

Successful Management of Haemagalactia in Dairy Cattle

Sivaprasad M.S.^{1*}, Jisna K.S.² and Arunpandian J.²

¹Department of Veterinary Public Health and Epidemiology, Centre for One Health, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana (Punjab), India.

²Division of Animal Reproduction, ICAR-Indian Veterinary Research Institute, Izatnagar, Bareilly (Uttar Pradesh), India.

(Corresponding author: Sivaprasad M.S.*)

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ABSTRACT: A five-year-old Holstein Friesian crossbred cow with a history of two calvings presented with haemagalactia following a traumatic kick to the udder by another cow. Clinical examination revealed severe edema in the right hind quarter of the udder, accompanied by the presence of blood in the milk, although no external injuries were observed and vital parameters remained within normal limits. The cow was successfully treated with intramammary administration of adrenaline diluted in distilled water for three days, along with intramuscular injections of flunixinmeoglumine. Additionally, Turmeric and magnesium sulfate paste were applied topically to the affected udder for five days, and oral Vitamin C supplementation was recommended. The cow fully recovered after five days of treatment.

Keywords: Blood in milk, Adrenaline, Cow, Vitamin C.

INTRODUCTION

A slight blend of blood in milk after calving is considered to be physiological and does not last longer than two weeks at the most. Any other hemorrhage by diapedes is need to be treated as pathological and results from damage to the epithelial lining of the teat cistern. Bloody milk is a relatively common condition in lactating dairy cattle in heifers and multiparous cows (George, 2008). In multiparous cows, the condition usually occurs due to self-inflicted trauma, injury to the major veins of udder due to kicking by other cows or awkward posture during recumbency (George, 2008). Thrombocytopenia has also been reported in some cases, but the exact role of this cause has not yet been elucidated (Radostits *et al.*, 2007; George, 2008). Leptospirosis is one of the common causes of haemagalactia in dairy animals. In that condition the milk is usually thick with clots of blood (Radostits *et al.*, 2007). Bacteria (*Leptospira* spp, *Serratia marcescens*, *Brevibacterium erythrogenes*, *Micrococcus cerasinus*, *Micrococcus chromidrogenes* rubber, *Micrococcus roseus*, *Lactorubefaciens gruber* etc.), some viruses and red yeast (*Monascus purpureus*) may cause systemic infections associated with intravascular hemolysis and capillary damage in udder leading to pinkish or reddish discoloration of milk. Severe udder edema and a pendulous condition of udder may predispose to blood mixed milk in cattle (Muhammad and Rashid 2015). Sometimes, reddish discoloration of milk is due to feeding of fodders belonging to family *Rubiaceae* (dyer's madder, *Rubia tinctorum*). Haemagalactia is usually diagnosed on the basis of clinical signs. If the milk suspected of having blood remains undisturbed for a few hours in a

transparent glass container, the lower portion of the milk will reveal the presence of blood clots when hemorrhage is the cause of blood milk. No RBC sedimentation will occur when reddish discoloration is due to RBC lyses and the milk colour will remain uniform throughout (George, 2008). Perform blood platelet count in cases that do not respond to conventional treatment as thrombocytopenia is one of the causes of haemagalactia (George, 2008). This case report describes the successful management of trauma induced haemagalactia condition in dairy cattle.

CASE HISTORY AND OBSERVATION

A 5 years old Holstein Friesian cross bred cow with parity two was presented with a complaint of presence of blood in milk from the right hind quarter teat for the past 2 days. The animal had a history of being kicked the udder by another cow in the same herd. The general physical examination revealed severe edema of the right hind quarter (Fig. 1) and fresh blood in the milk (Fig. 2). Respiration rate, Temperature, Heart Rate and other physical parameters were normal. No external injury was visible.



Fig. 1. Edema of the right hind quarter.



Fig. 2. Presence of fresh blood in the milk.

TREATMENT AND DISCUSSION

Animal was treated with 5ml of adrenaline mixed with 15ml of Distilled water and it was given by intramammary route once daily for 3 days along with injection of Flunixin meglumine at the dose rate of 2.2mg/kg body weight intramuscularly. Fresh paste of 200gms of aloe vera, and Magnesium sulphate were applied topically to the affected udder for five days, and Oral Vitamin C supplementation was recommended. Colour of milk started to change after the first day of treatment itself (Fig. 3) and the cow made an uneventful recovery after 5 days of treatment (Fig. 4).



Fig. 3. Colour of milk after first day of treatment.



Fig. 4. Colour of milk on fifth day.

It has been reported that subcutaneous injection of 5 to 8 ml of adrenaline (1:1000) is effective in the treatment of blood in milk in cows and buffaloes. As an alternative, 5ml of adrenaline can be mixed with 20 ml of normal saline and the solution can be given intramammary into the teat, producing blood tinged milk (Muhammad and Rashid 2015). According to Radostits *et al.* (2007), injections of coagulants are likely to give better cure rates than calcium borogluconate. Turmeric contains curcumin, which is a phytochemical that contains anti-inflammatory, antibacterial, and antioxidant properties and its use is not associated with side effects (Singletary, 2020) and Vit-C will enhance the styptic action (Ninković *et al.*, 2024; Umadevi and Umakanthan 2016). George (2008) recommends that the affected teat be milked only once a day because

complete stoppage of milking may cause formation of severe clots in the teat. If the cause of blood in milk is not known, antibiotics should be given by injection as well as through intramammary route (Hungerford, 1990). Transfusion of 4-6 liters of blood from a healthy donor cow should be considered when thrombocytopenia and other coagulation defects are suspected as the cause of the condition (George, 2008). More than one treatment measures may need to be taken under certain conditions and may take several days to respond to treatment depending on the etiology. Tests such as the California Mastitis Test (CMT) and Hotis test are effective in detecting changes in milk quality, which could indicate mastitis, a potential sequela of haemagalactia (Parmar and Sharma 2024).

CONCLUSIONS

The etiology of haemagalactia in dairy animals varies; hence the treatment should be based on the cause of the condition. Major venous haemorrhage will cause severe blood loss, requiring the choice of blood transfusion. It is well known that the udder circulatory system is very sensitive to the vasoconstrictor action of adrenaline. That is why adrenaline and vitamin C supplementation are indicated in the treatment of bloody milk. Many cases of haemagalactia take several days to respond and multiple treatment measures must be taken under certain conditions.

FUTURE SCOPE

Research could focus on developing advanced diagnostic tools to identify underlying causes of haemagalactia with greater precision and efficiency. Exploring molecular and genetic markers linked to susceptibility could enhance breeding strategies for resilient cattle. Additionally, studies on preventive measures, such as optimal nutrition, improved housing, and management practices, could reduce the incidence of this condition. Investigating the impact of blood in milk on milk quality, processing, and public health also present opportunities for enhancing food safety standards.

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Conflict of Interest. None.

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