

Downer cow syndrome

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POSSIBLE CAUSES

In the time period shortly before calving, large amounts of calcium are removed from the blood and are utilized in the mammary gland to be part of the colostrum. Calcium in colostrum may be eight to ten times greater than in the blood supply. The rapid drop and the decreased mass of the calcium pool prior to parturition, and the failure of calcium absorption to increase fast enough after the onset of lactation, can predispose animals to milk fever or hypocalcemia.

There are other probable causes that have been associated with inducing milk fever. They include excessive bone formation due to elevated levels of gonadal hormones and rations containing excessive dietary levels of cations, especially potassium. In addition, other metabolic disorders can lead to clinical and subclinical hypocalcemia (i.e. ruminal stasis, displaced abomasum, retained placenta, prolapsed uterus, metritis, and ketosis).

BLOOD PARAMETERS

The most notable changes occurring in the blood are a decrease in blood calcium and blood phosphorus levels and an increase in blood magnesium levels. In cases of milk fever complicated by a lack of magnesium, the blood magnesium level may remain normal or even be depressed. Table 1 illustrates the blood mineral levels for animals in various stages of milk fever.

Some cases of milk fever are complicated by a toxemia from infection in the udder, reproductive tract, or digestive system. This type of toxemia from infection may be reflected in the blood with a high packed cell volume (PCV), depressed white blood cell (WBC), and/or elevated blood urea nitrogen (BUN). It is recommended to include the WBC differential as this can indicate stress or infection.

Other blood parameters that can denote toxemia are sodium, potassium, chloride, and fibrinogen. Fibrinogen levels can signal that inflammation and infection is present. If toxemia is a factor and is not overcome, treatment for milk fever may not be

successful.

For downer cow problems, consider creatine phosphokinase (CPK) and aspartate aminotransferase (AST) in the blood test. CPK normally ranges between 105–109 IU/L. A value greater than 1000 IU/L indicates severe muscle damage from being down. AST levels over 200 IU/L flag a guarded prognosis and levels over 500 IU/L can indicate severe muscle damage.

SUGGESTIVE CONTROL

1. Make certain that mineral tests on forages are available. Minerals to test should include calcium, phosphorus,

magnesium, potassium, sodium, sulfur, and chloride.

2. Consult with a nutritionist to evaluate the present ration program and the feeding management practices. Include all pertinent information including incidence and severity of milk fever cases.

3. Collect a blood sample from the animal before administering treatment for hypocalcemia. If the animal does not respond to treatment, submit blood sample for blood counts and clinical chemistry. Include in the profile serum minerals, PCV, WBC with differential, and BUN. Some situations may warrant checking CPK and AST.

4. Pending results of feed and blood testing and ration evaluations:

a. Check feeding management practices. For example: Are the dry cows consuming free-choice forages or mineral premixes? Is there selective consumption by cows for certain forages?

b. Discontinue any free-choice mineral feeding. Force-feed all minerals.

c. Check that dry cows are receiving supplemental vitamin D at 15,000 to 25,000 units per head daily and that on average, milk cows are getting about 30,000 units per head daily. A maximum intake of 50,000 units per head daily should be used for all cows.

d. Check dry cow ration, especially during the last two to four weeks prior to calving.

e. Limit grain intake to a maximum of about 0.5% to 0.8% of body weight. Limit legume or mixed mainly legume forage to 30% to 50% of forage dry matter intake.

f. Limit corn silage to 50% of the forage dry matter intake.

g. Remove moldy or spoiled forage or feed from the ration, especially those testing positive for mycotoxins.

5. Use plain calcium borogluconate for the first treatment to minimize refractory cases.

6. As a last resort, use one of the following.

a. Feed-mixed with the grain or other quickly eaten feed--100 grams (3.5 oz) of ammonium chloride per head daily beginning not less than two days before and continuing at least two days after freshening. This is particularly appropriate if high rumen pH is suspected. Check urine pH promptly. Most

cows should have a urine pH of 7.0-8.6

b. Inject intramuscularly 10 million units of vitamin D3 in a water-soluble, highly crystalline form within 24 to 48 hours of expected freshening. Do not repeat dose for at least 10 days if cow doesn't freshen. Use three million units in a repeat dose.

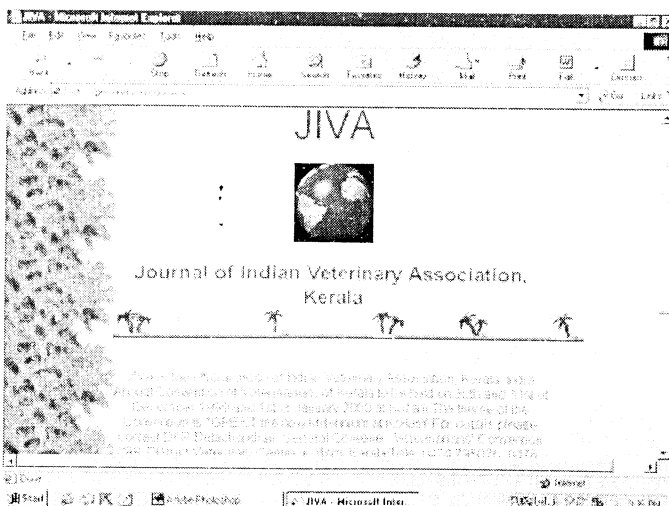
c. Before giving up on downer cows, give a drench of two pounds of Epsom salts in one gallon of water. This will sometimes remove toxins in the lower gastrointestinal tract and enable cows to stand within two to four hours.

d. Administer high calcium bolus (about 75 grams of calcium carbonate) as soon as possible after calving and within eight hours of freshening; or administer calcium paste paying close attention to the manufacturer's recommendations and directions.



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QUACK PUNISHED

The Consumer Disputes Redressal Forum, Alappuzha ordered a fake veterinary practitioner named V Surendran to pay a sum of Rs 15000.00 plus interest @14% from the date of complaint and Rs 1000.00 towards damages (totalling to Rs 24400.00) to the complainant. In its order dated 11th February 1999, the Forum found Mr Surendran responsible for the loss of a crossbred cow and calf allegedly treated by him. Dr M Kamarudeen, Senior Veterinary Surgeon, Kattanam appeared as expert witness for the complainant. Even though the quack was ordered to pay compensation, the Forum didn't make any observation that the opposite party was not competent to practise veterinary profession. It considered only the following points for consideration:

1. whether the complainant is a consumer
2. whether there is any deficiency in service on the part of the opposite party
3. if so, what are the reliefs and costs.