



Injuries and Diseases of Dairy Cattle at the Time of Calving and Breeding

Diseases of cattle at the time of calving may be classified in two categories. The first includes conditions that are acute in nature, require immediate attention and respond rapidly to treatment with little if any effect on the subsequent breeding period. These conditions — such as injury, retained placenta and prolapse of the uterus — are in most cases associated with a time period that extends from a few hours before to a few days after calving.

In the second group are several conditions which also may be seen at parturition or soon after. Because of their chronic nature, these diseases have a decided effect on the breeding history of the affected cows. In many cases, the condition is not recognized in the early stages or it may not be considered a serious threat to the animal's health. As a result, treatment may be absent or of short duration. Later on — 20 to 60 days after calving — the disease may cause periods of infertility or possibly complete sterility. These conditions are direct or secondary effects of infection and include infections of the uterus such as metritis and endometritis, pus in the uterus or pyometra, delayed involution of the uterus, persistent yellow bodies (Corpus luteum or C.L.) and either anestrus (lack of heat periods) or late-irregular heat periods.

Other conditions in the second group are caused by hormonal imbalances or deficiencies and result in anestrus or silent heats during the 20 to 60 day postpartum period. These conditions include cystic ovaries, cystic yellow bodies and delayed ovulations.

Following are short descriptions of these conditions, the causes if known, and the common treatments if any:

I. Injuries and Disease Conditions Of an Acute Nature

A. Bruises, lacerations and rupture of the birth canal with hemorrhage.

1. Caused by calving difficulties, rough handling of the calf and maternal tissues and careless use of obstetrical instruments by the operator during delivery of the calf.

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

2. Treatment

- a) Oxytocin (P.O.P.) **immediately** to shrink the uterus and control bleeding.
- b) Antibiotics or sulfa drugs locally (in the birth canal) or systemically, IM or IV (intramuscularly or intravenously).
- c) Local control of bleeding with coagulant materials or surgery by your veterinarian.
- d) Systemic materials — calcium glucomate, IV; saline and 10% formalin IV, and blood transfusions.

B. Prolapses. The uterus or vagina falls from its normal position, through the vulva, to the outside of the body (casting wethers, or calf bed).

1. Causes are:

- a) Difficult birth with injury or irritation of external birth canal and severe straining.
- b) Retained placenta, attached to end of uterine horn.
- c) Loose uterine attachments in the abdominal cavity.
- d) Relaxed, flaccid or sloppy uterus after calving; poor uterine tone.
- e) Stabled cattle or other cattle when positioned with rear parts sloping downward.
- f) Generally in older cows. In some breeds the condition may be more prevalent in certain families with a tendency for reoccurrence in individual animals.
- g) Poor body condition and malnutrition.

2. Treatment (call for professional help — fast).

- a) Give oxytocin immediately either IV, IM or SQ.
- b) Cleanse the prolapsed structure with warm water and mild soap or disinfectant.
- c) Apply a material to pull fluid from the uterine wall; i.e., sulfa urea powder, urea powder, sugar.
- d) Replace prolapsed structure carefully.
- e) Use local and systemic treatment for infections.

- f) Suture vulva closed. Veterinarians may or may not do this, depending on the severity of of the case.
- g) If the cow is weak and shaky with a rapid heart beat and pale membranes, suspect a ruptured blood vessel. Death may occur rapidly. Treatment is generally not successful.

3. After effects:

- a) Often none if the uterus and vagina are not injured during replacement.
- b) Perforations and ruptures, if sutured, may have little affect on future breeding life.
- c) If antibiotic treatment isn't used, infections may occur reducing future breeding capabilities.
- d) Severe injury, freezing, drying, etc., to uterine lining may heal quite well after uterus is replaced. However, extensive injury may result in infertility.

C. Injury to nerves of the pelvic cavity and muscles of the rear legs.

1. The cause is severe bruising by the boney structure of the calf's pelvis during passage through the birth canal and by obstetrical instruments. This results in partial or complete paralysis of two nerves (obturator and peroneal) in the maternal pelvis. The damage may be permanent, but a majority of cases respond within a week.

- a) Hiplock of long duration when a cow is recumbent is a common cause.
- b) The paralysis is most common in first calf-heifers.
- c) One or both rear legs may be affected.

2. Treatment:

- a) Good nursing care — food, water, bedding.
- b) Roll the animal from one side to the other 2 to 3 times a day.
- c) Use "hip slings" once or twice a day.
- d) Support affected leg(s) when cow is standing.

3. After effects:

- a) None if the animal gets up within a few days.
- b) If the animal is down for a prolonged period, 3 to 7 days, the muscles of the rear legs degenerate. The muscle that supports the hock may rupture resulting in permanent disability. The muscle damage may be more prevalent in selenium deficient areas.
- c) After being down for a week or more, chances of recovery are very limited.

D. Retained placenta, retained afterbirth (R.P.'s)

1. Usually the placenta is passed in 3 to 8 hours. If retained longer than 8 to 12 hours it is "retained".
2. Causes of retained placentas:
 - a) Lack of sucking by calf immediately after birth and a deficient oxytocin release.

- b) Early or late births.
- c) Low levels of carotene (Vitamin A) in the dam's blood.
- d) Abortions, twins and uterine infections.

3. After effects are not serious unless pyometra (pus in uterus) and endometritis occur.

4. Treatment:

- a) No treatment is necessary in most cases if the cow is eating and her body temperature is normal (100.5-102.5°F).
- b) When metritis results (uterine infection) with fever and loss of appetite then treatment is required.
- c) Treatment includes:
 - Careful removal, if possible, of the R.P. by your veterinarian (at least 72 hours after calving).
 - Local treatment of the uterus with tetracyclines or other drugs.
 - Antibiotics intramuscularly (IM) or intravenously (IV).
 - Estrogens in recommended doses, IM if the animal isn't extremely ill.

II. Conditions Which Affect Fertility - Group II Conditions

A. Metritis

1. Occurs with or without retained placenta usually in 1 to 10 days following calving.
2. The cause is usually uterine inertia or atony followed by infection by any one of several bacteria.
3. Clinical signs include:
 - a) Loss of appetite.
 - b) Fever (103-105°F).
 - c) Decreased milk production.
 - d) Thick, cloudy vaginal discharge, or when the condition is more severe, the discharge will be watery, cloudy to grey in color with a foul odor.
 - e) Severely affected animals may go down and die rapidly.
4. Treatment includes:
 - a) Local treatment of the uterus with antibiotics.
 - b) Systemic antibiotic treatment - either IM or IV, but preferably IV in more serious cases.
 - c) Intravenous treatment with electrolytes and dextrose.
 - d) Estrogens when advised by your veterinarian.
 - e) Antihistamines.

B. Endometritis

1. The condition:
 - a) Often follows metritis or retained placenta.
 - b) Often follows calving difficulties such as twin births, premature births or abortions.

- c) Often follows physical damage to the birth canal during calving problems.
 - d) Sometimes occurs following natural breeding and physical damage.
2. Accurate diagnosis is difficult.
- a) Clinical signs are not obvious and may not be recognized externally or by rectal examination.
 - b) Abnormal discharge is difficult to find or recognize. However there may be small flecks of pus in the mucus during the heat periods.
 - c) Cattle with endometritis usually "cycle" normally but don't conceive for several heat periods.
4. Treatment is usually successful and includes:
- a) Antibiotics, locally in the uterus, and stimulating but weak solutions — Lugol's iodine, Lysol, "tamed iodine", acriflavin dyes.
 - b) Estrogens in the uterus or intramuscularly in recommended doses with antibiotics.

C. Delayed Uterine Involution

1. Commonly seen in older, high-producing dairy cows.
2. The condition:
 - a) Often associated with difficult births, twins, abortions, cesarean section or any abnormal birth.
 - b) May occur following metritis or other genital tract infections.
 - c) Often associated with endometritis.
3. Clinical signs are anestrus or repeat breedings.
4. Treatment is the same as for endometritis. However if the infertility is not associated with infection this treatment will be of little value.

D. Pneumovagina (air in the vagina, windsuckers)

1. Found in older cows when the cervix and uterus extend forward over the pelvic brim. The vulva is then pulled forward into the pelvis. The condition is seen following tears or lacerations of the vagina during calving.
2. The clinical signs:
 - a) Air sucked into vagina after urination, defecation or getting-up.
 - b) A reddened, sometimes ulcerated vaginal wall with a thick-grayish discharge.
 - c) Urine retained in the vagina with fecal material and other contaminating material.
 - d) A collection on the vaginal floor of the contaminating material which is voided when the cow arches her back to urinate or defecate.
 - e) Poor conception as the end result.
3. To treat, correct the tears and lacerations by

surgery, treat the uterus with antibiotics and breed back after two heat periods.

E. Pyometra (pus in the uterus)

1. Pus accumulates in large amounts in the uterus and is associated with the retained yellow body (C.L.).
2. Causes are:
 - a) Abnormal calvings.
 - b) Uterine infections or retained placentas.
 - c) Incomplete uterine involution.
 - d) Occasionally pyometra following conception, then fetal death followed by maceration of the fetus.
 - e) Insertion of a breeding pipette into the pregnant uterus.
3. Clinical signs:
 - a) Failure of estrus or heat.
 - b) Large amounts of pus in the uterus usually 45 to 90 days after calving. This material can be detected by a rectal.
 - c) Pus that escapes periodically and is noted on the tail and around the vulva.
4. Treatment includes:
 - a) Have your veterinarian get rid of the C. L. by removal with drugs or manually if the injection doesn't work.
 - b) Douche the uterus along with manual massage.
5. The animal's breeding life may be ended if diagnosis and treatment aren't prompt.

III. Other Conditions Related To the Diseases Causing Infertility

A. Ketosis

1. This metabolic disease is usually seen in the high-producing dairy cow from 2 to 6 weeks after calving and is often secondary to infections of the uterus.
2. The causes are the demands of high milk production associated with some stress such as disease.
3. Clinically these cows show the following signs:
 - a) Loss of appetite although they may eat intermittently.
 - b) Intermittent low milk production.
 - c) Ketones in the urine.
 - d) Firm fecal material.
 - e) Abnormal uterine discharge.
4. The treatment:
 - a) Treat the uterine infection with antibiotics.
 - b) Treat the ketosis with dextrose or cortisone products.

B. Displaced Abomasum (LDA)

1. Usually this condition is noticed from 1 to 6 weeks after calving in dairy cows. It is often seen in cows with mastitis, metritis, retained placentas.

2. The cause is thought to be:
 - a) Overfeeding of concentrated rations to dry cows and to cows immediately after calving.
 - b) Lack of exercise.
 - c) Increased abdominal size of the larger dairy cows.
3. The clinical signs include:
 - a) Ketosis-like symptoms except:
 - (1) Fecal material is loose and scanty.
 - (2) Ketone reaction is 1 to 2+ in LDA; 3 to 4+ in ketosis.
 - (3) The rumen will not be detected on the left side behind the last rib.
 - b) You will note intermittent drops in milk production and in appetite.
4. To correct the problem:
 - a) Dry cows
 - (1) Separate dry cows from milkers so you can control feed intake.
 - (2) Feed hay, haylage or pasture (when available).
 - (3) Feed 10 lb. of hay (or the equivalent haylage) and limit corn silage to 30 lbs. (10 to 12 lbs. of dry matter) per head daily.
 - (4) If corn silage is fed as the only forage, limit daily intake to 1.5 lbs. of dry matter per 100 lbs. of body weight. Supplement this diet with proteins, minerals and vitamins to balance the ration.
 - (5) Avoid letting the dry cows get excessively fat.
 - (6) Exercise if possible.
 - b) Cows after calving.
 - (1) Increase grain ration gradually ($\frac{1}{2}$ lb/cow/daily).
 - (2) Avoid sudden large increases in amount of grain fed and feed 8 to 10 lbs. of hay per day.
 - (3) Feed a minimum of 15 % crude fiber or 40 % roughage (dry basis) in the total ration.
 - c) Cows late in lactation.
 - (1) Decrease concentrate rate as milk production declines.

IV. Hormonal Disturbances Resulting in Infertility

A. Cystic ovaries

1. Commonly seen in older dairy cows. The condi-

tion may be seen in 12 to 15 per cent of problem breeder cows.

2. Cysts are developing follicles which don't rupture (the cow doesn't ovulate).
3. Several possible causes of cystic ovaries are currently popular and include:
 - a) Genetics.
 - b) High protein feeds.
 - c) Hormonal imbalances.
 - d) Excessive estrogens from treatments for anestrus.
4. Clinical signs:
 - a) Anestrus - no heat periods.
 - b) Nymphomania - bulling cows.
 - c) Relaxed ligaments and a raised tail-head.
5. Treatments:
 - a) The results are good, if cystic degeneration in the uterine glands isn't present, when the case is very chronic.
 - b) Hormones — chorionic gonadotrophins; luteinizing hormones (L.H.); synthetic progestins (MAP).
6. Failure of ovulation and cystic yellow bodies are problems that have similar causes and the same treatment as cystic ovaries.

V. Failure of Estrus Or Heat Periods

A. The most common cause of "failure of estrus" is pregnancy!

1. Before condemning a cow to the saleyard or before using estrogens to induce heat periods, have the animal checked for pregnancy.

B. Retained or persistent "yellow bodies"

1. Causes are:
 - a) Early embryonic death.
 - b) Uterine infections.
 - c) Pregnancy!

C. Weak or silent heat periods

1. Usually occur from 30 to 60 days post partum.
2. The cow simply doesn't come in heat, although she does ovulate.
3. More often occurs in nurse cows than in cows that are milked regularly.
4. Cause hormone imbalances, possibly.
5. Treatment? Have the cow examined. She will breed if you can pinpoint the age of the follicle.
6. Cattle usually do this at 30 to 60 days and show estrus after 60 to 90 days.

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