

But what does it taste like? How to get your clients through a complete scour workup in their herd

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Abstract

Neonatal enteritis in beef calves can be challenging because the timeline for intervention doesn't leave room to delay if successful treatment is to occur. Possessing knowledge of disease, sampling techniques and prevention strategies is imperative if the new graduate hopes to achieve results that helps them move into the role of a trusted herd advisor.

Key words: beef, neonatal, enteritis

Introduction

While years of veterinary school have prepared graduates to identify, diagnose, treat, and prevent enteritis in beef calves, there can be a gap between the new graduate's knowledge and the producer's willingness to utilize that knowledge. A common obstacle to a complete neonatal diarrhea work-up is the lack of desire for diagnostics by the producer. Due to the aggressive nature of the disease in young beef calves, all parties can agree that treatment must be instituted before most diagnostic results could be returned from the lab.⁶ This can cumulate with a well-meaning client standing at the front desk passionately describing the color, consistency, odor, and volume of the feces in hope that the vet can recommend a suitable treatment for them to take home. The appropriate response could be "what does it taste like?" When the producer cannot describe that quality, the vet should seek to find common ground of other diagnostics that could be performed.

Foundational Knowledge

There is a wealth of printed resources describing the various pathogens that cause enteritis in calves as well as the risk factors and diagnostic tests.^{4,7} Veterinarians should have a good grasp on the nuances between the pathogens that cause dehydration and mental depression due to acidosis vs the pathogens that cause depression with septicemia and minimal dehydration.¹ New graduates will also benefit by making a crib note of the most common local agents (both viral and bacterial) and what they would look like in a sick calf. A firm grasp on this foundation knowledge will help to form a differential list at the time of examination or necropsy while lab results are pending.

Getting Invited to the Cattle Yard

Armed with a good list of differential and risk factors, a veterinarian must now employ soft skills such as open-ended questions and work ethic to get a chance to walk the calves and get samples. One notable difference between working up a case of beef calf enteritis vs nursing calf pneumonia is that the insult causing the enteritis is likely still occurring, and can be found through a herd visit. Compare this to calf pneumonia, which may have been triggered by an event (e.g. a roundup to artificially inseminate the cows or to change pastures) that has since passed.⁵ Because of this, there is an advantage to doing sample collection for enteritis in the cattle yard if possible, rather than relying on the producer to bring an affected calf or samples to the office. This does increase the length of the workday, but it can also add valuable insight. When a veterinarian is in the yard for any procedure, he or she should look around for signs of other problems or risk factors that can range from a pile of carcasses, unsanitary conditions, poor body condition, newly purchased animals, swollen navels, or piles of empty electrolyte bags. These are all opportunities for the veterinarian to ask open-ended questions that start with "walk me through your typical day..." The vet should be armed with the knowledge of all the areas that calf rearing can go awry, so those areas can be inspected on arrival.⁴

Getting Samples

Fortunately, once the vet has identified the best candidates for diagnostic samples, preparation involves having a minimal amount of equipment on the vet truck to get the samples. If the current outbreak consists of high morbidity, but low mortality, grabbing multiple fecals in a hard-sided container with a sealable lid is the first option.² Plastic flip-top vials work well for this. Ideally, there is a fresh, acute case for necropsy. A well-stocked truck should have a sharp necropsy knife, a hand-held knife sharpener, a gallon plastic bag, gloves, flip-top vials for feces, plastic specimen bags, formalin jars, and a marker. This allows the veterinarian to transition from the original procedure to a necropsy with the calf completely laid open in less than 5 minutes. While it may take an afternoon to polish up the kit, it is neither expensive nor complicated. And being able to necropsy quickly will remove one of the barriers to having a necropsy done.

Necropsy

The necropsy itself should be systematic and complete. Once again, this knowledge was presented throughout veterinary school and in veterinary literature in various formats. But in order to become proficient at this skill, it needs to be practiced. Veterinarians should not be afraid to offer necropsies for cases that they have been working on. While the primary goal of a case is to return it to production, offering a complimentary necropsy when things turn for the worse is a great relationship builder. The veterinarian shows how much they care by calling and following up on the case. The vet also will benefit from seeing the final disease state and looking for comorbidities. Often the clients are really interested in seeing the anatomy of a calf and want to be there for the necropsy. The animal should be positioned in left lateral recumbency, and opened from larynx to coxofemoral joint with the neck, thoracic cavity and abdomen exposed. This view, regardless of suspected disease, affords the opportunity to discuss both the good and the bad. Good can include things like a clean navel, healthy lungs, and an undamaged larynx despite repeated tubing. The bad sections help show the degree of severity including the lack of body fat, the degree of damage to the stomach and intestines, and any peritonitis or septicemia. If a producer sees massive septicemia (e.g., from an umbilical abscess) the emphasis shifts from the best oral electrolyte therapy and shifts toward prevention. Finally, the necropsy is the best chance at linking the causative agent identified with culture to the histopathological changes in the tissue. This added level of cause and effect is extremely valuable if multiple agents are found at the lab. If there are multiple animals to necropsy, the vet should necropsy every one of them, and choose samples based on gross lesion, treatment state, and state of the carcass. An untreated, acute case, is the ideal for submitting samples to the diagnostic lab.

Follow up

As mentioned in the introduction, the client is looking for a treatment immediately. Given the rapid progression of enteritis in a neonate, the veterinarian should be prepared to advise on appropriate treatments before leaving the farm.³ Advice may range from electrolyte therapy that should be given, to medications that should be avoided. Once again, there is a wealth of information in peer-reviewed journals and textbooks about these subjects.^{2,6} But it is important that the client has clear, written instructions and understands how to

use the product before the visit is finished. Each producer varies with their comfort level when using an esophageal tube feeder. If the producer is not confident on how to tube a calf, the veterinarian can use the carcass of the calf to show them the technique and the landmarks. While waiting for lab results at the office, the veterinarian should review risk factors and prevention strategies for future calving seasons. This is also an opportunity to set a reminder to call the client 2 and 5 days after the samples are received at the lab to follow up on response to treatment as well as convey updated lab results. The end product of this labor is a reduction in calf morbidity and mortality for the client this season, as well as a well-documented and mutually agreeable plan on how to reduce risk factors in the future. These notes can then be attached to the client's medical records to review before the next season.

Conclusion

While living through an enteritis break in the spring can be challenging, it does open opportunities to build relationships with clients. Veterinarians should possess foundation knowledge and soft skills that result in an invitation to walk the herd and take samples. The valuable final product for the producer is when timely results and treatment plans are utilized in a manner to slow an outbreak and develop herd health plans for the future.

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