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A Rare Case of Athelia in A Cross Breed Cow

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Abstract A three-year-old Jersey cross breed cow was referred with the history of recent calving and congenital absence of three teats. Clinical examination revealed that the udder was normal and engorged with milk. The right fore teat was normal in shape without any physical abnormalities. There was absence of left fore, left hind and right hind teats and they were represented by small eruptions. Permanent therapeutic cessation of lactation was achieved successfully by intramammary infusion of each affected quarter with 120 ml of 5 % povidone iodine solution.
Keywords *Athelia; Cross Breed Cow; Cessation of Lactation; Povidone Iodine*

1. Introduction

The udder is very important organ and economic value in dairy cattle. Though highly vulnerable to various disease conditions eg. Mastitis, congenital anomalies in the udder are of rare in occurrence (Dandale et al., 2013). Congenital abnormalities of the mammary system in cows comprise absence of teats, glands, supernumerary teats and imperforate teats. Absence of teat is extremely rare, but isolated cases in which the teats were only represented by slight eminences have been met with (O' Connor, 1980). Athelia was reported in buffaloes by Sailendra and Sandhya (1998) and Vidyasagar (2009) and in a Japanese Black Heifer by Ghanem et al., (2011). In the present paper, a rare case of athelia in a Jersey cross breed cow and its therapeutic management by permanent cessation of lactation was reported.

2. Case History and Observations

A three-year-old Jersey cross breed cow was presented with the history that the animal calved 2 days back and milking was not possible as there was congenital absence of three teats. Anamnesis revealed that the cow was born of artificial insemination and it's birth weight was 25 kg. At the age of 20 months it attained puberty and it was inseminated during third heat. The animal calved a female calf normally without experiencing any difficulty and the calf did not show any congenital abnormalities. Clinical examination of the udder revealed that the udder was normal and engorged with milk. The animal evinced pain on palpation of the udder. The right fore teat was normal in shape without any physical abnormalities. There was absence of left fore, left hind and right hind teats and

they were represented by small eruptions (Figures 1 and 2). Needle aspiration from the eruptions resulted drainage of colostrum. Based on the clinical symptoms the case was confirmed as Athelia in three quarters.

Figure 1: *Absence of three teats in a Jersey cross breed cow*

Figure 2: *Udder showing absence of three teats*

3. Treatment and Discussion

In cows, the udder is a very important organ and of economic value in producing milk for offspring and for other economical purposes. Since surgical correction was not possible, the owner of the present case was advised to cull the cow due to its mammary abnormality. But the owner wanted to maintain the animal for sentimental reasons. Hence it was decided to use povidone iodine for therapeutic cessation of lactation in the three athelia quarters. The colostrum was completely aspirated out from the erupted points of athelia quarters using 18 G needle. The cow was treated with 300 mg of Inj. Flunixin meglumine (Inj. Megludine, Virbac Animal Health, India) intramuscularly in order to minimize udder inflammation and counteract the effects of any aberrant endotoxin or pyrogens introduced during the infusion. Fifteen minutes later, each quarter of athelia was infused with 120 ml of 5% povidone iodine solution (Vetadine solution, Geevet Remedies, India). Treated

mammary quarters were not milked for the rest of the lactation. The degree of mammary quarter inflammation noted following infusion was minimal. It was observed that the povidone iodine eliminated all the treated mammary quarters from lactation permanently. The owner was advised to avoid further breeding of the cow and not to utilize the calf for breeding.

The presence of teats is undoubtedly controlled by genes either single, pair or a few pairs of genes and therefore the athelia condition may be the result of mutation in gene(s) as reported by Verma et al., 1983. Parathyroid hormone-like hormone gene (PTHLH) and the parathyroid hormone/parathyroid hormone like hormone receptor 1 (PTHR1) are functional candidate genes for traits related to mammary gland and teat development (Tetzlaff et al., 2009).

Presently, there are no approved products for therapeutic cessation of lactation. Intramammary infusion of povidone iodine for therapeutic cessation of lactation in cows constitutes an extra label use. Povidone iodine is very effective in completely eliminating all secretion from the treated mammary gland quarters and it appears to be the best choice for therapeutic cessation of lactation (Middleton and Fox, 2001) as also observed in the present case.

4. Conclusion

A rare case of athelia and therapeutic cessation of lactation using povidone iodine solution in a Jersey cross breed cow is reported.

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