

MODULATING *inflammation*



by Domenico Bergero & Cynthia Préfontaine ■ photos by TuttoArabi Archive

***A**s for sportsmen, the risk of small or serious accidents linked with the physical activity in sport horses is always present. If we add the fact that the pace and quality of competitions is constantly increasing (at least in a brilliant career such as that every owner hopes for, when buying a horse), the picture becomes even more complex, due to*

the short time allowed between two competitions, often both important.

For this reason, breeders often look for help that can reduce healing times or ensure that the problem is definitely solved. Men have discovered that animals have their own way of healing their wounds through a process called inflammation. This process can be guided, en-



couraged or reduced, depending on needs and how much one is ready to risk or invest.

Inflammation

The “inflammatory process” consists in a series of effects caused by a problem that puts the body as a whole or one of its components at risk. Inflammation – either local or general – is the response by an organism to a series of diverse events: the attack by bacteria or viruses, a direct trauma (e.g. a bruise on a leg), a sprain or even a metabolic problem.

Inflammation is so well known and widespread that we all name it unconsciously almost every day.

In order to indicate an inflammation of an organ or an apparatus, the suffix *-itis* is added to the name of the noun itself, when the inflammation is “acute” (i.e. intense and of a short duration) or the other suffix *-osis* in cases requiring a longer time to be resolved (the so-called “chronic” inflammatory processes). Hence the origin of words such as *pharyngitis*, *sinusitis*, *cystitis* on the one hand, and *arthritis* and *epatitis* on the other.

The inflammation is therefore a process that guarantees the healing, i.e. the reparation of the damage suffered by an organ, a body area, a tissue or the whole body. This process is very complex with many components, local or general, coming into play. The process is directly controlled by the neurohumoral system and consists in the emission and recognition of a series of substances called “mediators of inflammation”, which can activate or stop the process.

Classical medics recognized the inflammation from four signs that, in turn, can be called classical: *rubor*, *calor*, *tumor*, *dolor*, i.e. heat, pain, redness and swelling. These symptoms can be present at the same time, or one or two may be missing. In some rare cases, only one of these signs can be detected. For example, the heat is difficult to detect on horses with pigmented skin.

This process, which in itself is positive, can generate also serious problems. There are cases in which the inflammation continues and goes beyond the benefits achievable, so here is another case in which an external intervention can be meaningful.

Inflammation and medicine

Many remedies, including ancient ones, the use of mysterious herbs and more or less miraculous powders have the effect of modulating the inflammatory process, plying it to the needs of that moment or of the particular subject. For example, applying cold water on an inflamed area reduces the flow of blood, hence of the inflammation. Hot water has the opposite effect. A compress of various types of clay has often an anti-inflammatory effect, whereas some tinctures, such as iodine-based ones, usually arouse it again.

In modern medicine there are procedures and drugs that can stop the inflammation – called anti-inflammatory drugs – and others that can arouse it again – and in this case the name varies, depending on the intensity of the effect obtained. Also, anti-inflammatories can be distinguished as having local use or a general effect.

When to disinflate and when to inflame

Generally, acute inflammation has very clear symptoms: the inflamed area is not used and the functionality of the part is compromised. It is, after all, a deliberate effect, so that the damaged area (e.g. a joint, a tendon or a ligament) is not strained any further. In this case, the tendency is to decrease the intensity of the process.

Conversely, when an inflammation does not yield the desired effect (e.g. if a joint does not regain the functionality we were hoping for), the best results are sometimes obtained by restarting the process.

General anti-inflammatory drugs

When an inflamed organ or body part cannot be directly attacked, we can opt for drugs that are general anti-inflammatories because they prevent the mediators of the inflammation from activating.

These general anti-inflammatory drugs are often ancient (*aspirine*, the most widely known, is the direct descendent of the willow bark; when boiled, it produced its effect on our ancestors), sometimes recent (the notorious *cortison*, the dreaded *phenylbutazone*) or very recent. Generally, anti-inflammatories are classified as steroidal (*cortison* and derivatives) and non-steroidal (NSAIDs). Most of these anti-inflammatories are considered performance-enhancing drugs for the sports horse.

In order to solve this problem, more ancient remedies have come back into fashion, based on the use of herbs or herbal extracts, perhaps less effective but usually safe from a doping point of view.

Another drawback of using anti-inflammatory drugs for longer periods is their impact on the body: *phenylbutazone*, for example, damages the liver, *cortison* the suprarenal gland.

Therefore general anti-inflammatories must be used sparingly, and always under direct veterinarian control.

Local anti-inflammatory drugs

When possible, it is very convenient to use local anti-inflammatory drugs. In this case, ointments based on anti-inflammatories which can be used also as a general remedy will give very visible effects without the above-mentioned side effects. Many herb-based tinctures can also help.

There is also a non-drug approach to the local treatment of inflammations: antiphlogistic ointments have this effect and are often made of special clays: *kaolinite*, *zeolite*





and so on. Ancient though they may be, some solutions such as those based on lead acetate have never lost their anti-inflammatory effect. Finally, a local anti-inflammatory effect can also be obtained from the application of some medical lasers, magnetic fields and other types of fields.

Cold therapy is also worth mentioning here, low temperatures being the main natural anti-inflammatory. Think about footballers who, when they are taken out of the field in a stretcher, keep a bag of ice on the wounded (i.e. inflamed) area.

Cold water (a 15-minute shower, to be repeated several times a day) or ice (apply for just 5 minutes several times a day, so as to avoid undesired side effects) are other useful weapons against acute inflammations. The advantage is that they are not considered performance-enhancing drugs nor do they have undesired side effects.

Re-arousing the inflammation

This can be done through the use of chemical or physical methods.

With regards to the former, the intensity of the inflammation is obtained using substances with an action that increases overtime: rubefacients (when applied locally, they produce redness of the skin), vesicants (also called blister agent). The intensity of the effect, regardless of

the type of substance used, depends on the time and the mode of application (for example, if the substance is only applied and left to act or it is vigorously rubbed in on the part to be treated).

As for physical methods, reference is usually made to the application of heat, ordinarily according to severe methods which go as far as the application of red-hot irons. This practice used to be very common in the past, but nowadays it has fallen into disuse.

Should nature run its course?

The doubt arises that when a joint is inflamed, the best thing to do would be to allow nature to run its course, to respect the times imposed by natural healing. Admittedly, this practice that appears to make sense, conflicts with two main issues: the need to "hurry up" mentioned above and not to miss too many appointments during a season or a career. On the other hand, there is a lack of guarantee: it is not certain that an inflammation will result in a complete recovery of functionality as desired. Therefore, it is necessary to modulate the inflammation, also to ensure the well-being of the horse. Obviously we do not want to replace nature, but just give it a hand in the performance of its tasks. A laudable compromise. □