Journal of Entomology and Zoology Studies

Available online at www.entomoljournal.com

E-ISSN: 2320-7078
P-ISSN: 2349-6800
JEZS 2017; 5(4): 1882-1883

Received: 03-05-2017
Accepted: 04-06-2017

M Venkatesan
Department of Veterinary Medicine, Veterinary College and Research Institute, Orathanadu - 614 625

P Selvaraj
Department of Veterinary Medicine, Veterinary College and Research Institute, Orathanadu, Tamil Nadu, India

M Sivakumar
Department of Veterinary Medicine, Veterinary College and Research Institute, Orathanadu, Tamil Nadu, India

R Manickam
Department of Veterinary Microbiology, Veterinary College and Research Institute, Orathanadu, Tamil Nadu, India

M Saravanan
Teaching Veterinary Clinical Complex, Veterinary College and Research Institute, Orathanadu, Tamil Nadu, India

M Veeraselvam
Department of Veterinary Medicine, Veterinary College and Research Institute, Orathanadu, Tamil Nadu, India

S Krishna Kumar
Department of Veterinary Medicine, Veterinary College and Research Institute, Orathanadu, Tamil Nadu, India

S Yogeshpriya
Department of Veterinary Medicine, Veterinary College and Research Institute, Orathanadu-614 625

K Jayalakshmi
Department of Veterinary Medicine, Veterinary College and Research Institute, Orathanadu-614 625

Correspondence
M Venkatesan
Department of Veterinary Medicine, Veterinary College and Research Institute, Orathanadu - 614 625

Intramammary adrenaline in the management of hemolactia and coliform mastitis in a transition cow

M Venkatesan, P Selvaraj, M Sivakumar, R Manickam, M Saravanan, M Veeraselvam, S Krishna Kumar, S Yogeshpriya and K Jayalakshmi

Abstract
A four year old Jersey crossbred cow was presented to the Large Animal Medicine Unit of the Veterinary College and Research Institute, Orathanadu, Tamil Nadu, with a history of blood in milk from right fore quarter for 4 days from its calving. Milk was blood tinged and thick in consistency; the right hind quarter was atrophied. No changes in other quarters were noticed. Complete Blood Count and Peripheral Blood Smear evaluation revealed no clinical changes. Milk sample testing revealed *E. coli* organism and it showed sensitivity to Cefotaxime and intermediary sensitivity to Gentamicin. Apart from the parental therapy with Ceftriaxone, 5ml of Adrenaline (1:1000) mixed in 20ml of normal saline was infused intramammary for 3 days. 100g of curry leaves with a lemon were given orally daily as an integrative therapy. On fourth day the milk colour turned to normal white and the consistency was normal

Keywords: Hemolactia, Coliform Mastitis, Adrenaline

Introduction
Dairy farmers frequently encounter the presence of "rose milk" issue in cows or buffaloes, 2 to 3 days after its calving. While many reasons cause this reddish or pinkish milk, it results in economical loss and requires veterinary care. It may also precipitate mastitis. Blood in milk is often rejected by the consumers. Hemolactia is caused by many factors; but it was an unusual sign in coliform mastitis. The current case report documents hemolactia in a transition cow with coliform mastitis and its management with intramammary Adrenaline therapy.

Materials and Methods
A four year old Jersey crossbred cow was presented to the Large Animal Medicine Unit of the Veterinary College and Research Institute, Orathanadu, Tamil Nadu, with a history of rose to pinky milk from right fore quarter for 4 days from its calving. Physical examination showed an atrophied right hind quarter with no major changes in other quarters. Systemic examination was unremarkable. Right fore quarter milk was blood tinged and thick in consistency (Fig.1). Milk samples were subjected for laboratory assessment of mastitis. 2ml of blood was collected in EDTA (1.5mg/ml) tube for complete blood count and peripheral smear was taken for study.

Results and Discussion
In the dairy animal field practice, coliform mastitis was one of the commonly reported challenges. However hemolactia was an uncommon sign and this current case attains significance as therapeutic management for hemolactia is always challenging. One possibility for hemolactia can be the rapid multiplication of *E. coli* in udder tissue, causing an influx of inflammatory cells and resultant increase in vascular permeability, and consequent changes in milk composition and damage to mammary epithelial cells.
Complete Blood Count and Peripheral Blood Smear evaluation in the cow revealed no abnormalities. To assess the nature of milk, centrifugation of fresh milk was done at a speed of 2500 rpm for 10 minutes to determine whether the reddish discoloration of milk was due to intact RBCs (Hemorrhage) or due to lysis of RBCs (Hemolysis) as per standard protocols [1]. In this case there was a visible sedimentation of a bead of RBCs at the bottom of centrifugation tube clearly indicating that it was hemorrhage (Fig.2).

This could also be possibly due to the knuckling method of milking practiced by the farmer in this case. Trauma to udder and teat is one of the common causes for blood in milk due to hemorrhage [2, 3]. In such cases, the udder secretion may be dark brown in colour like venous blood without a tendency to clot.

The Detergent Powder Test [4] using 3% of common detergent soap solution was performed on milk collected from the functional three quarters. It revealed gel formation in traces in the left fore and hind quarters, and a positive (+++) gel in right hind quarter.

Culture and ABST studies revealed *E. coli* and its sensitivity to Cefotaxime and an intermediary sensitivity to Gentamicin.

Fig 1: Right Fore Quarter: Blood Tinged Milk.

Fig 2: Sedimentation of a bead of RBCs (arrow) at the bottom of the Centrifugation tube

The cow was treated with Inj. Ceftriaxone @ 15mg /kg body weight intravenously along with Inj. Chlorphinaramine maleate @ 0.25mg/kg intramuscularly, Inj. Flunixine meglumine @ 1mg/kg intravenously and Inj. Ascorbic acid 10ml intramuscularly as supportive theraphy. To manage the hemolactia, 5ml of Adrenaline (1:1000) mixed in 20ml of Normal Saline was infused intramammarly for 3 days. As the circulatory system of udder is very sensitive to vasoconstrictor action of Adrenaline [5], the use of Adrenaline in the current case helped very much and the milk colour turned to normal white on 4th day of therapy and the consistency became normal.

In addition to standard therapy, an Integrative Therapy with 100g of curry leaves and 1 lemon were given orally daily for seven days. Curry leaf was traditionally used in Ayurvedic medical practice in cases with intestinal bleeding in human [6] and might have helped in this case too. The client was advised to provide soft bedding and also to avoid knuckling method of milking to help in healing and prevent further damages.

Conclusion

Coliform mastitis is known to cause watery yellowish milk; however not many reports are there on the presence of blood tinged milk in coliform mastitis. This case documented the presence of hemolactia in coliform mastitis of a transition cow and its successful management with Intramammary Adrenaline Therapy.

References

1. George LW, Divers TJ, Ducharme N, Welcome FL. Diseases of the teats and udder. In: Rebhun's Diseases of Dairy Cattle. 2nd Ed. Divers, T.J., and S.F. Peek (eds.). Saunders-Elsevier Publishers, St. Louis, USA, 2008, 335.
2. Heidric HJ, Renk W. Diseases of the Mammary Glands of Domestic Animals. W.B. Saunders, Co. Philadelphia, USA. 1967, 99-100.
3. Selvaraj P, Venkatesan M, Velavan A, Rajasundaram RC, Nambi AP. Ultrasonographic assessment of bovine teat fistulation, Indian Vet. J. 2016; 93(10):64-66.
4. Muhammad G, Naureen A, Asi MN, Saqib M, Fazal-ur-Rehman. Evaluation of a 3% surf solution (Surf Field Mastitis Test) for the diagnosis of subclinical bovine and bubaline mastitis. Tropical Animal Health and Production. 2010; 42(3):457-464.
5. Ayaz MM. Haematogalactia in goats and buffalo. Pakistan Veterinary Journal, 1999; 19(3):161-162.
6. Irfan Alikhan, Atiya Khanum. Medicinal and aromatic plants of India, Ukazz Publication, Hyderabad, first edition, 2005, 233.