



LIPHOOK
EQUINE HOSPITAL

Equine Cushing's Disease

Pituitary Pars Intermedia Dysfunction (PPID) is the correct term for the disease commonly known as equine Cushing's disease. The latter term is technically incorrect because it is now known that the disease is different from human Cushing's disease.



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Equine Cushing's Disease

Equine Cushing's Disease is a condition of older horses and typically develops in horses over 15 years of age, although it can develop in younger animals. Up to 30% of aged horses have the condition and the risk of developing the disease increases directly with age such that most horses in their late 20's and 30's will have the condition. The disease tends to be seen more commonly in ponies but this may be because ponies tend to live longer rather than because ponies are at greater risk of the disease.

What can cause PPID?

The condition is due to over-activity of one part of the pituitary gland resulting in the excessive release of certain metabolically active proteins and hormones. The pituitary gland is located beneath the brain and releases its products in response to signals from nerves that originate in another area of the brain. Damage to these nerves causes the pituitary to enlarge and produce excessive quantities of substances including hormones, such as adrenocorticotropic hormone (ACTH). The disease progresses gradually as the nerves to the pituitary slowly degenerate. It is unknown how the increases in pituitary hormones result in many of the clinical signs that are seen.

Clinical Signs

Laminitis is the most serious complication of PPID and is associated with considerable suffering and potentially euthanasia. In the UK the majority of cases of laminitis are caused by either Equine Metabolic Syndrome (EMS) or PPID.

Hirsutism is the term for "excessive hair growth" or abnormal retention of the hair coat in the summer and PPID is the only condition that causes this abnormality (as shown in the photo on the title page). The presence of an abnormally long hair coat in an older horse is very strong evidence of PPID.

Abnormal fat deposition and insulin resistance may develop in up to 60% of horses with PPID. A common site of increased fat deposition is around the eyes. The implications of insulin resistance are discussed in our other information sheet titled EMS.

Increased drinking and urination may occur in up to a third of horses with PPID; the reasons for this are unknown. There are many other causes of increased drinking and urination but in an older horse observation of these signs should prompt investigation of equine Cushing's disease.

Increased sweating may be seen even in horses that don't have an excessively long hair coat.

Lethargy, or a more docile temperament, may be observed and usually resolves with treatment.

Seizures, weakness, blindness and collapse are seen rarely in advanced cases and are thought to be the result of the enlarged pituitary gland putting pressure on other areas of the brain.



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Infertility may occur in mares as a result of altered hormone production.

Infectious disease occurs more commonly in horses with PPID because some of the hormones released with the condition suppress the immune system. Common infections include ringworm, sinus infection, pneumonia, and foot abscesses. Horses with PPID are also more likely to have infections without showing clinical signs and have been shown to be more susceptible to parasites.

If a horse shows some of the “typical” PPID clinical signs a vet may be able to make a presumptive diagnosis based on the case’s history and a clinical examination. However, a **blood test** is often used to reach a definite diagnosis to assess an increased level of ACTH.

Treatment

Fortunately effective treatment for PPID is available in the form of **pergolide** (Prascend) and this drug has been licensed specifically for horses recently. Pergolide stimulates receptors in the brain and thereby replaces the activity of the damaged nerve supply to the pituitary gland. This results in reduction of hormone production to normal levels. The dose range is wide so the improvement in clinical signs and ACTH levels is often used to determine the best dose rate for each horse.

Pergolide is considered a safe drug. The most common side effect is reversible loss of appetite when treatment is started. This often resolves when pergolide is stopped and then re-started at a lower dose, before being increased more gradually until the ACTH level is within the normal range.

A number of natural remedies have been suggested as treatments for PPID but none have been proven to be effective. Only one, a chasteberry (*Vitex agnus castus*) extract, has been tested in a controlled manner and it failed to resolve clinical signs or improve diagnostic test results in 14 horses. Subsequent treatment of the same horses with pergolide was effective in all but one case.



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Horses with PPID require extra attention to be paid to parasite control, dental and hoof care. Those with dental disease may benefit from cubed diets that are designed for older animals and are easy to chew. Horses with excessive hair coat benefit from regular clipping. Many horses with PPID develop insulin resistance and this may need to be managed in much the same way as it is for EMS (see the specific recommendations in the EMS client leaflet).

Disease Control and Prevention

PPID is a natural degenerative condition and therefore there is nothing that can be done to prevent it. Early treatment with pergolide may slow the progression of the disease, but again this is unproven.

With good management there is no reason why horses with PPID cannot **live a long and normal life** and continue in normal work.



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