

contaminant. Chronic mastitis could also result in formation of fibrotic tissue in the teat canal or the gland, but in these cases, surgery cannot be recommended until after the infection has been treated to avoid surgical complications. Furthermore, milk curds obstructed the teat implant resulting in failure following successful surgery.

The results to this point look promising; however a complete follow-up of this case and experience with additional cases is essential to completely evaluate this procedure.

REFERENCES

1. 1981 Annual Summary. Michigan Dairy Herd Improvement Association.

2. Steere J., Moody K., Nealy J.: (1960) Open Teat Sinus Surgery for Correcting Teat Occlusions. JAVMA
 3. Roine K.: (1975) Observations on Teat Stenosis. Nord. Vet Med 1975, 27, 107-111.
 4. Amstutz HE (1978) Teat Surgery. Med Vet Pract 59(9), 674-676.
 5. Weaver A.D.: (1982) Teat Surgery in Cattle. Veterinary Annual 22, 107-112.
 6. Howard J., Filiporm., McPherron T., Nelson D.: (1978) A Simple Technique for Repairing Teat Lacerations and Fistulas in Cattle. Proc Bovine Pract Ann Conf, Baltimore, 10-14, December 1978, 107-108.
 7. Dow Corning Bulletin 51-174 (1972) Dow Corning Corporation, Midland, MI 48640.

Food Animal Gastroenterology Case

Janet L. Winter,
 4th Year Student
 College of Veterinary Medicine
 Kansas State University
 Manhattan, KS, 66506

Cecal torsions are becoming more and more common. They appear to be related to high grain diets. The following is a case report of such an incidence, that occurred in a high production, Nebraskan, dairy herd.

SIGNALMENT

Client: Wallman Dairy
 Veterinary Clinic: Blue Valley Veterinary Clinic, Dr. Thomas Dragastin, attending veterinarian.
 Species: Bovine
 Breed: Holstein - Registered
 Age: 4 year old (9-20-78)
 Sex: Female
 Weight: 1250 lb.

HISTORY

This cow was born and raised on the dairy. She had all common calfhooed vaccinations, plus the yearly Lepto and wormer injections given when in the milking herd. She had no past medical problems. Her last calving occurred September 20, 1982, with no complications. Her diet consisted of 27 lb. haylage, 7 lb. long alfalfa, 12 lb. high moisture corn and 8 lb. ground feed (S.B.M., corn & oats - 18% Protein). The milking herd is kept in confinement, consisting of free stalls and a concrete lot. The dry cows are on a dirt lot, and are fed sorghum silage and long, third cutting, alfalfa hay.

The history of present concern started November 11, 1982. At 7 a.m. the cow produced her usual 38 lbs. of milk, but appeared listless. Also, her ears were cold and she had a temperature of 100.5°. By 5 p.m. the same day, she was depressed, anorexic, and hurt when she moved. She finally laid down and wouldn't get up. At this point, the veterinary clinic was called.

PHYSICAL EXAMINATION

Temperature: 102.8°; Pulse: 90+ /min.; Respiration: Rapid.
 General Appearance:
 In sternal recumbency, and refused to get up until an electric prod was used. When standing, there was a slight distension of the right paralumbar fossa, dorsally. She was grinding her teeth and kicking at her abdomen. Her udder appeared full.
 Digestive System:
 Rumen atony was found. Upon auscultation, there was gas in the left paralumbar fossa, and resonance was heard on percussion, from the right seventh rib through to the right paralumbar fossa. The rectal showed only a slight amount of fecal material present, and gas filled loops of intestine predominately on the right side.

WORKING PROBLEM LIST:

1. Painful, gas distended abdomen
2. Depression
3. Anorexia

INITIAL PLAN:

Problem #1 Assessment:
 Abomasal Torsion
 Cecal Torsion
 Intestinal Torsion
 Plan:
 Dx. - History
 Clinical Signs
 Rectal Palpation
 Rx. - Fluids 3 l. I.V., with Pre-def added
 Banamine 12 ml. I.V.
 Surgery - report to follow
 Problem #2 Assessment:
 Depression secondary to abdominal distress
 Plan:
 Dx. - Observe
 Problem #3 Assessment:
 Anorexia secondary to abdominal distress
 Plan:
 Dx. - Observe

Surgery Report

A local line block of Lidocaine was administered. A right paralumbar incision was made. The dilated intestines bulged out of the incision. The apex of the cecum was pointing cranially. A 14 gauge needle was used to decompress the cecum, but deflated very slowly. Therefore, the cecum was exteriorized and a 1" incision was made into the apex. Gas and fluid fecal material flowed out of the cecum. After the cecum was decompressed and cleaned off, the incision was sutured using chromic catgut. There was a 180° twist at the base of the cecum. The cecum was rotated back to normal position. At this time, the gas in the small intestine above the cecum began to move through. The tissue at the site of the cecal twist was only slightly reddened. Due to time and the threat of the cow trying to go down, nothing more was done to the cecum. Six grams of tetracycline was diluted in 500 ml. saline, and this was poured into the abdominal cavity. The paralumbar incision was closed with chromic catgut for the muscular layers and heavy vetafil for the skin.

POST-OP TREATMENT:

The cow was given 2.5 gm. Tetracycline mixed with 500 ml. of 5% Dextrose, I.V. B.I.D., and B-complex as well as Banamine I.M. for the first three days. Then she was given 5 gm. Tetracycline in 5% Dextrose I.V. S.I.D. for the fourth and fifth day.

PROGRESS NOTES:

On the first day after surgery, the cow was up but wouldn't eat. She had also a drastic drop in milk production to 3-4 lbs. The second day she ate some hay. On the third day she was sent home. On the sixth day she started to eat a little grain along with her prairie hay.

She was kept on 25-30 ml. Combiotic, 10-15 ml. B-complex and 5 ml. Dipyrone S.I.D. for five days after returning home.

By November 30, 1982, the cow was feeling normal, eating hay and grain, and her milk production was gradually increasing.

DISCUSSION:

Cecal dilations and torsions occur sporadically in well-fed dairy cattle, and usually within a few weeks postpartum. The main cause is still not clear, but it is thought to be related to a dietary change to a highly fermentable green feed or grain, especially corn. These dietary carbohydrates may not be completely fermented in the rumen, but are in the cecum, resulting in an increase in volatile fatty acids. The increase in concentration of undissociated volatile fatty acids, especially butyric acid, in the ingesta of the cecum will result in cecal atony.

Gastroenterology Case

Linda Kassebaum,
4th Year Student
College of Veterinary Medicine
Kansas State University
Manhattan, KS 66506

On December 3, 1982 a 500 pound Angus steer was presented at the Blue Valley Veterinary Clinic, Beatrice, Nebraska. The owners presenting complaint was that the animal was unable to keep down water and feed.

HISTORY:

The owner had noticed a week previously, when checking his pastures, that the steer in question was not putting on weight like the other calves. He brought the steer into his farm corral to pen it separately from the others. When the calf ate or drank water it was noticed that the material ingested would drop from his mouth. No bloat was ever noted. The owner mentioned that the pasture where the steer had been running contained a considerable number of hedge trees and that most of the hedge apples in the pasture were gone, apparently having been eaten by the calves. Also, the pasture contained a large number of Russian thistles which the owner had sprayed with 2,4-D. The owner said that after spraying, the thistles became palatable to the calves, as on several occasions he saw calves feeding on them.

PHYSICAL EXAMINATION:

On admission, a physical exam was performed on the steer. Pulse and respiratory rates were normal. The body temperature was 102°F. The mucous membranes appeared normal with a slight to moderate degree of dehydration. Auscultation of the lung fields revealed some harsh rales.

A stomach tube was passed into the rumen. No gas or fluid was obtained. With the stomach tube in place a gallon of Carmilax and NRG (an electrolyte and nutrient mixture) was pumped into the rumen. After the tube was withdrawn, regurgitation of the mixture was observed. Ground corn and water were placed in front of the steer. Soon after the steer ate and drank, ingesta was observed running from its mouth.

Generally, cecal torsions are supposed to develop more slowly than an abomasal torsion. However, this case illustrates how acutely they can occur. This cow was fine the day before, but in a matter of twelve hours went from normal to severe abdominal pain and distension. The fact that her udder was full when she showed severe signs, also indicates acuteness.

No clinical laboratory workup was done on this particular cow. However, values concerning a cecal torsion could show a hemoconcentration, compensated hypochloremia (Cl 90 mEq./l.), hypokalemia (K 4 mEq./l.), and a metabolic alkalosis: (HCO 30 mEq./l.). Ketone bodies of moderate concentration may also be found in the milk and urine on occasion.¹

A mild case of a cecal dilatation could be treated by: withholding feed for a few days and giving saline purgatives; manual reduction per rectum; or even trocarizing the cecum in more severe cases. But, the most successful method is surgical correction, via the right paralumbar fossa with manual reduction. This needs to be done early in the course of the disease, or else ischemic necrosis and gangrene may set in. If this becomes the case, then this tissue must be amputated and the prognosis goes from good to poor.

Overall, the veterinarian needs to be aware of the clinical signs of a cecal torsion and work closely with the dairy man to check rations and on recognizing problems early.

REFERENCE

1. Anderson, N. V.: *Veterinary Gastroenterology*, Lea and Febiger, Philadelphia, 1980, p 538.

The next day, a stomach tube was again passed and a Carmilax-NRG mixture was administered. Again no regurgitation was observed. The floor of the steer's stall was soaked with saliva and water, presumably from frequent attempts by the calf to drink water and subsequent passage of the water back from the mouth. Since aspiration pneumonia was a concern, the steer was placed on daily oxytetracycline intravenously at 5 mg/lb.

Over the next two days, there was no improvement in the steer's condition. On both these days, the calf had a low-grade fever of around 103.5°F. Supportive care with oral feeding of NRG was continued, along with antibiotic therapy.

On the third day, the patient's condition had deteriorated markedly. The steer was anorectic and recumbent. The mucous membranes were muddy appearing and dyspnea was apparent. Attempts to administer nutrients via stomach tube met with limited success. Later that night the steer became comatose and died the next day.

NECROPSY FINDINGS:

The lungs were bilaterally hemorrhagic and suppurative pneumonia lesions were present in the ventral portions. The rumen and remainder of the GI tract contained some ingesta. Upon examination, the caudal 10 inches of the esophagus were found to be markedly dilated. At the caudal end of the dilated portion a large focal ulcer was present in the ventral portion of the esophageal mucosa. The ulcer measured approximately 5 inches by 3 inches and was non-penetrating. It was located just cranial to the cardia. The affected portion of esophagus was taken for histopathologic examination.

DISCUSSION:

As for possible etiologies of the case, it seems likely that a foreign object at some time previously had traumatized the distal region of the esophagus, producing an area of ulceration and necrosis.