

Diagnosing a Deadly Bacterial Disease

C*lostridium perfringens* Type A has been implicated in serious and deadly gastrointestinal diseases in both cows and calves. In fact, the problems may be underestimated because necropsies are often not performed.

“This emerging disease is an economic threat to dairy and beef producers, and diagnosing it is a critical step in control and prevention,” says Dan Keil, diagnostic laboratory manager for Novartis Animal Health US Inc.

Clinical signs of calves affected by *C. perfringens* Type A include quick onset of abdominal distension with pain, bloat, depression, feed refusal and sudden death. Postmortem examination will show inflammation of the lining of the rumen and abomasum, with ulceration and hemorrhage.

Research has indicated that *C. perfringens* Type A is associated with hemorrhagic bowel syndrome (HBS) in mature dairy cows. In cases of HBS, or “bloody gut,” the animals are often found dead or dying with no warning signs. Clinical symptoms may include:

- ▶ anorexia;
- ▶ rapid pulse and respiration rate;

- ▶ a severe drop in milk production;
- ▶ black tar-like feces;
- ▶ right ventral abdominal distention due to fluid and feed accumulating in the small intestine; and
- ▶ low-pitched “pings” detected in the lower right abdomen.

“Ultrasound or rectal palpation may be helpful in detection of HBS,” Keil explains. “If your veterinarian is using ultrasound, observations of multiple loops of severely distended bowel, approximately 6 to 10 centimeters in diameter, are seen.”

Accurate diagnosis

To obtain an accurate diagnosis, your veterinarian should submit a field necropsy report along with fresh and fixed tissue samples to a veterinary diagnostic laboratory.

“Samples must be from an animal that died very recently in order for an accurate diagnosis to be made,” Keil says.

C. perfringens Type A is commonly found in the environment as well as in the intestine of normal animals. Furthermore, it can rapidly overgrow in the gut lumen following

death. Therefore, the collection of samples and interpretation of diagnostic results should be done carefully. Isolation of *C. perfringens* Type A should only be considered significant if samples were taken and preserved appropriately from a fresh cadaver with compatible history, clinical signs and lesions.

If *C. perfringens* Type A is the culprit, Keil suggests evaluation and correction of any nutritional and management concerns that may be predisposing cattle to problems. There is now a U.S. Department of Agriculture (USDA) conditionally licensed vaccine — *Clostridium Perfringens* Type A Toxoid — from Novartis Animal Health US Inc. that aids in the control of disease syndromes caused by the alpha toxin of *C. perfringens*.

Contact your veterinarian for more information on preventing these clostridial diseases.



Editorial Note: This article was provided by Novartis Animal Health. For more information, please consult www.livestock.novartis.com.