

Management of Gastronomicius Muscle Ruptures in Cows – A Report of Three Cases

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Rupture of Gastrocnemius muscle is a rare and the incidence is low. It is usually unilateral. The typical case is seen in overweight and the predisposing factors include prolonged recumbency, mineral imbalance (calcium, phosphorus and vitamin D) and may also be due to the complication of downer cow syndrome in which prolonged recumbency causes myositis and rupture of gastrocnemius muscle (Greenough and weaver 1997). This article reports classical clinical sign for the easy diagnosis, management of Gastrocnemius muscle rupture in three cows

Materials and methods

Two Jersey cows (6year and 8 year old) and one Holstein Friesian heifer (2 year old) were presented to the Veterinary College and Research Institute hospital, Namakkal with the history of trauma by fallen down or beaten up by some body and limping of affected legs. Clinical examination revealed that there was no fracture in the affected hind limbs and the animal could not bear weight on its affected hind limbs. The hock was touching the ground in jersey cows and dropping of hock in heifer. The Achilles tendon was not ruptured but fully relaxed on palpation. On palpation of the

gastrocnemius muscle area it was flaccid and the limb was flexed. All other vital parameters were within normal limits. On examination, the tendoachillies were intact and rupture of gastronomies muscle was felt in two right hind legs and one left hind leg. In all the animals only one leg was involved.

Treatment and Discussion

All the animals were managed medically using inj.Enrofloxacin, Inj.Phenyl butazone and inj. Vitamine E care Se and inj. Tribivet for five days and supportive treatment was done with Pvc splint and bandage. Animals were placed in the Sling 2 hours daily and other time in the sand pit containing soft bedding material. After one week, there was no improvement in two animals even after the sling application. The splints and bandage had become loose and removed in all the animals. Neuromuscular electrical stimulation was applied in all the cases for another one week. One animal (Holstein Friesian heifer weighing about 150 kg.) had showed significant improvement if posture and gait.

Gastronomies muscle rupture was usually from trauma, unexpected mounting by the bull or a downer cow trying to rise. The affected animals were unable to

extend the hock. The animal usually walked on its hocks if the rupture was total or with flexion and dropping of the hock if rupture was partial (Jackson and Cockcroft, 2002). The similar findings was observed in one case (heifer) where partial rupture noticed. The complete rupture in two animals did not show any improvement. The severity of the rupture could be detected by the relaxation of the tendon. In complete rupture, the tendon was relaxed and the hock rested on the ground. Jumping or falling with legs extended under the body had been reported to be the frequent cause (Nuri *et al.*, 2007). Either the rupture may occur immediately after an injury or the muscle or tendon may be weakened enough so that mild strain may completely rupture it later. Prolonged recumbency resulting to myositis and struggling to rise leads to rupture of one or both of these muscles. Injection of irritating medicaments into the gastrocnemius muscle may cause necrosis and rupture. Rupture of Achilles tendon also produces identical clinical signs. When the muscle is completely ruptured the standing animal rests their hock of the affected limb on the ground surface, which is diagnostic. Successful treatment is extremely rare. A splint or cast that maintains the hock in extension, supplementing vitamins and minerals and proper nursing could be tried for few weeks. Rupture is usually traumatic and success depends on severity rupture, animal cooperation for sling and nursing care.

References

- Greenough, P.R. and Weaver, A.D. 1997. Cited in Lameness in Cattle, 3rd edition 1997, *W.B.Saunders Company*. pp: 197-198
- Jackson, P. and Cockcroft, P. 2002. Cited in Clinical Examination of Farm Animals, first edition 2002, *John wileys & sons publisher*. pp: 180
- Nuri, A., Cummali, O., Nazmi, Y., Abdullah, K., Ihsan, K., Zahid, T.A. and Fatma, I. (2007) *Bull Vet Inst Pulaway*, 51: 615