

Rupture of Suspensory Ligament of Udder: A Report of Three Cases

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Abstract

Rupture of suspensory ligament of udder commonly known as “Dropped udder” is one of the rare affections of the udder to be considered as it ultimately decreases the productive life span of the animal and in turn its income generation to a greater extent. The present article gives a report on three different types of rupture of suspensory ligament of udder and its outcome. Surgical treatment was not considered as treatment of choice for this condition. Only supportive and physical therapies were adopted which were also in vain. Hence only proper managemental practices were felt reliable in order to prevent the condition and complications associated with it.

Keywords: Udder suspensory ligament, dropped udder

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INTRODUCTION

Udder is an external appendage which is suspended to the abdomen at its caudo ventral aspect. The supportive structures of the udder include suspensory ligaments to a great extent and skin to some extent. The suspensory apparatus of the udder contains medial and lateral suspensory ligaments. The medial suspensory ligament being an elastic tissue, acts as a shock absorber and can accommodate changes in size and weight of the udder that occur with milk production and ageing. When viewed from behind, it appears as a distinct midline groove. In contrary, the lateral suspensory ligament is a rather inflexible fibrous tissue cord which reaches down the sides of the udder from the tendon around the pubic bones to form a sling [1]. In this article, three different types of rupture of suspensory ligament and their outcome has been discussed.

Case History and Observation

Case I, a HF cross bred cow was presented to the veterinary hospital with the history of swelling of the hind quarters. History revealed that it calved before eight months and milk production declined drastically with sudden development of swelling. There was regression of parenchymatous tissue and the udder appeared atrophic. Clinical examination

revealed rupture of the posterior part of the medial suspensory ligament of udder (Figure 1).

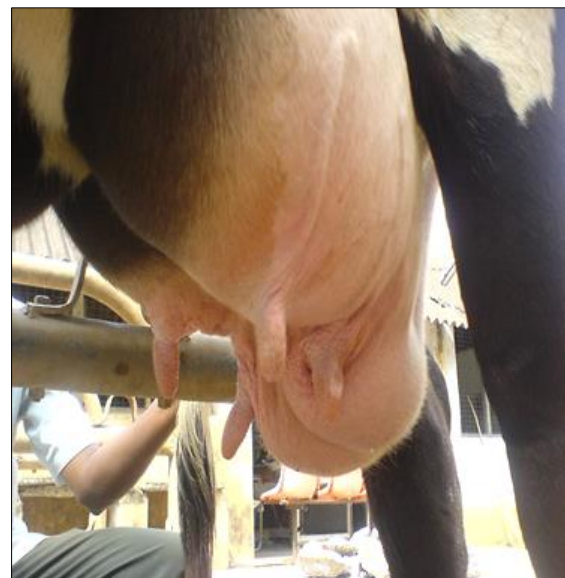


Fig. 1: Case I- HF Cross Bred Cow Showing Posterior Aspect of Medial Ligament Rupture.

Case II, A graded murrah she buffalo was presented with a history of suddenly dropped udder. It was a recently calved animal and a heavy milk yielder. The animal was controlled in dorsal recumbency and the rupture of Prepubic tendon was ruled out. The right hind quarter has dropped down to a further lower

level and the teat was turned laterally. Hence this was diagnosed as a case of rupture of suspensory ligament of the udder (Figure 2).

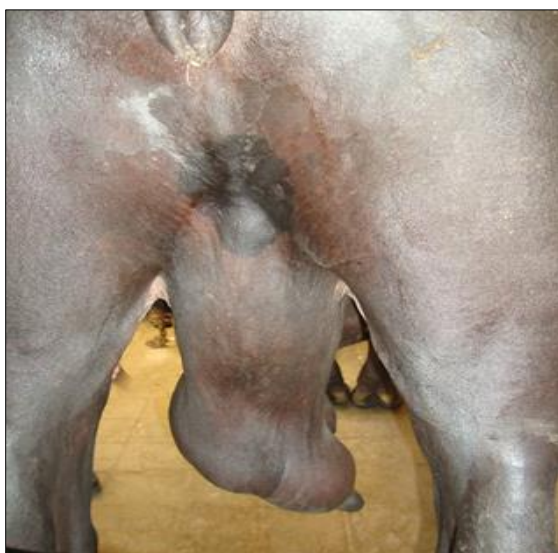


Fig. 2: Case II- Graded Murrah Buffalo Showing Suspensory Ligament Rupture.

Case III, a jersey cross bred cow was presented with abnormal dropping of the udder. History revealed that it calved 2 weeks before and developed this condition suddenly. Clinical examination revealed that it was an extensive rupture of suspensory ligament of the udder. The hind quarters were more dropped than fore quarters. Mother of this cow was also said to have a similar disorder before it was culled (Figure 3).

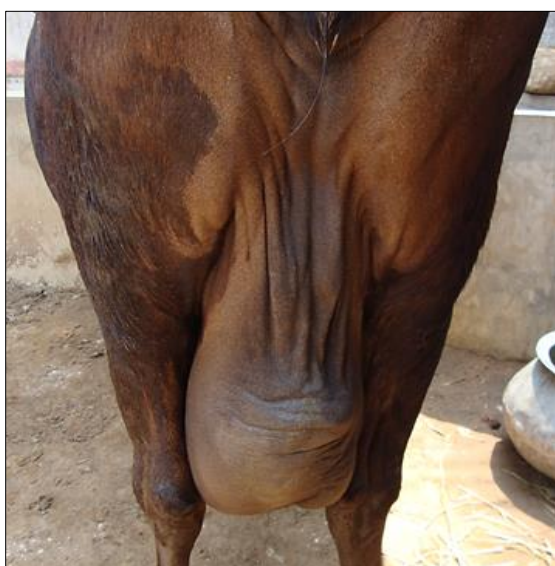


Fig. 3: Case III- Jersey Cross Bred Cow Showing Extensive Suspensory Ligament Rupture.

In all the three cases, all the physiological parameters were normal and without any noticeable changes in milk production. There were managerial problems due to the heavy and pendulous udders. There were abrasions due to contact with the hard surfaces. No owner among three reported changes in milk production or let down reflex. However the aesthetic look and market value of these animals were far beyond the level of satisfaction.

Treatment and Discussion

No successful treatment was available till to date for rupture of suspensory ligament of the udder. Only supportive therapy is advisable. To prevent hanging down, a bandage was applied to the udder after placing the teats in preplaced holes in a cloth and the same was tied at the loins and croup. Owner was advised to keep the premises and animal always clean and also to remove the bandage while milking and then to reapply. The bandaging technique was useful in case I whereas in case II it was useful only to a partial extent and in case III it was not at all useful. With regard to complications, they were minimum in case I and maximum in Case III. In case II, mastitis was noticed which resolved later. Whereas in case III, besides chronic mastitis several complications including injuries to the udder were noticed, that ultimately led to necrotic and gangrenous mastitis of the affected quarters.

Udder consists of four quarters, each of which can act independent to each other. A set of ligaments and connective tissues maintain the udder close to the body wall. Any injury or tear in the ligaments may lead to dropping of the udder. It is interesting to note that the prevalence was related to puerperal period and preceded by a traumatic insult in all the three cases. The incidence of this condition has been observed to be during the peak yield period i.e, 2–8 weeks postpartum, when the udder gains much weight. As rear quarters are more developed and produce more milk (60%) when compared to fore quarters (40%) (Wattiaux 1999), the former are highly susceptible to rupture of the medial suspensory ligament. In our study also, rear quarters were affected in all the three cases. Among the constituents of suspensory ligament, medial ligament is more

commonly prone to rupture which results in lateral displacement of the right and left halves of the distal udder. When viewed from behind this is recognized as teats were splaying outwards and were no longer perpendicular to the ground or parallel with each other [2]. In the present study also the same findings were noticed. As the condition does involve neither udder parenchyma nor its secretory epithelia, the productive potential of the animal was found to be not affected. However the market value of the animal goes down due to lessened aesthetic value. The udder touches the ground and the unusually located teats get damaged. High degree of vascularity leads to bleeding wounds and eventual traumatic myiasis. If properly managed, the animal can be maintained for a few lactations following artificial insemination technique. But all the owners were reluctant to maintain the animals with them.

Rupture of the lateral ligament is comparatively a rare condition as it consists of two layers - superficial and deep and it is easily recognized as a dramatic lowering of the udder below the hocks. Rupture of anterior section of the ligaments appears as gross enlargement in front of the udder which may be confused to haematoma and rupture of the abdominal wall [2].

It is recommended that trauma seen in all the three cases prior to its occurrence makes the authors to opine that this could be a probable exciting cause in genetically predisposed animals. Animals with this condition should not be used for breeding purpose as this condition is suspected to have a genetic basis [3]. In the present study the cow mentioned at

third case was thought to have inherited the defect. Hence selection of the animals with strong ligaments is desirable as it helps preventing the incidence of dropped udder and minimizes the risk of injuries.

As there is no satisfactory treatment and even supportive trusses are generally not satisfactory, only preventive measures to avoid further complications have to be considered. However it needs further studies to draw few more conclusions as regard to its validity.

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