

Equine Cushing's Syndrome

Equine Cushing's Disease (ECD, also called Cushing's Syndrome) is a complex hormonal condition of older horses associated with abnormal function of the pituitary gland in the brain. Enlargement of part of the pituitary gland (the pars intermedia) occurs, which then produces excessive amounts of hormones. The consequent hormonal imbalances affect a number of organs and tissues resulting in a range of clinical abnormalities.



Figure 1: Excessively long, curly coat (hirsutism) caused by failure to shed the hair coat in a horse with Cushing's Disease.

What does Cushing's Disease look like?

The average age of a horse or pony with ECD is 20 years, although horses as young as seven have been affected. The most striking sign is hirsutism, an excessively long and curly hair coat (Figure 1), often with excessive sweating, caused by the hair coat not being shed normally. Whilst this distinctive hair coat is almost diagnostic in itself for ECD, it is often only present in long-standing cases. This 'woolly mammoth' appearance may have been preceded by several years of delayed shedding of the winter hair coat. Horses and ponies with ECD also often suffer from acute or recurrent attacks of laminitis and this is often one of the reasons why owners initially seek a diagnosis. Hormonal imbalances also cause many affected horses to drink excessive amounts of water and, consequently, produce large volumes of dilute urine. Other signs an owner may notice are lethargy, weight loss or an inability to maintain muscle while accumulating fat, especially on the crest, around the eye (Figure 2) and on top of the rump. Additionally some horses develop liver disease and suppression of their immune system such that they get recurrent infections like sinusitis or dental infections.

How is Cushing's Disease diagnosed?

Aged horses or ponies with hirsutism, a history of laminitis and/or excessive drinking are highly likely to have ECD and therefore further diagnostic tests may not be performed. In less obvious cases, especially in younger horses that are developing the condition, the diagnosis can be confirmed by a blood test. 'Classical' cases usually have high blood and urine glucose levels and changes of their white blood cell counts. Whilst these can be easily measured by your veterinary surgeon, these findings are supportive of a diagnosis rather than being specific for ECD.

For a specific diagnosis, the best test currently available is measurement of the hormone adrenocorticotrophin hormone (ACTH). This hormone is not very stable and therefore samples must travel on ice to a referral laboratory for measurement. This test is approximately 90% accurate for a correct diagnosis of ECD. Interpretation of results must take into account the season during which the hormone is measured, as recent research has found that levels of ACTH vary with season. In the autumn (August to October) pituitary activity increases far more in horses with ECD than in normal horses and therefore this is the optimal time of year to test for ECD.



Figure 2: Excessive accumulation of fat around the eye in a pony with Cushing's Disease.



Treatment of Cushing's Disease

Any treatment must include attention to all aspects of the animal's condition. Affected horses are more susceptible to parasites and infection so regular worming, vaccination and teeth care should be performed. Horses with excessively long coats may sweat excessively and may require clipping to keep them comfortable and to prevent skin infections from build-up of sweat and bacteria in the coat.

There is now also a licensed prescription only medication for treatment of ECD called pergolide mesylate. Treatment with pergolide tends to be very effective in most horses with ECD but it must be continued for the life of the horse or pony. Cases treated with this drug must be regularly monitored with regard to their clinical signs and by repeated measurement of ACTH in order to correctly determine the dose required.

Conclusion

ECD is a common, debilitating disease of older horses caused by enlargement of part of the pituitary gland and excessive production of hormones. Common clinical signs are a long, hairy coat, laminitis and increased urination. However, we are now able to recognise and treat cases earlier and more effectively and many treated horses and ponies go on to live normal lives for many years after diagnosis and treatment.

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