



A Case Study of a Downer Cow

Fatima Alraeesi*

Veterinary Science Student, Higher Colleges of Technology, Sharjah, United Arab Emirates

***Corresponding Author:** Fatima Alraeesi, Veterinary Science Student, Higher Colleges of Technology, Sharjah, United Arab Emirates.

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Abstract

A cross-bred cow in a livestock farm in Al Zubair, Sharjah, had been in sternal recumbency (on the breastbone) for more than 24 hours and was showing signs of downer cow syndrome. The cow did not stand and had become recumbent after being mounted by a significantly larger jersey bull, resulting in nerve damage in the cow. The cow was alert and had a normal appetite and temperature of (38.9°C) but was suspected to have calcium and copper deficiency. A blood sample was obtained to conduct liver enzymes, creatinine, urea, copper, and calcium tests. We instructed the owner to use a pulley to encourage the cow to stand. multivitamins were prescribed, and the separation of the cow and the jersey bull had to be made to prevent this from happening again, while the owner did not provide the pulley to support the downer cow to stand up, necrosis has begun in the thighs muscles and the cow was eventually slaughtered.

Keywords: Downer Cow; Sternal Recumbency; Jersey Bull; Cow Pulley; Necrosis

Introduction

Standing helps cows to restore normal blood flow in their leg muscles, the cows that can't stand are referred to as "downers", The term "Downer" is used to describe cattle that are so injured, weak, sick to stand and walk (Carolyn., *et al.* 2007) [1]. Downer cow syndrome can be caused by a variety of conditions including metabolic (e.g., hypercalcemia or milk fever), neurological (e.g., femoral nerve paralysis), traumatic (e.g., hip dislocation), and inflammation conditions [2]. Downer cows can be classified into two types, the first type is the "alert downer" which is when the cow has no symptoms of systemic illness or depression and is able to eat and drink normally but in sternal recumbency for no identifiable reason, the second type is "non-alert downer" which is more

vital and it's when the cow shows systemic illness and depression [3]. Both types require identifying the primary cause and supporting the cow to stand on its feet to start the recovery process [4]. All downer cows must be handled humanely and with proper care, The Wisconsin Veterinary Medical Association (WVMA) has a guiding principle that says, "Non-ambulatory animals must not be dragged mechanically with direct attachment to body parts to avoid direct damage to the animal.", When relocating down cows, they should be placed on a proper surface that protects the animal from direct and indirect damage while being relocated, a proper surface includes rubber mats [5]. One of the first steps a veterinarian must take with a downer cow is withdrawing a blood sample to monitor the blood mineral status, besides administering calcium therapy, additional treatments should be given like phosphorus, magnesium,

and potassium. The recovery of the downer cow depends hugely on the quality of recumbency management [6]. There are various supporting systems/devices that can help downer cows to stand. If the cow can stand on its front legs, hip lifters or hip clamps can be applied. Large slings or belly bands can also be used to raise a downer cow and keep it standing, another alternative is to use flotation tanks, the mechanism of the floatation tanks is composed of raising the downer cow smoothly to a standing posture while avoiding any pressure to the muscle [7].

Results and Discussion

The cross-bred cow that we dealt with was an “alert downer” which was not as vital, the cow was eating normally, lifting its head, and had a normal temperature. We took a blood sample, and the results were pending, the cow would have a chance of recovery if the owner took our instructions and provided the cow with the necessary support it needed to stand up. While the owner did not arrange any support system/device for the cow, the cow was unable to stand up and the thigh muscles got damaged with the passage of time and developed necrosis, after that the owner took the decision to slaughter the cow. This case emphasizes the importance of managing downer cow cases especially regarding providing a supporting system/device as soon as possible.



Figure 1

Conclusion

We conclude that letting a cow be mounted by a much larger bull could cause serious nerve damage leading to downer cow syndrome. We also conclude that providing a supporting system/device to help the downer cow to stand gives the cow a higher chance of recovery and survival.

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