

CLINICAL REPORT: A Toxic Syndrome in Cattle in Tennessee

Thomas S. Slaughter, D. V.M.
West Broadway
Rogersville, Tennessee

A toxic syndrome affecting both cattle and horses occurs in my practice area. A large percentage of the affected animals will respond to treatment with perfringens antitoxin (multitype B, C, & D Armour). Problem herds vaccinated with Electroid 7 (JenSal) or perfringens toxoid are protected against this condition.

Postmortem lesions are toxic hepatitis, encephalitis, nephritis, pulmonary emphysema, and enteritis. These non-specific symptoms were verified by laboratory reports.

A number of fringe benefits were observed in herds that have been vaccinated with (Electroid 7 JenSal). Namely:

1. Diarrhea of baby calves born on pasture have been reduced.
2. A reduction of diarrhea in mature cows on lush pasture.
3. Reduction of prolapsed vagina and rectums (straining in several violent cases were relieved by administration of antitoxin following replacement).
4. Hoof trimming has been reduced in a beef cattle herd.
5. There have been no retained placenta (several herds had been 25% or more).
6. Reduction in number of droopy cows following calving.

Some of the droopy cows following calving are a parasite syndrome. I observe this syndrome when cows are confined in small lots before calving. These convenient little lots become contaminated over the years with a concentration of worm eggs and larva.

Two or three 15 gram Omnizole bolus (Merck) have been the most efficient treatment.

Examples of Case Reports:

Herd No. 1

Three cows each year died with this condition. One cow found alive responded to 100 cc of antitoxin (her symptoms were similar to a cow

with milk fever or grass tetany). No further cases have been encountered in vaccinated animals. One unvaccinated steer became sick but responded to antitoxin. This herd has been vaccinated with the Electroid 7 for six years.

Herd No. 2

A beef herd with 100 cows lost four or five downer cows each year. There had been a number of chronic scours, usually four cows were culled each year because they didn't look good.

One bull lost weight, scoured, and did not eat. The owner had given antibiotics, antihistamine, and steroids to no avail. A dose of antitoxin relieved the condition in about 24 hours. In 14 days this bull became sick again. Another dose of antitoxin seemed to relieve the symptoms again. Electroid 7 was given a little later and the bull remained in good health for another year.

Herd No. 3

This herd has received two doses of Electroid 7 the first year and one dose each year for three years with the following results:

1. No downer cows.
2. Feet did not need trimming.
3. No more cows culled because they didn't look good.

In April this year one cow was found down. A bottle of calcium, phosphorus, and magnesium was administered. This cow regained her feet before I could get the needle out of the vein. Another cow was found dead.

These cases were found following trucking, vaccinating, blood testing, and worming. This type of reaction had occurred in the herd following the same type treatment. I think this is transportation tetany.

Herd No. 4

Calves in a dairy herd began to die suddenly or get weak and could not stand. Antitoxin saved over

75% of the weak calves. Vaccination of the dam with Electroid 7 at the time she was turned dry has reduced the problem where the calf nursed the cow.

Herd No. 5

A 40 cow beef herd began to lose cows in February. Three cows were found dead. Seven were treated. No new cases were found after the bacterin had been given a couple of weeks.

Dirty Sided Cows:

In the winter when a sick cow is found the owner usually has noticed that several other cows have had muddy sides where the cow has been down. Some of the cows that have been found dead had been seen down in mud a couple of times. I think this cow could be a sign that not just the sick cows have been affected.

Salt:

Many cases in small herds became sick a day after having been salted. The only salt some cattle get is used to toll them in to be counted or moved.

Grass Tetany:

In my opinion "grass tetany" has been overworked. I am sure that most of these cases are caused by some other disease.

Whenever the pH of the rumen and etc. change enough, the absorption of necessary elements is hindered. Whenever the pH is changed, perfringens and other undesirable bacterias can also grow.

Nearly all of the dead cows did not have a normal rumen content. Usually there is very little mixing of rumen contents and nearly all of the food recently eaten is still in the reticulum, and that in the rumen isn't even colored by the contents in the reticulum.

At the present time many local farmers are calling for the "7 Way Vaccine" or the stuff another farmer is using. Three thousand doses have been sold since the first of 1971.

Feed changes (lack of feed in some seasons) make a difference in the occurrence.

Dairy herds encounter extreme changes when they turn a cow dry and kick her out on the ridge on dry grass and when the cow has a calf and is brought in to be fed.

Beef cattle in this area are grazed on fescue etc. in winter with poor quality hay. Even 3 to 1 prevents a lot of losses. The only losses where they were using 3&1 were the ones where it was more like 1&1 (three parts cottonseed meal and one part salt).

Downer Cows:

There are several types of downer cows in this area.

1. A cow down that cannot be set up to stay and falls usually to the right. This is Listeriosis. They may live for a couple of weeks or more.
2. A cow down that will sit up and eat usually has pulmonary emphysema and toxic hepatitis.
3. Worms usually cause the cow to die because she is too weak.

Disease Problems in Cattle Associated with Rations Containing High Levels of Iodide (Continued from page 27)

Baltimore, Md., 1966. — 4. Blaxter, K. L.: Severe Experimental Hyperthyroidism in the Ruminant. II. Physiological Effects. *J. Agric. Sci.*, 38, (1948): 20-27. — 5. Burch, George R., D.V.M.: "Management of 'Foot Rot' Outbreaks in Feeder Cattle," *The Allied Veterinarian*, March-April, 1957. — 6. Hamilton, M. A., and Geever, E. F.: The Use of Potassium Iodide in Combination with Streptomycin in the Treatment of Experimental Tuberculosis in Guinea Pigs. *Am. Rev. Tuber.*, 66, (1952): 680-695. — 7. Key, J. B., D.V.M., Loffer, L. F., D.V.M.: "Management of an Actinomycosis Outbreak in Feeder Cattle: A Case Report," *Veterinary Medicine*, Vol. Li, No. 7, p. 337, July 1956. — 8. Kolmer, J. A., Matsunami, T., and Broadwell, S.: The Effect of KI on the Luetin Reaction. *J.A.M.A.*, 67, (1961): 718-719. — 9. Kubin, G. V.: Intermitterender Nachweis des Blaschenausschlagvirus (IPV) bei einem natürlich infizierten Stier. *Wien. Tierärztl. Monatsschr.*, 56, (1969): 336-337. — 10. Kuebler, W. F., Jr.: A Comparison Between Inorganic Iodine Levels of Feeding Potassium and Cuprous Iodide and Copper Retention. *J. Dairy Sci.*, 40, (1957): 1087-1092. — 11. Long, J. F., Gilmore, L. O., and Hibbs, J. W.: The Effect of Different Levels of Iodide Feeding on Serum Inorganic and Protein-Bound Iodine with a Note on the Frequency of Administration Required to Maintain a High Level of Serum

Inorganic Iodide. *J. Dairy Sci.*, 39, (1956): 1323-1326. — 12. Long, J. F., Hibbs, J. W., and Gilmore, L. O.: The Effect of Thyroprotein Feeding on the Blood Level of Inorganic Iodine, Protein-Bound Iodine and Cholesterol in Dairy Cows. *J. Dairy Sci.*, 36, (1953): 1049-1057. — 13. McCauley, E. H., Linn, J., and Goodrich, R. G.: Experimentally Induced Iodide Toxicosis in Lambs. Accepted for Publication *Am. J. of Vet. Res.* — 14. Mielens, Z. E., Rozitis, J., Jr., and Sarsone, V. J., Jr.: The Effect of Oral Iodides on Inflammation, *Tex. Rep. Biol. Med.*, 26-1, (Spring 1968): 117-122. — 15. Nachtrieb, Melvin, D.V.M.: "Report on Use of an Organic Iodine Preparation for the Prevention of 'Foot Rot' in Cattle," *Rocky Mountain Veterinarian*, Feb. 1953. — 16. Sheffy, B. E., and Davies, D. H.: Reactivation of a Bovine Herpesvirus after Corticosteroid Treatment. *Proc. Soc. Exp. Biol. Med.*, (1972): 974-975. — 17. Sherick, J. W.: The Effect of KI on the Luetin Reaction. *J.A.M.A.*, 65, (1915): 404-405. — 18. Stone, O. J., and Willis, C. J.: Iodide Enhancement of Inflammation: Experiment with Clinical Correlation. *Tex. Rep. Biol. Med.*, 25, (1967): 205-213. — 19. Sutter, M.D., Adjarian, R., and Haskell, A. R.: Observations on the Therapeutic Activity of Cuprous Iodine. *J.A.V.M.A.*, 132, (1958): 279-280. — 20. Vengris, V. E., and Mare, C. J.: A Micro-Passive Hemagglutination Test for the Rapid Detection of Antibodies to Infectious Bovine Rhinotracheitis Virus. *Can. J. Comp. Med.*, 35, (1971): 289-293. — 21. Woody, E., Jr., Johnson, H. E., Avery, R. C., and Crowe, R. R.: The Combined Effect of Potassium Iodide and Streptomycin on Far Advanced Chronic Pulmonary Tuberculosis. *Dis. Chest*, 19, (1951): 373-385.