

Horse Trails and Tales

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Equine Insulin Resistance – 10 years experience

February of 2011 marked my 10 year anniversary with the Equine Cushing's and Insulin Resistance group on Yahoo. The group had been in existence for a year, was small and had posted 1500 messages in that year. Currently, we are just short of 10,000 members and have close to 156,000 messages archived as of today, June 13, 2011.

Sporadic studies linking insulin resistance to laminitis date back to 1975, but they did not make it into mainstream veterinary school curriculum. In 2000, I did a field trial of magnesium for cresty, laminitic horses based on an old English treatment of epsom salts for laminitis. When it had positive effects (horses in the Northeast), it didn't take long for a literature search to turn up the link between magnesium deficiency and insulin resistance in people. That field trial was published in 2001 and shortly after I joined the group.

Around this time, Dr. Phillip Johnson had been speaking about an "equine metabolic syndrome" characterized by insulin resistance and laminitis, proposed to be caused by overproduction of cortisol at the tissue level. Cortisol overproduction as the cause was never substantiated but the idea that horses could have insulin

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Easy Tips

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- Insulin resistance is controlled by diet.
- Low sugar, starch feeds are best, especially if less than 10% .
- Balancing the diet is important, not just providing the minimum amounts of minerals.
- Exercise is important to control insulin resistance. However, if your horse is laminitic, it's important that not to force exercise.
- More information is available at www.ecirhorse.com

resistance independent of Cushing's Disease, and that this caused laminitis, initially met with quite a bit of resistance from veterinarians.

Today, the existence of IR and its link to laminitis is widely accepted thanks to some key studies such as the Virginia Polytechnic field study with ponies documenting IR in laminitis prone animals, and studies showing otherwise normal ponies and full size horses can be made laminitic by artificially infusing high levels of insulin.

In those ten years while the debates were raging, the ECIR group was focusing on the in the trenches problems of horses and their owners. The information exchange was, and still is, an example of the potential of the internet at its best. See www.ecirhorse.com. Among the breakthrough advances that can be traced to this group include:

- Laminitis is the most common symptom of IR, not obesity
- Starvation diets don't work
- The simple glucose:insulin ratio test works as well in horses as in people
- Hay analysis to guarantee intake of sugar and starch is below 10%, with mineral balancing depending on the levels in the analysis, is an effective way to control IR

and laminitis risk

- Development of an "emergency diet" protocol which owners can institute before they can get their hay analyzed
- Intake of simple sugar and starch is the culprit in pasture laminitis, not fructans
- Soaking of hay can considerably reduce the sugar level
- The seasonal rise in ACTH in the late summer/fall can trigger laminitis
- Winter laminitis is cold triggered and can be ameliorated by blanketing, leg wraps, adaptogens and agents to improve circulation
- Use of Jiaogulan for chronic laminitis pain
- Acetyl-L-carnitine for neuropathic pain in chronic laminitis, and to assist in insulin sensitivity

Ten years ago, even more recently in some circles, before the connection between insulin resistance and laminitis was understood, chronic laminitis was a death sentence for at least 50% of the horses. Today, we just keep getting better and better. There is truly a lot to celebrate at the No Laminitis Conference.

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No Laminitis! Conference

August 5-7, 2011

Syracuse, NY

<http://www.nolaminitis.org/>

Featured speakers:

Eleanor Kellon, VMD

Robert Bowker, VMD, PhD