAS JET LAG, also die Zeitverschiebung nach längeren Flügen in andere Zeitzonen der Erde, eine beliebte Entschuldigung, wenn die Leistung zu wünschen übrig lässt. Und auch bei Pferden wird immer wieder gefragt, wie sie es wohl wegstecken, wenn sich der gewohnte Tag/Nacht-Rhythmus plötzlich bei i_{er}n_{em}kurze Zeit später Höchstleistungen

Wettkampf bringen sollen. Die Antwort: Besser als gedacht. Britische Forscher haben herausgefunden, dass Rennpferde nach längeren Flügen sogar länger schnell galoppieren als in heimatlichen Gefilden, rund 25 Sekunden, bevor sie ermüden. Rund 140 Pferde nahmen an der Studie teil. Ihr Tag/Nacht-Rhythmus wurde künstlich verändert, die Pferde ständig kontrolliert. Ihr Organismus passte

sich praktisch sofort den veränderten Gegebenheiten ö⁽ an. Dabei wurden Hormo-

ne freigesetzt, die die sportliche Leistung beflügeln. Dr. Domingo Tortonese von der Universität Bristol, der die Studie leitete, erklärte, man habe einen Leistungsabfall erwartet, wenn der biologische 24-Stunden-Rhythmus unterbrochen würde, aber das Gegenteil sei eingetreten. Der Effekt hält etwa 14 Tage an, dann geht das Leistungsvermögen auf den alten Stand zurück.



Within the scope of the broadcast "Neues aus der Medizin" (news from medicine), the TV channel "Das Vierte" is dedicated to equine health once a month. The next broadcast presents a novel method of treating arthritis and osteoarthritis. Expert Dr. Rüdiger Brems (right side) of the horse hospital Pferdeklinik Wolfesing will answer any questions you may have.

Das Vierte: Neues aus der Medizin, 30 September at 19 o'clock.

