



Vet's Corner Spring 2011

Jeff Collins, DVM

Hopefully by the time you read this edition of the Bulletin, Spring has fully sprung, mud is hardening, and green is becoming the predominant color again. As I write this, our clinic is dealing with the various issues we see every spring due to the adverse and quickly changing weather. The biggest issue we deal with every spring is scouring (diarrhea) calves. Last year I wrote about the importance of preventing scours in calves and various approaches to minimize pathogens from getting a foot-hold in your calves. This year I will attempt to give a brief overview of the most common pathogens seen and when they typically affect the calf. I will give some treatment suggestions, but I must preface these recommendations by giving caution that these suggestions are not intended to become "blanket-treatments" for any scouring problem; it would be wise to consult with your veterinarian regarding your particular situation.

When calves scour within the first 7 days of life, the most likely infectious causes are Rota virus, Corona virus, or *E. coli* (bacteria). Often there will be some blood in the diarrhea, and/or strings of intestinal lining. The viruses can do a lot of damage to the calf's intestines- often sloughing the intestinal lining. Unfortunately, there is nothing to combat the viruses themselves, other than supporting the calf via fluids (oral or IV electrolytes) and slowing the gut down with various products that either coat the gut or help to slow the digestive process a bit (Bentonite, Bismo-Kote, electrolyte gels). Antibiotics are also used in the face of viral scours, because they are very prone to secondary bacterial infections when their gut is compromised. *E. coli* scours is usually very easily treated with antibiotics (specifically procaine penicillin or ceftiofur).

From 7-14 days of age, the most common scour problems are either Clostridial (bacterial) or due to *Cryptosporidium* (protozoa). Both can be lethal rather quickly unless treated properly. Clostridial scours tend to be the most common and lethal scours at this age. It may present as a bloat, or a painful abdomen (kicking at belly, laying down frequently) on a calf that is staggering around. Clostridial scours is often called "over-eating disease", and usually affects the largest calves that seem to be doing the "best" prior to the onset. It usually occurs when the bacteria takes advantage of the surplus of milk in the calf's gut; as a result it produces gas and toxins that are detrimental to the life of the calf. Gas builds up in the abomasum (stomach) and or small intestine, putting pressure on the diaphragm, and making it difficult for the calf to breath. The gas in the abomasum gives the gut a characteristic "sloshy" sound when manipulated. The toxins get into the blood stream, often through an abomasal ulcer or compromised intestinal lining, poisoning the body and causing a drop in body temperature. When calves die from Clostridium, it usually occurs due to a perforated ulcer, toxic overload (body shuts down), bloat, or a severely hemorrhaged small intestine. These calves usually need an intravenous treatment with fluids, along with a Clostridial antitoxin injection. Procaine penicillin given orally and in the muscle helps rid the body of Clostridium. Flunixin products also aid the body in getting rid of the toxins.

Cryptosporidium is a protozoa, which makes it very difficult to treat. It is a pathogen that takes advantage of poor hygiene; loving moist areas, dirty bottles, and passing very easily between calves. It is one that is best prevented, but if encountered should be treated much like we treat the viral pathogens; which is, helping the calf get through it by replenishing fluid, slowing the gut down, preventing secondary bacterial scours, and encouraging the growth of "good" bacteria in the gut. Many "crypto"

Dealing with Scouring Calves

calves will need an intravenous treatment to help sustain their hydration as they go through the duration of the infection. Crypto also tends to slough the intestinal lining, allowing the calf to lose hydration fast, which also weakens the calf. Probiotics (*Lactobacillus acidophilus* & others) are very important to provide supplemental bacteria to aid the gut in normal digestive processes, helping it return to normal faster. It would be wise to give a probiotic after any antibiotic treatment to a calf.

After 2 weeks of age Clostridial scours will still occur, but it tends to be less frequent as the calf's immune system strengthens and is able to fight off an impending infection. Bloody scours or black stained feces after 3 weeks of age is typically a coccidia (another protozoa) problem, but should be verified with a fecal test done by your veterinarian before treatment. If caught early enough these calves do quite well with a series of amprolium treatments.

If possible, in the face of a scouring outbreak, before any treatment is given to a scouring calf, a fecal sample should be taken and sent to a diagnostic lab via your veterinarian. If a calf dies, taking the whole calf to the diagnostic lab would maximize the possibility of finding the culprit. The biggest problem with sending samples in, is knowing what to do while you wait for results. Recently, there have been some quick test kits available that your veterinarian may carry. They give results within fifteen minutes and can test for E. coli, Rota and Corona viruses, and Cryptosporidium, making it easier to decide how to treat a particular calf.

Ideally your calves will be running around with their tails in the air on green grass, but if you do encounter scours this spring, hopefully the few suggestions offered in this article will be helpful for you. If you have any ideas or questions for a future vetscorner article, please send me an e-mail to: covvet03@yahoo.com