

EMS Case Presentation

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“Andie” -- a 12 year old Andalusian gelding used for low-level dressage. I had noticed Andie packing on the pounds over the last year. During our routine preventative medicine appointments, the owner and I discussed diet modification and increasing exercise to get him to lose weight. The owner was unable to change the diet (mostly alfalfa with some oat hay) and unable to increase his exercise due to family obligations. Soon after, Andie presented to me on emergency one afternoon for acute lameness in both front legs. After careful manipulation and diagnostic work-up, Andie was diagnosed with laminitis. The very painful disease progressed despite intensive medical therapy and Andie had to be humanely euthanized due to ongoing suffering and a poor prognosis for a good quality of life.

“Six of Diamonds” – a 13 year old Morgan x Quarter Horse mare used for trail riding. According to the owner, Six has always been chunky. Six is pastured with two other horses and is the dominant mare. She is fed a mixture of alfalfa and grass hay. After discussing diet modifications and a regular exercise protocol, the owner decided to separate Six from the other horses during feeding times and feed her an all grass hay diet. After feeding time, Six is returned to the pasture mates so she will free exercise during the day. In addition, the owner pledged to ride the mare 3-4 times per week. In six months, the mare was nearing her ideal body weight and the owner reported the mare had lots of energy on the trail since losing the excess weight.

Both Andie and Six are classic examples of horses with Equine Metabolic Syndrome (EMS). Another name for this disease is insulin resistance (IR). Horses with EMS tend to be middle aged (10-15 years old). The term “easy keeper” tends to be given to them, since they appear to not require much food to maintain or even gain weight. EMS is seen in Morgans, ponies, Saddlebreds, Warmbloods, Andalusians, Mustangs, Peruvian Pasos, and Paso Finos more than other breeds. They typically are obese with abnormal fat deposition in the crest of the neck, over the thorax, and around the tail head. It is thought that EMS results from excess production of cortisol primarily in fat cells, or adipose tissue. Unfortunately, many horses, such as Andie, develop laminitis before the diagnosis of EMS is made, making controlling the EMS difficult. We are unsure why horses with EMS are prone to laminitis. The mechanism is probably similar to horses with Equine Cushing’s Disease (ECD), another disease where laminitis is a common sequela.

Diagnosis of EMS include evaluating the body condition score (BCS) of the horse and evaluating bloodwork changes including insulin and glucose. Because ECD can present similarly, it is important to also evaluate blood cortisol, ideally through a dexamethasone suppression test or a diurnal rhythm test. Also, it is a good idea to take radiographs of the front hooves to document changes in the coffin bone that may indicate ongoing or chronic laminitis.

Management of EMS horses can be a challenge. As noted in Andie’s case, the owner was not able to make management changes early on that could have lessened the likelihood of developing

life-threatening laminitis. The example of Six should give owners hope that with hard work, EMS can be managed successfully.

Dietary changes are the hallmark of managing EMS. Eliminating the intake of simple sugars including treats, carrots, apples, and molasses are a must for EMS horses. Feeding a low-calorie hay such as grass hay (orchard or timothy) encourages weight loss by reducing caloric intake. Sometimes, we recommend soaking the hay to reduce the sugars in the hay even more. EMS horses should not be fed grain. If a pelleted diet is needed (for a vehicle to get medications in the horse), then a forage-based feed can be used to supplement the hay diet. There are a few supplements that have some merit in treating horses with EMS. Chromium and magnesium may help insulin regulation and a thyroid supplement may encourage weight loss by increasing the horse's metabolism.

Regular exercise cannot be overlooked in horses with EMS. Don't assume the horse is self-exercising in a pasture or turnout. Unfortunately, EMS horses that have developed acute laminitis cannot exercise, so dietary management is of utmost importance in those horses.

EMS can be a very frustrating disease. Management is usually successful if the disease is caught early. If you think your horse fits the description of an EMS horse, please contact us for an appointment.