

INJURIES AND DISEASES OF BEEF CATTLE ASSO- CIATED WITH CALVING

*S. P. Cuneo,¹ DVM; C. S. Card,^{2,3}
DVM, PhD; E. J. Bicknell,^{2,3}
DVM PhD*

The pay-off for cow-calf producers is being able to sell a weaned calf. To get this calf to market you must first get your cow pregnant and have her deliver a live calf. There are several common problems that affect cows from late pregnancy through calving. Many of these problems that occur during calving have a rapid onset and require a rapid response, the good news is that if they are attended to early they often have no permanent effect on subsequent breeding.

This publication will present common reproductive problems affecting beef cattle, a short description, underlying causes and possible prevention and common treatment. These problems are presented generally in chronological order, from those conditions seen before calving starts, through the immediate post-calving interval.

1. PROBLEMS PRE-CALVING:

*vaginal/rectal prolapse
ketosis*

2. PROBLEMS AT CALVING:

*dystocia
bruises, laceration, rupture
uterine prolapse
milk fever
obturator paralysis/downer cow*

*retained placenta
grass tetany*

1. PRE-CALVING:

Vaginal/Rectal Prolapse

Causes

The tissue around the birth canal becomes relaxed as the cow starts the last third of gestation, increased pressure in the abdominal cavity will push the vagina or the rectum out. If the tissue is trapped outside the birth canal it will swell and may become infected. In some cases the bladder is also trapped and the animal is unable to urinate.

This condition is more common in older cows but may occur in first calf heifers.

There may be a genetic link.

Overly fat cattle and cattle on pasture with a high legume concentration are at higher risk.

Treatment

Epidural anesthetic is usually necessary.

Replace the tissue and suture in place.

Vaginal sutures must be removed before calving.

Prevention

Remove animals from the herd that develop this condition, don't keep animals that have pre-calving prolapses.

Don't allow cows to gain too much weight during the last trimester of pregnancy.

Ketosis/Pregnancy Toxemia

Causes

Cows are exposed to low nutrition during the last two months of pregnancy.

Cows that are overly fat or are carrying twins are at a higher risk.

Signs

Affected animals become depressed, stop eating and will often stand off away from the herd.

Some animals will have the odor of acetone on their breath.

As the condition gets worse the cow will develop muscle tremors (trembles) and then go down.

Treatment

IV glucose, B vitamins.

Propylene glycol given by oral drench.

Any animal that is down should be lifted by a hip hoist 2 or 3 times a day for 15 to 20 minutes.

In cattle that are in late pregnancy consider inducing calving or a C section.

2. PROBLEMS AT CALVING

Dystocia

Any time a cow is unable to normally deliver her calf a dystocia has occurred. There are many management practices that can be used to reduce the incidence of

dystocia. Not all of them may be suitable to every ranching system.

Heifers have many special requirements so they will be discussed first.

Breeding Management

Cull heifers with small pelvic areas before breeding starts.

Select bulls to use on heifers based on the birth weight of the bull, not on his relative size. Use bulls on first calf heifers that will produce small birth weight calves.

Expose heifers to the bull so they will start calving 30-45 days before the adult cows.

Watch body condition during gestation; heifers must not get overly fat or lose weight.

Calving Management

Develop calving grounds. These should be separate from wintering areas, dry and have some shelter from weather if possible (anything from a shelter to trees for a wind break will help).

Separate first calf heifers from the cows.

In large herds the heifer group may need to be divided into subgroups of 40-50 animals.

Surveillance and calving assistance are provided on a 24 hour basis if possible. Restricting the breeding season to 42-60 days will allow personnel to focus their attention to assist in calving for a short, but intense, period.

Feeding at night (between 9-11 pm) will cause more animals to start calving during daylight hours.

The dam and calf should be moved from the calving area to a separate nursery pasture after the calf has nursed, is up and moving about and has bonded onto the dam. This generally takes 24-36 hours.

General Indications for Calving Assistance

The start of calving is indicated by the animal laying down and starting abdominal contractions. The water bag (part of the placenta) appears in the birth canal. The water bag will normally break after 30-60 minutes, and is often followed by a period of restlessness and several position changes. Abdominal contractions become more forceful and the feet appear in the birth canal. Birth is usually completed after 30-60 minutes of hard labor. If the animal has not made any progress after 60-90 minutes, assistance should be given.

The appearance of the head alone, the head and one leg, one leg alone or of the tail are all indications of an abnormal calf presentation and indicate the need for assistance.

Guidelines for Calving Assistance

Comfortably restrain the cow. A squeeze chute will work, but if an animal goes down during a contraction, she may not be able to get up. The best situation is to have a small pen with a head catch. After the animal's head is in the catch, a halter is applied; once the dystocia is corrected and

traction is applied to the calf, release the head and allow the cow to lay down in the pen.

The basic guidelines are clean and gentle. Keep the area around the birth canal as clean as possible, keep your hands and arms as clean as possible and use lots of lubricant (mild liquid soap is fine).

The calf can only come out one of two ways, both front feet followed by the head or both back feet out together. If you are unable to correct the position of the calf to get it coming to one of the above presentations, get veterinary assistance. The three most common problems are not getting the head to come out with the front feet (head turning back) and second, having a calf that is too big to be delivered through the birth canal resulting in hip lock. The third abnormal presentation is a breach in which the tail is the only part of the calf visible at the vulva. The presence of any of these problems usually requires veterinary assistance.

When pulling a calf, direct the traction down and away from the birth canal, not straight out behind the dam.

Do not use excessive traction; if you are unable to deliver a calf with two men pulling on the OB chains or when using a calf puller, increasing the amount of traction on the calf won't deliver it; the calf is oversized for the birth canal and should be delivered by C-section.

After delivering the calf, always make sure that there is not a twin present. This is a good time to check the birth canal for

any tears and to put some antibiotic pills in the uterus (neomycin-sulfa works well).

Bruises, Lacerations and Rupture of the Birth Canal

Causes

Calving difficulties, rough handling of the calf and maternal tissues and careless use of obstetrical instruments by the operators during delivery of the calf.

Injuries occur more often in cows that have been in labor for several hours and when the birth canal is dry and non-lubricated.

Treatment

Give oxytocin (P.O.P.) immediately to shrink the uterus and control bleeding.

Pack the uterus with antibiotics to control infection and give systemic antibiotics (IM or IV).

Try to control bleeding with coagulant compounds.

Surgical repair may be required if the laceration penetrates completely through the uterine or vaginal wall.

Cows with severe blood loss will require treatment to control shock; fluids, steroids, calcium gluconate or blood transfusions.

Uterine Prolapses

This is the expulsion of the uterus through the vulva to the outside of the body. This

condition is seen more often in older animals and occurs very soon after calving.

Causes

Difficult birth with injury or irritation of the external birth canal and severe straining.

Retained placenta.

Loose uterine attachment in the abdominal cavity. There may be an increased prevalence in some families.

Poor uterine tone post-calving. This may be related to low blood Calcium levels.

Poor body condition with malnutrition.

Treatment

An **emergency** condition; rapid treatment is important.

Keep the prolapsed uterus clean and moist.

Apply material to pull fluid from the uterine wall: sulfa-urea powder, urea powder, sugar.

For replacement epidural anesthesia is often required.

Replace the uterus or obtain veterinary aid immediately.

When replacing the uterus all of the organ must be replaced into the abdominal cavity and both horns must be fully everted. Failure to completely evert the uterine horns will cause the animal to continue to strain and prolapse again.

Treat the uterus with antibiotics and give systemic antibiotics.

Most operators will suture the vulva closed for 3-4 days.

Some cows will rupture the uterine artery during the prolapse. If this occurs the cow will hemorrhage internally, go into shock and die.

After Effects

No permanent problem if the uterus is quickly replaced.

Don't need to automatically cull a cow because of a prolapsed uterus but a severe injury such as freezing, drying or severe laceration may cause infertility.

Milk Fever

Cows that are starting to produce milk are unable to remove Calcium from their bones quickly enough. If blood levels of Ca fall below minimal levels the muscles of the body are unable to function and the cow goes down, is unable to rise and will become comatose and die.

Causes

Incidence of milk fever increases with age and number of calves.

Cows of the dairy breeds or dairy cross have an increased incidence.

High blood levels of estrogen inhibit Ca mobilization; this may be a factor on pastures that are high in legumes.

Clinical Signs

Cow is down post-calving, and will become depressed with a

slow heart rate, decreased rumen activity, low body temperature and head turned to the side.

Without treatment most animals will become more depressed, then become comatose and die.

Treatment

Slow administration of IV calcium, usually 300-500 mls. of a commercial type.

Calcium solution is given over 20-30 minutes. Also a second bottle may be given under the skin at the same time.

Decrease the rate of milk removal, i.e. give the calf supplemental feeding so it will not nurse as much from the cow.

Cows that are down more than 12 hours require slinging from a hip hoist, 15-20 minutes twice daily, to reduce nerve and muscle injury.

Animals that do not respond to treatment should be checked by a veterinarian.

Prevention

Decrease Calcium intake during the last two months before calving by reducing legume forages. Cattle that are allowed to graze on a pasture with a high legume content will be at greater risk.

IM injection of Vitamin A/D pre calving, it may help change legume roughage to grass hay, two to four weeks prior to calving.

Obturator Paralysis/Downer Cow

Cattle that have had a difficult delivery will have a variable amount of swelling and tissue trauma around the birth canal. This swelling and bruising may damage the nerves from the spinal cord or those in the hip that supply the legs, preventing normal leg function. In some cases excessive traction while pulling a calf will fracture the middle lower bones of the pelvis.

Causes

Excessive pulling to deliver a calf, pulling a calf straight out from the cow rather than down and backwards or having the calf in the birth canal too long (several hours). Some cows may deliver normally but because of poor footing slip and "split out". Damage to the pelvis, in this case produces a downer cow.

Treatment

Steroids must be used to reduce swelling and assist in nerve healing.

Cows that are unable to stand should be hoisted 15-20 minutes twice a day.

Cows that split out but can stand, should be in a clean dry pen with hobbles, that prevent the legs from splaying out to the sides.

IM Vitamin E/Se may help.

Retained Placenta

Usually the placenta is passed in 3-8 hours after calving. If it

has not passed by 8-12 hours the placenta is retained and the animal should be treated.

Causes

Dystocia, C-sections, fetotomy, twinning or abortion will all increase the chance of a retained placenta.

Some infectious diseases such as IBR, Brucellosis, listeriosis and leptospirosis will cause abortion and retained placentas.

Malnutrition and feed deficiencies, especially low carotene, Vitamin A, Iodine, Selenium and Vitamin E.

Treatment

Slight manual traction, gently pull on the placenta. If the placenta resists, stop and pack the uterus with boluses or use fluid douches to keep antibiotics in the uterus. Be very sure to use good hygiene when treating the uterus or the problem will become worse.

Systemic antibiotics are useful, particularly if the uterus develops an infection (metritis).

Prostaglandins may aid in getting the uterus to reduce in size and in releasing the placenta.

Make sure the calf is nursing and treat any other problems that may have caused the retained placenta.

Oxytocin is useful only in the first 48 hours and may be used to reduce the size of the uterus. If used later than 48 hours, the uterus must be sensitized with estrogen.

Grass tetany

Similar to milk fever in that cattle in heavy post calving lactation are losing large amounts of Magnesium (Mg) in their milk. Most types of mixed pasture grasses are low in Mg. If cows are exposed to cold weather stress during early lactation their blood Mg levels may drop low enough to cause grass tetany.

Clinical Signs

Early most affected cattle will appear restless, stop grazing and have increased activity with an unusual high stepping gait.

As the condition progresses the animal falls down, the legs are stiff and convulsions occur.

The eyes move in an erratic manner and may roll in the head.

The heart rate and body temperature are elevated.

Some animals may become very aggressive and attempt to charge or butt using their heads.

Treatment

IV Mg usually given with Ca.

Treatment is not as effective as with milk fever and many affected animals do not respond.

Prevention

Supplemental feed (hay) to lactating cows that are grazing lush pasture particularly during cold, wet weather.

*Department of Animal Sciences¹
Department of Veterinary Science²
Cooperative Extension³
College of Agriculture
The University of Arizona
Tucson, Arizona 85721*

FROM:

Arizona Ranchers' Management Guide
Russell Gum, George Ruyle, and Richard Rice, Editors.
Arizona Cooperative Extension

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