

Haskell County Animal Hospital

Animal Health Update

Bill Hessman DVM
P. O. Box 876
Sublette, Ks. 67877
620-675-8180

Atypical Interstitial Pneumonia (AIP)

Still a mysterious disease

AIP is not a new cattle disease. It has been recognized for hundreds of years. In the past we have referred to AIP's as Fog Fever, Farmer's Lung, Cow Asthma, Bovine Pulmonary Emphysema, Acute Pulmonary Emphysema and Edema and Allergic Pneumonia.

The cause of feedlot AIP is not known, but it is likely that multiple causes or a combination of conditions may be responsible. There also appears to be a seasonal influence to AIP. Higher incidences of AIP occur during the late summer and fall as compared to other times of the year. There also appears to be a sex predilection as AIP occurs predominately in heifers.

Infectious agents, such as BRSV (bovine respiratory syncytial virus) and some bacterial pathogens have been implicated as possible causes. The Merck Veterinary Manual, which calls the disease Farmer's Lung, says it occurs from allergic reaction from inhaling certain bacteria. Some sources believe rumen acidosis or possibly feeding MGA may be the underlying cause. Other researchers speculate that endotoxins may be a contributing factor involved in AIP. Endotoxins come from certain bacterial infections or via inhalation of airborne feedlot dust. Management factors have also been implicated. Lately, researchers are concentrating on a metabolic by-product from the digestion of the amino acid L-tryptophan called 3-methylindole (3MI). L-tryptophan levels in crops are most likely to be high in lush, rapidly growing forages, particularly in the fall.

Clinical signs of AIP in the feedlot are usually very acute. Many animals are found dead in the pen with no history of illness. AIP is more common in heavier beef cattle and has a higher incidence in heifers. Mild cases often go undetected. A slight increase in heart rate and respiratory rate is all that is seen. Most mild cases recover completely without treatment. Severely affected animals show extensive respiratory distress with mouth breathing, extension of the tongue, and drooling of saliva. A loud expiratory grunt is common, but coughing is unusual.

The course of the acute disease is short with most animals dying in the first 12-24 hours. Many may die in route to the hospital because of the increased demand upon the respiratory system.

Post-mortem lesions are limited to the respiratory tract. The lungs are typically heavy with fluid and do not collapse. There is extensive edema (fluid) in the lungs and varying degrees of emphysema (air trapped in lung tissue).

Treatment programs for AIP are mostly unrewarding. Non-steroidal anti-inflammatories (Banamine), steroids (dexamethasone), antihistamines, and epinephrine have all been used for treating AIP but results are typically poor.

AIP appears to be more complicated than we once believed. At this point I don't think that there is a single cause for this disease. More likely, it is the result of multiple agents (infectious and non-infectious) working together.

Current research by several universities will hopefully shed some light as to the cause and possible therapies or preventative management practices. Until the scientific community unravels this disease it will remain a significant cause of morbidity and mortality in the feedyard industry.

Doc