FIRST EQUINE
VETERINARY SERVICES

PPID vs EMS

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Pituitary Pars Intermedia Dysfunction (PPID, formerly known as Cushings) and Equine Metabolic Syndrome (EMS) are both very common endocrine disorders found in the horse. These two diseases have some commonalities but are distinct in many ways. Recent research has shed light on the pathophysiology and appropriate testing for these diseases. With an accurate diagnosis, more horses are being treated appropriately, improving their quality of life.

PPID is the most common endocrine disease diagnosed in the horse. Up to 30% of geriatric horses will be diagnosed with PPID, with an average age of onset at 19 years old. This disease is caused by an over active intermediate lobe of the pituitary gland caused from a lack of inhibition by dopamine, leading to excess production of a hormone called ACTH. As a result, this causes the adrenal glands to produce too much endogenous steroid (cortisol). The convoluted pathway leads to the clinical signs that most owners report including: lack of shedding, poor sweating, pot belly appearance, regional adiposity, recurrent infections, laminitis, and lethargy. Your veterinarian will typically test for PPID with either an ACTH baseline or a Thyrotropin Releasing Hormone (TRH) stimulation test. Once confirmed, PPID horses can be started on a medication called Pergolide, which has been shown to improve clinical signs in 60% of horses treated.

EMS is defined as a combination of metabolic derangements such as insulin resistance, history of laminitis, and overweight horses. Insulin resistance results in tissues and organs being unable to uptake glucose, which is necessary for most metabolic functions. The excess weight and extra adipose tissue can lead to a persistent inflammatory state, producing a great deal of oxidative damage. Clinical signs of the EMS horse include: obesity, peripheral fat deposits (cresty neck, fat over tail head and sheath), laminitis, and lethargy. Testing for EMS is done by measuring resting insulin, and in some cases doing a glucose tolerance test. Once diagnosed, the foundation for managing the EMS horse is diet and exercise. Access to lush pasture must be limited with either altered turnout or a grazing muzzle, and starch consumption needs to be managed with specialized feed and hay. If diet and exercise are not enough, medication can be implemented with either levothyroxine (Thyro-L) or metformin, which help speed up the metabolism of the horse and assist with weight loss. Genetics play a large role in the development of EMS with Ponies, Paso Finos, Tennessee Walking Horses, Morgans, and Quarter Horses being most commonly affected.

Endocrine diseases in the horse can be successfully managed with early recognition and treatment. Contact your veterinarian if you suspect your horse has PPID or EMS.