LOWER AIRWAY DISEASE

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Signs of lung disease need to be spotted early and treated, as even sub-clinical (unsuspected) disease can negatively affect your horse’s performance and well-being. In this article I will discuss lower airway (lung) disease: the diagnostic, management and treatment options that are available to us.

The two common lower airway diseases we encounter are:

1. Recurrent Airway Obstruction (RAO) – Also known as “heaves” and previously called COPD. RAO is a reversible condition with a number of possible triggers, commonly inhalation of microscopic dust, moulds or pollens which set up a hypersensitivity response in the lungs resulting in mucous accumulation, bronchospasm (narrowing of small airways), inflammation and airway remodelling (thickening). This is a disease of adult horses of which cobs and thoroughbreds seem to be predisposed. Signs include some or all of the following: increased respiratory effort, coughing, exercise intolerance and nasal discharge. In advanced or severely affected cases a markedly abnormal breathing pattern occurs with flaring of the nostrils and increased abdominal effort during expiration. RAO that is associated with summer pasture, likely has an inhaled pollens trigger and can produce dramatic respiratory distress requiring immediate attention and treatments (often referred to as rescue).

2. Inflammatory Airway Disease (IAD) – This tends to be a condition that affects horses in full work, particularly racing thoroughbreds. The lungs are repeatedly asked to perform at high intensity and inflammation can result. These horses often appear normal or give the occasional cough - therefore diagnosis is made during routine endoscopy or scoping of the airways after exercise when a sample of fluid is collected from the airway, is tracheal wash or bronchoalveolar lavage (BAL). Research has strongly linked this condition to reduced performance in racing thoroughbreds, standard-breds and a decreased willingness to perform in showjumpers and dressage horses.

In addition, Exercise Induced Pulmonary Haemorrhage (EIPH) can be seen in horses during high intensity exercise, this merits a different discussion and management approach to the main culprits of RAO or IAD.

Diagnostics

Often a diagnosis can be made from the history and clinical signs after careful examination, but endoscopy is common and allows visualisation of the airways to detect and grade the levels of mucous accumulation or blood in the airways. During endoscopy a respiratory sample may be collected and then examined at the laboratory for changes in the cells obtained. This will give a diagnosis and a guide to the severity of the disease.

Environmental Controls

Controlling the reduction of environmental dust is imperative - especially for RAO - however, improving air hygiene will benefit all horses that suffer with airway disease. Changing the bedding to wood shavings, paper or cardboard will reduce dust, although regular removal of wet bedding is necessary to avoid mould accumulation. Alternatively, maintaining the horse permanently at pasture is an option.

Forage is the other main source of organic dust, especially old hay bales. Inspect old hay bales and if mouldy or very dusty discard them. Soaking hay will limit exposure to dust and is often recommended. Alternatively to hay include haylage, chopped dry forage and alfalfa.

Remember, it is also necessary to make similar environmental changes to all neighbouring stables and ensure good ventilation to facilitate removal of airborne dust.

Drug Therapy

Inflammation is common to all forms of lower airway disease, and limiting this is key to our treatment regime. Corticosteroids given by injection in or feed will reduce airway inflammation and improve airway function. In combination with environmental changes then this can be an effective treatment. If corticosteroids need administered over a prolonged period, then inhalation via a nebuliser has been shown to be as effective. These devices are expensive to purchase but can be a worthwhile investment.

Bronchodilator Therapy

Bronchospasm is a feature of RAO and IAD, therefore bronchodilators such as Clenbuterol (Ventipulmin) can be administered - and are especially important for use in “rescue” situations when the animal is in severe respiratory distress. Long term Ventipulmin use without addressing inflammation and environmental triggers is not recommended. We often use bronchodilators via a nebuliser or aerosol leading to reduction of bronchospasm, but also allowing greater delivery of corticosteroids (anti-inflammatory) to the lungs.

Others

Prevention of mucus accumulation using acetylsalicylic or potassium iodide are commonly used and anecdotal is very useful - although evidence of clinical improvement is weak. Likewise, use of herbal supplementations, acupuncture and fatty acids gave no improvement in clinical signs in horses with RAO.

Summary

The lungs are a huge organ in the horse and even minor levels of inflammation or disease can be troublesome. An accurate diagnosis followed by a targeted approach to controlling the horse’s environment and treatment of the inflammation is required. Inhaled treatments are a useful addition, especially for longer term management of troublesome cases.

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