should not exceed 2 meq/Kg/hr. Total volume required will usually exceed 40 lites and may need to be carried on for several days at 40 liters/day. If no clinical improvement in rumen motility, passage of ingesta, or appetite is seen within a few days of treatment, a very poor prognosis should be given.

Practical Approach to Colostomy in the Calf

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This is a presentation of an easy approach to assessing and performing surgery on calves with various forms of atresia ani and atresia coli.

This can be done at any veterinary clinic and with a minimum of equipment. Success can be very good and a completely functional calf, taken up to slaughter weight, can be achieved.

The age of the calf, degree of dehydration and shock, as well as bloated appearance determine the prognosis. A well advanced case would carry a poorer prognosis and necessitate additional treatment. You want to choose cases which are 0-2 days old, still ambulatory, making good attempts at straining and are not dehydrated to the degree of necessitating I.V. fluids.

Only in the cases of an intact anal sphincter with a thin membrane present would I do surgery in the rectal area since construction following surgery invariably leads to a poor doing animal and repeated surgical procedures are often necessary.

Surgical Procedure: The calf is sedated and is prepared on the right paralumbar fossa. The calf is given a line block with the idea of performing a quick exploratory surgery to make sure things like artesia of the spiral colon, artesia jejuni or other abnormalities are not found. If major problems are found the calf is euthanatized.

The surgery is very simple. We search for the caudal blind sac and then we attach the caudal most portion that is possible to the abdominal muscles at the incision. This attachment is made fairly high up (4 inches below the paralumbar fossa). If it is made too low, prolapse of the colon can occur and it then has to be attached to the abdominal wall. Once the serosal surface is sutured down the intestinal wall is incised while suturing the mucosal side to the skin. If this is done as it is incised and with continuous flushing and packing of the intestine, minimal contamination results. When this is completed you are left with an opening 1½-2 inches in diameter. The calf is put on antibiotics for 4-5 days.

Complications are minimal and rarely is the calf seen again. The manure runs continually out and down the side. No scalding of the skin or skin reactions have been seen to date.

The farmer has a viable calf without a large expense along with a very good prognosis and most times very little or no after care. The calf is often of great interest to his neighbors and a real conversation piece!

Practical Management of Bovine Leucosis

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Bovine leucosis in our practice is a concern primarily for the purebred breeder. The prescence of the virus affects the sales of offspring both to domestic and international buyers. Secondary losses are incurred because of animals succumbing to one of the clinical forms of leucosis.

The inevitable conflict develops in these herds between the need to develop a herd free of leucosis and the financial constraints of a simple test and slaughter program where valuable animals are concerned.

Because of the economic pressures of the industry our goal was to try and design a program where we could minimize the spread of the virus from positive to negative animals without having to cull large numbers. We hoped that if we could stop the spread of the virus we would be able to build a population of negative animals to act as replacements for the herd. Thus over a period of five to ten years the positive animals would be removed as the became expendable due to old age or other reasons

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and be replaced with negative young stock.

The first step in the control program was to identify positive animals. We tested all animals over six months of age and retested every twelve months using the agar gel immunodiffusion test. Once the animals were identified as to whether they were positive or negative control was based on minimizing spread between and among three age groups. These groups were the young calves up to six months of age, young stock between six months of age until they entered the milking herd and the milking herd.

Keeping the virus out of the young calves was the first challenge in providing for negative replacements. The control program for all age groups including calves is based on the premise that blood contamination and in particular contamination with infected lymphocytes must occur for spread of the virus to occur. To this end calves were fed colostrum and milk from seronegative cows only. This meant freezing and saving colostrum from negative cows to have on hand when positive cows freshened. The decision to feed all calves negative colostrum was a difficult one for several reasons. Firstly it involved active participation by the dairyman i.e. he had know that a positive cow was calving and had to take steps to ensure that the calf did not suckle and was fed with previously saved colostrum. Secondly in removing a potential source of virus and thus infection we were also removing a source of protection in the form of virus specific antibody which the colostrum contained. We thus had a population of calves with no passive immunity to the virus. This made it even more critical that calves were fed milk from negative cows only.

A second alternative was to feed all calves colostrum from positive cows and hope that none or few picked up the virus from the colostrum.

A third possibility now exists in that one might consider feeding a colostrum substitute where the virus is inactivated but the maternal antibody protection would still be present. We however chose to remove both virus and antibody from the calves environ.

Because a percentage of calves born from seropositive mothers will be infected inutero or at birth all calves were considered as positive until testing proved otherwise. Blood contamination from dehorning, castration, vaccination, tagging and teat removal was eliminated as much as possible. Dehorning was done using paste, electric dehorning tool or by mechanical dehorning with wound cauterization using a hot iron. Because it has been shown that as few as 2500 lymphocytes can cause infection and that this number can be found in as little as .0005 mls. of blood new needles were used for each animal every time any injections were given and when blood samples were being drawn. All seropositive calves were removed if possible and practical. Insect control measures were stepped up and included the use of insecticide ear tags, medicated dust bags and medicated oilers.

The control measures in the young animals between six months and milking age incorporated the above management guidelines. There was also some attempt to pasture positive cows apart from negative heifers where possible and practical. This was not always carried out.

In the milking herd control measures were aimed at minimizing spread of blood between animals and removing positive cows as it became practical. Control measures included the ones mentioned above. Rectal palpations are done on negative animals first then on positive cows. Sleeves are changed if we must go back to a negative cow. Separate maternity pens for positive and negative cows were used where possible, if not a thorough cleaning of the pens between calvings was advised. An attempt was made in some cases to milk positive cows last where this was deemed practical.

When the program was started in 1983, six herds were enrolled. Since that time 2 herds have been sold and three more herds have been added. Results for the four herds that have been tested for the full term are included.

The percentage of the herd found infected at the start of the program ranged from 37% to 9% with an average of 26% of cattle found infected.

At present the percent infected ranges from 28% to 3% with the average at 17%. These decreases are made more significant by the fact that the average age of the affected cows has gone from 4.2 years to 8.5 years at the same time. Thus the next few years will see many of these cows gone.

There have been several breakdowns in the program over the years. The most common one has been blood contamination during dehorning. This happened early in the program when we still used gouge dehorning techniques. Another break occured in a group of five calves born from negative dams which were inadvertently fed milk from a positive cow which was pulled from the line because of bloody milk. They received this milk for a period of five or six days and subsequently three of the five turned up positive at the annual test.

Another source of breakdown was pointed out by the fact that when the program was followed faithfully there was no change in the status of the mature cow herd i.e. negative cows remained negative despite being housed, pastured and milked together with positive cows. In two of the herds rectals were done without selecting negative cows first. In both of these herds 1% to 2% of the mature cows became positive between annual tests. When this is placed in the light of the recent work by Hopkins etal and Henry etal showing that rectal transmission can easily occur one wonders what impact we as palpators are having on the spread of the disease.

The program has been and continues to be a valuable one both to our clients and our practice. It promotes continuity of service to the client and involves us directly with his long term planning. This aids us immensely in providing the dairyman with more valuable advice on a day to day basis.

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