

Milk Fever: New Information on an Old Disorder



By Ryan Leitnerman, D.V.M.

Parturient hypocalcemia, otherwise known as “milk fever” is a term that refers to a cow that is either weak or cannot rise because of a low blood calcium concentration. New research is providing us with an insight on ways to both better prevent and treat cases of milk fever. Cows have a complex mechanism for maintaining their blood calcium levels that involves three organ systems; the udder, kidneys and skeletal system. Milk fever occurs when a depletion of the body’s store of calcium takes place more rapidly than what the complex mechanism that regulates it can restore it.

Many different treatments exist for the prevention and treatment of milk fever. New research proves that oral calcium supplementation is important in the treatment and prevention of milk fever. It should be noted that an animal that is down from milk fever will require an intravenous (IV) treatment of calcium in order to rise, as oral supplementation alone will not correct the calcium deficit.

As a practicing veterinarian, I have seen producers use milk fever treatments that are counterproductive. The two most common mistakes in treating milk fevers are 1) giving two 500 ml bottles of calcium IV and 2) using IV treatments that contain dextrose such as Cal-Dex. Giving two bottles of IV calcium to cows suffering from milk fever raises the blood calcium level to near toxic levels that can stop the heart from beating. The body senses this near toxic level of calcium and invokes a response to rapidly excrete the excess calcium in the urine. This rapid excretion of calcium in the urine actually works too well, effectively dropping the calcium level below normal levels thus causing the cow to relapse. Research has shown that cows with milk fever treated with two bottles of calcium are proven to have a higher relapse rate than cows given just one bottle. Cows with milk fever also have extremely high blood sugar levels due to the pancreas’ inability to secrete insulin when blood calcium levels are low. Cows with milk fever treated

Prevention

Saf-Cal 16 oz orally twice daily the day before and the day of calving

OR

Fresh N Easy 4 capsules twice daily the day before and the day of calving

OR

Oral drench containing 1 lb Opti-Peak and 16 oz of Saf-Cal mixed with 3-10 gallons of water on the day of calving

Weak/Muscle Tremors

500 mls 23% calcium gluconate under skin

And follow up with any of the prevention combinations listed above

Milk Fever (Unable to Rise)

500 mls 23% calcium gluconate IV and

Fresh N Easy (4 capsules) twice daily for two days

with IV products containing dextrose raise the blood sugar levels even higher. When the cow senses these high blood sugar levels, the body’s corrective measures oftentimes lower other blood electrolytes, such as potassium. Low blood potassium levels will also cause a cow to go down and become unable to rise. Cows should never be given products containing dextrose under the skin as they can cause a severe infection. Only calcium products labeled “23% calcium borogluconate” or “23% calcium gluconate” are safe to be given under the skin.

Using oral calcium supplementation is a practical approach to preventing milk fever as well as using one bottle of 23% calcium gluconate IV for cows down with milk fever. The chart above provides appropriate treatment options for cows with various stages of milk fever.

Nutrition Nuggets

A well balanced dry cow ration can help prevent many problems at freshening. Don't forget to ask your Crystal Creek Dairy Nutritionist to balance your dry cow ration this winter!

Transition Cow Management Basics:

After freshening the cow has lost significant levels of body fluids and electrolytes.

Giving the fresh cow 5 to 10 gallons of clean, warm water to drink immediately (within an hour) after freshening will help her recover and get on feed faster. This will help to reduce the risk of milk fever, ketosis and improve milk production. Don't wait for her to walk over to a cold water source.

Administering Opti-Peak, Cow Quench and/or Saf-Cal (added to the water, mixed into the feed, or drenched) will help to replenish critical nutrients, further reducing the risk of milk fever, ketosis, off-feed and contribute to a stronger lactation performance. This is a pivotal management opportunity upon which the whole lactation performance and the operation's profitability can depend. What a great place to focus resources for an excellent return on investment.

Mycotoxins

Many feedstuffs, due to less than optimum growing conditions, contain mycotoxins. Make sure you test any suspect feeds and if mycotoxins are present, contact Crystal Creek to develop a plan to deal with this issue.

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