Practice Tips

Dr. David S. Lowe, *Presiding*

Hairball Surgery In Calves:

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In Montana beef herds we occassionally see an unthrifty condition develop in one-to four-week old calves as a result of pyloric obstruction by masses of ingested hair and other foreign materials.

These calves are often passed over as being "poor doers" and the condition goes undiagnosed and untreated more often than not. It isn't until a rancher has a small epidemic of these calves that he will think anything of it. Some will be dragged off to a gully with the rancher shrugging it off as a normal loss of a calf that "ain't never been quite right". Others will linger on and continue to be "poor doers" that eventually outgrow the problem. In either case the calf is unprofitable at best and often a total loss.

Suspected Etiologies: This condition appears to be a manifestation of various etiologies. In general, there appears to be a close correlation with hair balls and the pica that is concommitent with some gastroenteric disturbance. I've seen it in herds afflicted with BVD, in herds where cattle were marginally nourished during winter gestation, in herds where no mineral supplementation is given, in herds experiencing a low grade, chronic calf scour problem, and in herds with coccidiosis. It has been my observation that anything which disturbs the gut seems to cause the animal to consume foreign matter as if it were some natural remedy for the condition.

The big exception to this pattern is heavy louse infestations in cattle herds. This has been the most common etiology for hair balls in my practice. Calves can consume a significant amount of hair by constantly licking at their lousy coats during the first week or two of life. Cows in these herds will have tags of hair around their flanks and udders which the calf will suck and swallow. And preformed, ready-to-use hairballs can be found on many fences.

Signs and Symptoms: The typical calf is from 10 days to less than a month of age. The more obvious cases will show anorexia with resulting dehydration and loss of condition. It will appear "tucked up" with abdominal tension and resembles a hardware in miniature. The calf will kick at its flanks and may alternately stand and lay, although not as anxiously as a colicy horse. A rather unique sign seen in many calves is the formation of a tear on the lower eyelid. Whether this is the result of an endogenous parasympathomimetic agent or is just coincidental is not clear.

Another common sign is what I call the "pig snout". The dehydration apparently causes a tightening of the skin over the bridge of the nose which gives the allusion the nose is more prominent than normal. Additionally, many of these animals will have been eating mud and have the telltale sign of it on their noses. A less frequent sign has been an ascending paralysis starting with weakness and incoordination in the rear legs. The pathogenesis, here, is obscure; but having these calves return to normal following removal of a hairball leads me to believe there is a definite relationship.

Quite often the mass can be palpated using the same two handed technique you would use on a large dog. If the abdomen is too distended to palpate you probably do not have a hairball condition. Abdominal distention is definitely NOT a sign of this condition, but usually points to the ulcer-enterotoxemia-peritonitis complex which Nebraska researchers have found a close correlation with clostridial and coliform infections.

Sometimes the signs are more subtle and the client will be able to spot these calves by only seeing the cow unnursed when he recognizes that he has the problem in his herd. After seeing the results of surgery on such a calf they and their friends will become obsessed with finding more of them!

Treatment: Treatment with oil and parasympathomimetic drugs such as Stiglyn has not been successful. While it looks like a cheap way out in the face of bad agronomics, the delay in doing surgery often proves fatal. The oil cannot dissolve a felt-like hair mass that is usually greater than 1½ inches in diameter, nor can the lubrication and stimulation force it through the small pylorus of a calf. We therefore rely on surgical removal.

Surgery: The calf is placed in left lateral recumbency and the right paramedian area of the abdomen is clipped and prepped. No sedative is given parenterally and only mild restraint is usually needed. Local anesthetic is infiltrated along a 5" to 6" line starting about 2" posterior to the last costrochondral junction proceeding to the flank fold. An incision is made along this line large enough to permit entry of your hand and exteriorization of the abomasum. A 1½" to 2" incision is then made on the greater curvature and the contents are milked out of the abomasum into a bowl. (This helps to keep the surgical field cleaner). It is usually necessary to digitally explore the abomasum through the incision to assure complete removal of all masses. Often there will be masses near the omasum which could not be clearly identified from the outside.

The abomasum is lavaged with a water and neomycin solution and the usually contaminated surface of the organ is rinsed with this same type of solution. A clean drape is brought into place to rest the abomasum on while suturing the incision with a single, continuous inverting pattern. Prior to closure of the abdomen a few cc's of neomycin are dripped into the incision and along the edges. I have found this to be a necessary step to avoid peritonitis. Despite my best efforts to maintain an aseptic field, contamination is inevitable. The incision is closed routinely with two layers of running, interlocking gut and a continuous synthetic material is used in the skin.

Parenteral antibiotic is given following surgery and for at least two days following back at the ranch. A multiple B-vitamin injection is also administered. Since the calf is

dehydrated and malnourished I will administer a liter of Life Guard solution at this time and instruct the owner to repeat this at 6 hour intervals until nursing resumes. Milk would be even better, but it is generally in short supply on beef ranches.

In addition to felt-like hair balls which closely approximate a horse dropping in size and shape, hard cheese curds, looser accumulations of hair and plant material, mud and sand, and varying amounts of sour fluid will be found. These cheese curds have the consistency of snow tires and often have been in the stomach for 24 hours according to histories on nursing. Mud ingestion is variable, but hair is a consistent finding. In one case a rope of hair approximately 8" in length and an inch and a quarter or larger in diameter was removed from a contracted abomasum.

Recovery is usually remarkable. Within 18 to 24 hours most calves will be back nursing. Frequently the third dose of antibiotic is never administered because the rancher is unable to catch the calf conveniently. On true hairball cases the surgical success rate should be 95% complete recovery. Unfortunately, you will perform surgery on calves that should have been euthanized such as ulcer/peritonitis calves or prostrate, hypothermic calves occasionally and your overall success rate will more likely be around 80%.

Preventions: Basic herd health measures for cows and heifers including vaccinations for IBR, BVD, and clostridial diseases is recommended. Good nutrition, with adequate mineral supplementation will result in stronger calves and a lessened tendancy toward pica.

The single most important preventive measure has been the use of Dursban for the control of lice. This product has proven itself to be far superior to other back pours and dips, and we have had virtually no complications with its use. Unfortunately it has eliminated a dozen or more of these surgeries annually!

Teat Surgery — A New Approach

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During my years of practice i have made some observations and developed a procedure for handling those "stepped on teats" that routinely occur in most dairy operations and too often end up with the loss of a quarter or slaughter of a good cow.

The procedure I will describe is not generally printed in the literature but it has served me well for 35 years.

First, let me define the type of injury I am talking about. It has a sudden onset due to traumatic injury. It involves the distal end of the teat. There is usually some sign of injury, swelling, a little blood protruding from the teat end and usually no milk can be forced out.

Careful observation of the teat will reveal that the sphincter muscle has been torn loose from the skin opening and has receded upward leaving a severely bruised and torn area filled with a blood clot under the skin and surrounding subcutaneous tissue. By using a blunt instrument you can easily probe this area and determine its extent and how far up the sphincter has receded. The surgical procedure which I use is as follows.

First evaluate the disposition of the cow and administer necessary tranquilizers, (usually about 0.5 ml Rompun) secure the head with nose tongs or halter. Then infiltrate the teat end with 2 to 4 cc of a local anesthetic - usually I insert the needle through the opening of the teat and infiltrate into the subcutaneous tissue. There is less pain than entering the outer skin and less response from the cow.

I then insert one side of a blunt Mayo scissors through the teat opening and probe the cavity to determine how far it extends up the teat. Without removing the scissors blade I cut upward the extent of the cavity and then follow this around the teat removing the end - sometimes this may be nearly an inch. With the end removed I then debride the area - remove the blood clot and look for that bright white tissue which indicates the opening of the spincter muscle. At this point usually the milk can be easily forced from the teat.

The most important thing I can say about this procedure is that the sphincter muscle is almost *never* injured. Now this is not what most veterinarians have been told or believe, but I have used this procedure on several thousand cases and never is the sphincter muscle damaged.

The injury always is confined to the rupture of the sphincter from its skin aperture and *bruising* of the subcutaneous tissue around it. I must admit I have seen cases where the teat canal was ruptured above the sphincter, but the sphincter was intact. In these cases I recommended draining the teat with a tube and removing the scar tissue after the injury was healed.

After removing the teat end, as described, the after care consists of applying a suitable ointment (preferably sulfa and urea) to a 6½" round *gauze* milk filter pad and using this as a bandage. The bandage should be changed each milking. This is most important in the healing process, usually after 5 or 6 days the teat can be milked with the machine with no further problems and you will have almost 100% recovery without infection. Healing usually requires about 4 weeks.

Tidbits From Tennessee

Dr. Hugh McCampbell
Sweetwater, Tennessee

Good evening. Like everybody else, I want to welcome you all to Tennessee, and hope that your stay here will be such that you will want to come back real often.

I didn't choose the title "Tidbits from Tennessee" for my presentation, but when they asked me if that would be all right, I said that would be just fine, because I figured that after you all hear it, you won't think it should have any more high falluting title than that anyway.

I've gotten a lot out of these sessions in the past, so in turn, I hope that I'll present something that you will feel is worthwhile to take home and use also.

Sweetwater, Tennessee is in the southeastern part of the state. Our country is about half mountains, but there is still enough farmland there for 7000 dairy cows, and we sold 92 million pounds of milk in 1981. The 4 or 5 surrounding counties that we go into have the same sort of agriculture, so dairying is the main agricultural enterprise. We like to feel we are a little Wisconsin, little New York, or little California, as far as the dairy industry goes. At least those are the standards of excellence we like to strive for. Our mixed practice is 80% large animal, and the majority of that is dairy