Chronic Obstructive Pulmonary Disease (COPD)

COPD is a relatively common cause of coughing and nasal discharge in stabled horses. 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 breathes. 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 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, except perhaps in the very early stages, is not reversible and so it is important to understand that this is a progressive condition. It 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 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 are often mild for years and only 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.

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 vice 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 spore 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.
What treatments are available?
Many early stage cases respond 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 before being fed or 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.

More severe or long standing cases often require medication. Medicines which dilate the airways (bronchodilators) such as clenbuterol or cromoglycate 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 using a nebulizer. The advantage of a nebulizer (which looks like a face mask) is that the medication is delivered straight to the lungs so the effect is quicker and lower dosages of medicine may be used. Many cases require long term treatment. Desensitisation treatment is successful in some cases although it can be difficult to know exactly what agent a horse is allergic to. Only a few specialised clinics offer this service and results appear better with some horses than others.

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.

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