

Successful management of a crossbred downer cow after prolonged recumbency

Summary

A six year old crossbred Holstein Friesian cow was found recumbent in the bay during late gestation at Hi-tech bull mother farm, Kolahalamedu. The downer cow was treated with infusion fluids, antibiotics, anti-inflammatory drugs and other supportive therapy along with physiotherapy. The animal had an uneventful recovery after 41 days of recumbency.

Keywords: downer cow, infusion fluids, antibiotics, anti-inflammatory, physiotherapy

Volume 8 Issue 5 - 2019

Karthik V Kuttan

Kerala Livestock Development Board, Hi-tech Bull Mother Farm, India

Correspondence: Karthik V Kuttan, Kerala Livestock Development Board, Hi-tech Bull Mother Farm, Kolahalamedu P.O., Idukki-685501, India, Email 88kartikvk@gmail.com

Received: August 29, 2019 | **Published:** September 25, 2019

The “downer cow” syndrome

A downer cow may be defined as a non ambulatory cow with non-progressive neurological findings¹ that are unable to stand after 24 hours of recumbency but that can maintain sternal recumbency. Common causes of recumbency in cattle can be injuries, metabolic imbalances and infectious or toxic disease.² The term creeper has been used to describe cattle that are unable to bear weight on their hind limbs but are able to propel themselves short distances with their forelimbs. The downer cow condition occurs most often within 1 day of parturition and frequently results from periparturient hypocalcemia or complications associated with calving. The incidence of non-ambulatory cattle is greater among dairy than among beef breeds. Non ambulatory cattle should be treated as medical emergencies because secondary muscle and nerve damage develop rapidly following the onset of recumbency and reduces the likelihood of recovery.

Own case

A six-year-old crossbred Holstein Friesian cow was found recumbent in the bay during late gestation which was fed on green setaria grass vegetation stadium, type or species, hay and commercial concentrate mixture with a crude protein content of 18% and metabolisable energy of 2250 kcal/kg feed at Hi-tech bull mother farm, Kolahalamedu. The place is having high humidity and an ambient temperature of 18-22°C. Ad: Climatic conditions. Animal was active and alert and responded to external stimuli. Rectal temperature, pulse rate and respiratory rate were within the normal range. Animal frequently attempted to rise from the ground but was unable to bear weight on hind limbs. Initially the animal was treated with intravenous administration of 500 ml dextrose 25% and 250 ml calcium borogluconate and intramuscular administration of Sodium salt of 4-dimethylamino-2-methyl-phenylphosphinic acid -give the chemical compound injection for 5 days. But the animal did not respond to treatment and hence induction of parturition was initiated with intramuscular administration of cloprostenol sodium and prednisolone. A live male calf was born 36 hrs after the administration of cloprostenol sodium

The next day after induction of parturition, retained foetal membranes were removed manually and a decision was taken to lift

the animal with the help of supportive sling. As there were bruises and injuries in the skin of animal and decubitus ulceration,¹ antibiotic therapy was initiated with intramuscular administration of ceftiofur sodium along with intravenous administration of balanced electrolyte solution for the next ten days. Animal was fed on good quality hay and commercial concentrate mixture with a CP of 18% and ME of 2250 kcal/kg. After lifting the animal for few hours, physiotherapy was performed in the form of hot fomentation and application of turpentine liniment over the limbs. The animal was provided with soft bedding in the form of sand and straw.³ recumbent cow was repositioned every several hours, alternating between the left and right sides, to prevent secondary muscle and nerve damage. Milking out the udder and application of antiseptic ointment on the wounds were performed twice a day. On day 8 of recumbency, 5 ml isoflupredone acetate was administered epidural and 5ml intramuscular.⁴ On day 10 of recumbency, animal started showing signs of improvement and started bearing weight in all the four limbs, while lifted.

The wounds on the skin started to heal and so parental antibiotic administration was discontinued on day 15 of recumbency.⁵ But after 5 days of discontinuation of antibiotic therapy, i.e. on 20th day of recumbency, the condition of the animal worsened and there was inflammation of the carpal joint and knuckling of forelimb. Hence antibiotic therapy was continued with intravenous administration of ceftriaxone sodium for 10 days along with intravenous administration of flunixin meglumine for 5 days and intramuscular administration of Sodium salt of 4-dimethylamino-2-methyl-phenylphosphinic acid injection.⁶ The animal started showing signs of improvement and on 32nd day of recumbency, the sling was completely loosened and the animal was encouraged to walk.⁷ Later, the animal was encouraged to rise up by supporting the tail.^{8,9} On 41st day after recumbency the animal was successful in rising from the ground without any external support and the animal had an uneventful recovery.

Acknowledgments

None.

Conflicts of interest

The author declares that there are no conflicts of interest.

References

1. Radostitis OM, Gay CC, Hinchcliff KW, et al. *Veterinary medicine. A text book of the diseases of cattle, horses, sheep, pigs and goats. 10th Ed.* Saunders Elsevier, Edinburgh, London, New York, Oxford, Philadelphia, St. Louis, Sydney, Toronto. 2007.
2. Green AL, Lombard JE, Garber LP, et al. Factors Associated with Occurrence and Recovery of Nonambulatory Dairy Cows in the United States. *Journal of Dairy Science.* 2008;91(6):2275–2283.
3. Juma PO, Kipyegon A, Muraya J, et al. Successful use of dexamethasone vitamin B12 and vitamin E selenium in management of bilateral obturator nerve paralysis in a cow. *International Journal of Veterinary Science.* 2015;4(3):158–116.
4. Carolyn L, Stull P, Payne MA, et al. A review of the causes, prevention, and welfare of nonambulatory cattle. *Journal of American Veterinary Medical Association.* 2007;231(2):227–234.
5. Kumari N, Kaswan BL. Successful management of downer syndrome in cow by medical treatment along with physiotherapy. *International journal of Science and Research.* 2013;6(4):828–829.
6. Poulton PJ, Vizard AL, Pyman MF. High-quality care improves outcome in recumbent dairy cattle. *Australian Veterinary Journal.* 2016;94(6):173–80.
7. Senthilkumar V, Mohamed Safiullah A, Kathiravan G, et al. Economic Analysis of Metabolic Diseases in Bovines: A Review. *International Journal of Advanced Veterinary Science and Technology.* 2013;2(1):64–71.
8. Smith GW, Davis JL, Tell LA, et al. Extralabel use of nonsteroidal anti-inflammatory drugs in cattle. *Journal of American Veterinary Medical Association.* 2008;232(5):697–701.
9. Rao VV, Nalinikumari K, Srilata C. Clinico-therapeutic study on downer cow syndrome. *Indian Veterinary Journal.* 2015;90(1):132–133.