1952

Calf Diseases

H. E. Amstutz
Ohio State University

Follow this and additional works at: https://lib.dr.iastate.edu/iowastate_veterinarian

Part of the Large or Food Animal and Equine Medicine Commons, Veterinary Infectious Diseases Commons, and the Veterinary Preventive Medicine, Epidemiology, and Public Health Commons

Recommended Citation
Available at: https://lib.dr.iastate.edu/iowastate_veterinarian/vol14/iss2/6

This Article is brought to you for free and open access by the Journals at Iowa State University Digital Repository. It has been accepted for inclusion in Iowa State University Veterinarian by an authorized editor of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
Calf Diseases

H. E. Amstutz, D.V.M.*

IF A DAIRY calf reaches one month of age in a strong, vigorous condition, the dairyman has won a major portion of the battle to place the animal in the milking line. Of course, many factors can interfere at a later date, but the calf will be much better able to combat disease, parasites and injuries if it has a reserve of strength to carry it through whatever may affect it. You have all had to give an unfavorable prognosis because the animal in question was in poor general health before the immediate condition developed.

Contagious Calf Enteritis

The most serious condition affecting young calves, with which we have had to deal, is contagious calf enteritis or calf septicemia. This disease kills more calves in our practice than all other diseases combined. Calves affected with contagious calf enteritis become acutely ill within the first few days after birth. They may die so suddenly that the caretaker has not observed any diarrhea. In our practice we attempt to perform post mortems on as many of these acutely affected animals as possible. A small percentage of them die of peritonitis.

The cause of contagious calf enteritis is not definitely known. It is thought to be due to an increase in virulence of Escherichia coli or a virus. The usual syndrome of contagious calf enteritis is loss of appetite, diarrhea, dehydration, prostration and death. Quite often there is a history of having recently purchased a calf.

To successfully combat this condition the dairyman must make preparations before the calf is born. The proper feeding of the cow, elimination of uterine infections, and suitable calving quarters will help to insure a strong calf at birth. Colostrum must be available for the calf, either from the dam or some other source. With the practice of prefreshening milking in some of our better producing animals it is advisable to secure colostrum from a source other than the dam. Here is where the home freezer can be of value in saving the life of a dairy calf. Colostrum can be frozen and preserved for several months or until it is needed. Following the initial feeding of colostrum it is necessary to see that the calf is provided the proper amount of warm milk at least twice daily. I want to emphasize the word "milk". I feel that I am being conservative when I say that for every well-grown calf started on milk substitutes I see ten that are stunted. I suspect that the fault is with the feeder rather than the product.

The dairyman is advised to feed 1 lb. of warm milk per 10 lbs. of body weight per day. For Jersey calves we advise diluting the milk about one half with water. When contagious enteritis appears in a herd, the client is advised to feed one half lime water, and one half milk following the initial feeding of colostrum.

* Dr. Amstutz is an ambulatory clinician in the Department of Veterinary Clinics at Ohio State University, Columbus, Ohio.

Iowa State College Veterinarian
Nurse cows are satisfactory in some cases, but I do not like to use them in disease outbreaks because it is difficult to control the amount of milk for each calf. Also when running several calves together, it may help to spread a contagious condition.

If an outbreak of enteritis occurs on a farm, we attempt to get the dairyman to follow one or more of the following three plans to check the disease:

1. Decrease the calf population in the barn for as long a period as possible. If there are no calves available to harbor the infection, it will disappear in time. If only a few calves are born over a period of several months, it may be advisable to dispose of them before they become ill. This is especially true if the calves are bulls of small value. It may be cheaper to kill a few cheap calves than to keep the infection in the barns.

2. Have cows freshen in another building on the farm and follow strict sanitation.

3. Have cows freshen on pasture and do not bring calves into the barn until they are several weeks of age. After a calf becomes three or four weeks old, it will not develop contagious enteritis or have only a mild attack.

Treatment

Our treatment for this condition was extremely unsatisfactory until antibiotics appeared. Serums and bacterins were of very little value in our practice. Of course we did help to save some calves but not nearly as many as we would have liked to save.

At the present time we are routinely treating calves with one-half gm. streptomycin per orum and a like amount intramuscularly. We have used some aureomycin in place of streptomycin with favorable results. The antibiotic is followed with 2 oz. of a commerical mixture containing an intestinal astringent and protectant along with a triple sulfa mixture twice daily.

If the calf shows gastric tympany, we administer one half-pint of mineral oil to which an antiferment has been added. The oil is given via a horse catheter passed through a mouth speculum, which is an 8 in. length of ½ in. pipe. If the calf is prostrate, we administer fluids intravenously. Blood is given whenever possible because we have had much better results with it than with dextrose, gelatin or salines. We give 500 cc. of the dam’s blood via the jugular vein.

We do not like to clean or carry a lot of superfluous equipment, so we use as simple a method as possible to collect and administer the blood. The equipment consists of an empty 500 cc. serum bottle, 16 ga. 1 in needle, 12 ga. 2 in needle and a 50 cc. bottle of 4 percent sodium citrate. The citrate is poured into the 500 cc. bottle, the cow’s vein punctured with the large needle and the blood allowed to flow into the open mouth of the 500 cc. bottle. The bottle is rotated constantly during collection, which requires about two minutes. After collection, a simplex is slipped on the bottle, the calf’s vein punctured with the 16 ga. needle, and the blood allowed to slowly flow into the calf. It is not an easy operation to puncture the collapsed vein of a prostrate calf, but the result is well worth the effort. If for some reason blood is not available, we administer 1,000 cc. of 5 percent dextrose intravenously.

After a valuable calf has had an attack of contagious enteritis, the owner is advised to feed it antibiotic residue for a period of one to two weeks. This period of feeding will not be long enough to interfere with rumen bacteria to any great extent. Following the feeding of antibiotic residue, we advise a cud transfusion if the condition of the calf indicates. The calf is placed on the grain mixture of choice at two weeks of age and fed a good mixed hay. We do not advise the best quality of alfalfa hay for young calves, because occasionally it tends to produce enteritis.

Non-Contagious Enteritis

This condition affects many more calves in our practice than the previously discussed disease, but the mortality is not nearly as great. This condition is usually
caused by overfeeding. Calves are of necessity fed only twice daily and are allowed to drink too much milk at these feedings. Contributing causes are changes in temperature and composition of feed, poor sanitation, and undue exposure of the calf. Affected calves exhibit diarrhea and a varying degree of anorexia. Many of the prophylactic measures mentioned in discussing contagious enteritis are also effective in non-contagious enteritis.

Treatment consists of correcting management mistakes or lapse, limiting the feed supply, adding lime water and sulfas per orum. Your time will be well spent making a quick survey on farms where nutritional enteritis is a problem.

**Enzootic Pneumonia-Contagious Bronchitis**

Contagious bronchitis continues to be a serious problem in our large herds. It appears each fall in our herds that have an individual calf barn. Various organisms have been incriminated as the cause of this condition, with Pasteurella most often isolated from animals in our practice.

Sudden changes of temperature are usually associated with an outbreak of enzootic pneumonia in calves. Affected calves develop a cough, followed by dyspnea in a day or two. In severe cases, death occurs in about four of five days. In our practice about 5 percent of affected calves die, about 5 per cent develop into chronic pneumonia or bronchitis cases, and the remainder recover.

**Prevention and Treatment**

Treatment consists of correcting environmental conditions and administering antibiotics and sulfas. We use penicillin, streptomycin, sulfamerazine, and aureomycin, singly or in combination. Combinations of these drugs are used whenever the calf is critically ill and its value warrants increased expense. Serums have been of minor — if any — value in our practice.

Prevention is difficult in large herds where a large number of calves are present during most periods of the year. I have used mixed bacterins at six-week intervals in some herds with apparent success. In other herds, bacterins appeared to be of no value.

A new calf barn usually prevents the disease for one or more years, but eventually the new barn will also become seeded down with causative organisms. It is beneficial to prevent rapid temperature drops in calf barns. Some dairymen are successfully using artificial heat in their calf barns. The thermostats are set at 40°. We believe that built-up litters are also beneficial, because they help to maintain a constant temperature and provide the calf with a warm place to sleep.

The decision to initiate surgery is an important one requiring great professional discretion if favorable results are to be expected. Each case must be evaluated individually on the circumstances at hand, but a mental picture of desirable surgical conditions is useful in making the proper decision. Before deciding to operate, the veterinarian should consider:

1. The value of the animal (either economic or sentimental).
2. Species idiosyncrasies that might hinder recovery.
3. The legal aspects. Present the possible outcome to the owner and obtain his consent. (The prognosis can be conveniently given on a percentage basis.)
4. The indications and contraindications, such as weather, available equipment and facilities for aftercare.

The promiscuous use of antibiotics in the treatment of mastitis, without withholding the milk from the treated quarters, results in trouble for the dairy manufacturing industry. The milk from treated quarters should be withheld from the main supply for at least three days.

Brucellosis is a costly, deadly infection but it can be whipped more easily than most people think. Nearly eight out of ten infected herds can be cleaned up in 60 to 90 days.