



The Liphook Equine Hospital

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) or RECURRENT AIRWAY OBSTRUCTION (RAO).

COPD is a relatively common cause of coughing and nasal discharge in stabled horses. A more appropriate name for the condition which is becoming used more frequently is "recurrent airway obstruction" (RAO). In long standing cases the horse may have difficulty in breathing and its chest and abdomen can be easily seen to move, hence the old name 'heaves'.

What is COPD ?

COPD is a disease of the smaller airways (bronchioles and alveoli) in the lungs caused by an allergy to small dust particles and spores which are inhaled by the horse when he breaths. Fungal spores and/or pollen dust are most important in terms of allergic 'trigger' factors. The allergic reaction in the airways results in the production of fluid and thickening and spasm of the walls of the small airways of the lungs, causing their obstruction. This means that the horse has to make an increased effort to breath and he develops a cough to clear trapped mucus. The pathology which occurs in the horse's lungs is usually reversible except in very severe cases. Affected horses will usually react to dusts throughout their entire life - hence the condition cannot be 'cured' but the progress of the disease can be halted and the horse can be helped to accommodate to it.

What are the symptoms of COPD?

In early cases, the only clinical sign may be poor exercise tolerance, a slight nasal discharge or dry cough which may go unnoticed. If untreated, the horse may start to find faster work more difficult. The cough will become more noticeable. As the disease progresses, the horse will cough with only slight exercise. In severe cases, the horse will have difficulty breathing even at rest, causing increased respiratory rate and effort. In very long standing cases, the horse has to make a double effort to breath out, using both the chest and abdominal muscles, developing a noticeable 'heave line'. These horses used to be called 'broken winded'.

Symptoms often progress slowly with age. In some horses, however, acute attacks of respiratory distress accompany a repeated exposure to dust or pollens. This means that the condition may be seasonal (especially when associated with crops such as oil seed rape) or associated with stabling or feeding conditions. Summertime associated problems are becoming very frequent nowadays.

What causes COPD to develop and how is it diagnosed?

For a horse to show signs of COPD, he must have developed an allergy to inhaled dust, spores or pollen. A horse may be allergic to pollen but not spores or visa versa. Fungal spores are present in hay and straw, mouldy bedding or feed, and other organic material. Pollens are found just about everywhere but levels in the air fluctuate greatly with season, location and weather conditions. As with human hay fever, the higher the pollen count in the air, the

worse the condition becomes. Air quality in stables is therefore important for continuing equine health.

The diagnosis of COPD is based on history, management conditions and clinical signs. Endoscopy ('scoping') and the collection of samples for microscopic examinations (tracheal washes and bronchoalveolar lavages, or BALs) helps to distinguish between COPD and other causes of chronic cough such as infection. Infection may, of course, be a secondary complication of COPD and also COPD may apparently be triggered by infections such as viruses.

What treatments are available?

It is important to remember that COPD is an allergic problem. The fundamental basis to treating allergies is clearly to avoid contact with the trigger factor(s). Many early stage cases respond well simply to changes in management which remove the cause of the allergy. Horses with COPD should be kept on 'dust-free' management, designed to keep environmental dust and spore levels as low as possible. Bedding should be paper, shavings or other non-organic material and should be kept scrupulously clean. Hay should be soaked for at least 30 minutes before being fed or preferably haylage should be used. 'Dry' feed should be fed dampened to reduce dust. Horses should be stabled away from other horses bedded on straw and away from hay and straw stores, muck heaps and other sites where dust and moulds may be produced. The need for good air quality and efficient ventilation cannot be over emphasised. Horses affected out of doors by pollens should be moved from high pollen areas until the season has passed. Clearly summertime pollen associated allergies are far more problematic to control as avoidance of the cause may often be impossible.

More severe or long standing cases often require medication. Medicines which dilate the airways (bronchodilators) such as clenbuterol may be given or corticosteroids can be used to reduce the allergic reaction.

These medicines may be given by mouth, by injection or by inhalation. The advantage of inhalation therapy is that the medication is delivered straight to the lungs so the effect can be quicker and lower dosages of medicine may be used. Many cases require long term treatment (especially summertime problems).

Best Advice

Good management is the key to owning a horse with COPD. Maintaining a clean, dust-free, well-ventilated environment, correct storage and maintenance of feeds and bedding and the use of hypoallergenic bedding materials all help reduce the incidence and the severity of this chronically-incapacitating condition.