

New Test for Cushing's Disease

Project Title: "The Domperidone Response Test: A Method to Investigate Equine Pituitary Pars Intermedia Dysfunction (Cushing's disease)"

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Results Expected: Late 2007

The Need

"Cushing's disease," equine pituitary pars intermedia dysfunction (PPID), is one of the most common endocrine system problems in horses. Horses with PPID suffer from chronic infections and infertility, and it is found in the majority of horses suffering from unexplained laminitis (founder).

Unfortunately there is no test currently available to identify PPID in its earliest stages, and it's believed that certain treatments could delay PPID's progression if administered earlier. Often, afflicted horses suffer from the effects of PPID while showing no outward evidence of it.

The first clinical signs of PPID are usually laminitis or infertility, but those conditions appear well before current testing methods can positively identify the disease. Current testing methods are also subject to giving false positive and false negative results.

The Goal

This study hopes to devise a response test using the drug domperidone (Equi-Tox, Inc.'s Equidone®) to identify horses with PPID earlier and more accurately than any existing testing methods.

PPID is caused by a problem with the part of the pituitary gland that regulates corticosteroid production. Researchers believe that the drug domperidone could be used to induce horses with PPID to secrete abnormally high amounts of hormones such as adrenocorticotropin and cortisol. Because the pituitary is not functioning correctly, it fails to properly down-regulate blood-level concentrations of those hormones.

Researchers hope to determine an expected hormonal response to specific domperidone dosage levels that would indicate a horse has PPID. Because pituitary function is also affected by the season and hours of daylight, this project will also ensure that the test results are repeatable regardless of the time of year administered.

The Results

Pending