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Research Article

MULTIMODAL THERAPEUTIC APPROACH FOR BLOOD-TINGED MILK IN A POST-CALVING DAIRY COW

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ABSTRACT

Haemogalactia (blood-tinged milk) in postpartum dairy cows poses significant economic challenges due to milk rejection and production losses. This case report documents the successful management of haemogalactia in a 5-year-old Jersey crossbred cow, 10 days post-calving, presenting with blood-tinged milk from three teats for five days. Vital parameters were normal, with no evidence of udder trauma or mastitis. The cow was treated with a multimodal therapeutic regimen consisting of Inj. Tranexamic acid (5 mg/kg IM, anti-fibrinolytic), Bol. Serratiopeptidase (2 boluses PO, BID, anti-inflammatory/fibrinolytic), Inj. Calcium borogluconate (metabolic support), Inj. Vitamin B12 & D3, and Inj. Pheniramine maleate (vascular leakage reduction) for three days, supplemented with Syrup Ostovet (100 mL/day for 10 days). Clinical improvement was observed within three days, with complete resolution and no recurrence.

Keywords: Haemogalactia, Postpartum cow, Tranexamic acid, Serratiopeptidase, Calcium borogluconate.

INTRODUCTION

The presence of blood in milk, clinically referred to as haemogalactia or haemogalactia, is a significant challenge in dairy farming, particularly in the immediate postpartum period (Radostits *et al*., 2007; George *et al*., 2008). This condition leads to substantial economic losses due to the rejection of milk by consumers and dairy processors, directly impacting farmers' profitability (Balhara *et al*., 2016). While physical trauma to the udder and teats is a common cause, systemic infections—including bacterial pathogens such as *Leptospira* spp., *Brevibacterium erythrogenes*, and *Serratia marcescens*, as well as viral agents and fungal organisms like *Monascus purpureus* can induce intravascular hemolysis and capillary damage, resulting in reddish or pinkish milk discoloration (Balhara *et al*., 2016). Haemogalactia may also arise from thrombocytopenia (low platelet count) or infectious diseases such as leptospirosis, which often manifests as blood-tinged milk with clots, affecting all four quarters (Champawat *et al*., 1984; George *et al*., 2008). Effective management strategies are essential to minimize economic losses and ensure animal welfare. Previous studies have demonstrated high recovery rates with therapies such as stryptochrome and vitamin supplementation, achieving 83.33% to 100% resolution within four days (Singh *et al*., 2016). This case report documents the occurrence of haemogalactia in a Jersey crossbred cow during the early postpartum period and outlines its successful clinical management. By highlighting diagnostic and therapeutic approaches, this study contributes to the broader understanding of haemogalactia in dairy cattle, offering insights for improved farm-level interventions.

Case history and treatment

A 5-year-old Jersey crossbred cow, 10 days post-calving, presented with a 5-day history of haemagalactia (blood-tinged milk) from three teats. Clinical examination revealed normal vital parameters respiration rate, temperature, and heart rate—with no signs of udder trauma or mastitis. The cow was treated with a combination therapy including Inj.

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Tranexamic acid (5 mg/kg IM) as an antifibrinolytic, Bol. Serratiopeptidase (2 boluses PO, BID) for its anti-inflammatory and fibrinolytic effects, Inj. Calcium borogluconate (1 ml/kg BW) to address potential metabolic imbalances, Inj. Vitamin B12 & D3 (5-10 ml Total dose) for nutritional support, and Inj. Pheniramine maleate (0.5 mg/kg BW) to reduce vascular leakage, all administered for three consecutive days. Additionally, Syrup Ostovet (100 mL/day) was given for 10 days to enhance mineral and vitamin supplementation.

RESULT AND DISCUSSION

Improvement in milk colour was observed within three days of treatment, with complete resolution of haemogalactia and no recurrence, demonstrating the efficacy of the multimodal therapeutic approach. The treatment protocol included tranexamic acid (an antifibrinolytic agent), serratiopeptidase (anti-inflammatory and fibrinolytic), calcium borogluconate (to address metabolic imbalances), vitamin supplementation and pheniramine maleate (to reduce vascular leakage), along with prolonged mineral-vitamin support via Ostovet syrup. Tranexamic acid and similar coagulants (e.g., etamsylate) are highly effective in controlling capillary bleeding, as they inhibit clot breakdown (Muhammad *et al*., 2015; Das *et al*., 2020). Previous studies, such as those by Venkatesan *et al*. (2017, 2019), have reported success with alternative approaches, including intramammary adrenaline infusion and integrative therapies (e.g., ice application and herbal mixtures). However, parenteral coagulants like tranexamic acid have shown superior efficacy compared to calcium borogluconate alone (Radostits *et al*., 2007; Singh *et al*., 2016).

Calcium borogluconate remains a standard treatment due to its coagulant effects, but its effectiveness increases when combined with vasoconstrictors and antifibrinolytics (Saranya, 2019; Muhammad & Rashid, 2015). The present case supports the findings of Das *et al*. (2020), who successfully managed haemogalactia using tranexamic acid and intramammary adrenaline, reinforcing that combination therapy yields better outcomes than single-drug regimens. Various treatment strategies exist for haemogalactia, including parenteral coagulants, vasoconstrictors, antioxidants, antibiotics, and even blood transfusion in severe cases (Muhammad & Rashid, 2015). However, early intervention with a combination of antifibrinolytics, anti-inflammatories, and metabolic support—as implemented in this case proves highly effective in postpartum dairy cows, ensuring rapid recovery and minimizing economic losses.

CONCLUSION

This case highlights that haemogalactia in postpartum cows can be successfully managed using a combination of tranexamic acid, serratiopeptidase, calcium therapy, and supportive care, providing a rapid and cost-effective solution for dairy farmers. Further research on optimized treatment protocols could enhance clinical outcomes in similar cases.

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CONFLICT OF INTERESTS

The authors declare no conflict of interest

ETHICS APPROVAL

Not applicable

AI TOOL DECLARATION

The authors declares that no AI and related tools are used to write the scientific content of this manuscript.

DATA AVAILABILITY

Data will be available on request

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