Short Communication

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Dystocia Due to Uterine Torsion with Fetal Hypotrichosis Congenita in a Crossbred Cow

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ABSTRACT

A full-term pluriparous crossbred cow in its third parity at the last trimester of gestation had shown signs of restlessness with mild straining at the farmer's house in Namakkal district. All basic physiological parameters were within the normal range. On per vaginal examination, a twist in the dorsal vagina towards the right side was found that was able to reach the fetal parts by passing the hand through the cervix with the presence of a band in the cervical ring. During the rectal examination, it was found that the broad ligament was crossing from the left side to the right side over the cervix. Hence, the case was diagnosed as right side post cervical uterine torsion. After detorsion by Modified Schaffer's method, a dead congenital hypotrichosis fetus was relieved and the dam had an uneventful recovery.

Keywords: Dystocia, Hypotrichosis Congenita, Uterine Torsion.

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INTRODUCTION

Bovine hypotrichosis is a congenital condition distinguished by a partial or whole lack of hair coat with or without concomitant developmental abnormalities (Usta *et al.,* 2016). A simple Autosomal recessive condition known as congenital hypotrichosis, or alopecia, affects Holsteins, Herefords, Durhams and Swedish Friesian breeds of cattle. The twisting of the uterus along its longitudinal axis is termed as torsion of the uterus, and it typically happens in the pregnant uterine horn in cows. The percentage of incidence of uterine torsion in cows and buffaloes were reported to be 13.97 and 27.46 (Karthick *et al.*, 2015). If left untreated, it is one of the complex causes of maternal dystocia in cows, which can result in the death of the fetus as well as the cow (Selvaraju *et al.,* 2022; Ruthrakumar *et al.,* 2023). Uterine torsion needs to be treated as an emergency due to the quick fetal mortality that follows and the development of adhesions with visceral organs (Selvaraju *et al.*, 2020). We discuss here an unusual report of a con-

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genital hypotrichosis fetus in a cow that had been affected by torsion.

CASE HISTORY AND OBSERVATIONS

A five-year-old full term crossbred cow with the history of restiveness, mild straining along with udder enlargement and teat engorgement was reported by a farmer in Namakkal district at his residence. All the vital parameters were within the normal range. On per vaginal examination, a twist in the roof of vagina was observed towards the right side and was able to reach the fetal parts by passing the hand through the cervix with the presence of a band in the cervical ring. Rectal examination showed crossing over of the left side broad ligament towards right side over the cervix. Hence, the case was diagnosed as a right sided post cervical uterine torsion.

TREATMENT AND DISCUSSION

The cow was restrained, and epidural anaesthesia was given with 3 mL of 2 percent lignocaine and detorsion was executed by Modified Schaffer's method. The animal was placed on the right lateral recumbency, with a wooden plank placed on the paralumbar fossa with an assistant (about 70 kg body weight) standing over it. The cow was rolled in the same direction as the torsion and placed in sternal recumbency. After detorsion, gushing of allantoic fluid was noticed and on per-vaginal examination revealed normal presentation, position and posture of the fetus. By mild gentle traction, a dead male fetus was relieved. The dead fetus had a hairless condition (Fig. 1) i.e. congenital hypotrichosis. Afterwards, the cow was administered with fluids (Inj. Ringer's Lactate @ 2 Lit i.v., and Inj. Dextrose Normal Saline @ 2 Lit i.v.), antibiotic (Inj. Enrofloxacin @ 5 mg/kg i.m.) and analgesic (Inj. Flunixin meglumine @ 1.1 mg/kg i.v.).

In cows and buffaloes, uterine torsion is a common consequence of late first or early second stage labour. Uncertainty exists regarding the destabilizing variables that contribute to uterine torsion in mothers and foetuses. The primary risk factor for the development of uterine torsion has been found to be the unstable anatomical arrangement of the bovine uterus, which includes 1) the broad ligament's subiliac attachment, 2) uterine horns that have become loose and not secured by broad ligaments and 3) broad ligaments are connected to the uterus's lesser curvature, allowing up the broader curvature (Ghuman, 2010). In addition, hilly terrain, slipping, abrupt dam movement, unsteady gait, vigorous foetal movements during the early stage of labour, lack of fetal fluids, and a decreased rumen capacity before parturition are also factors that contribute for uterine torsion (Drost, 2007). Deori *et al*. (2009), also reported a similar case of torsion in a nondescript buffalo and its successful management using modified Schaffer's method.

In a bovine fetus, normal hair follicle growth takes place between days 77 and 166 of gestation. By day 220, the majority of follicles start to grow hair, and all follicles are mature at birth (Usta *et al*., 2016). In cattle, breed differences have been noted in the manner in which hair follicles form. In addition to the cells found in the follicle bulb, Huxley's layer serves as a storehouse for hair differentiation. In order to retain the core of hardness during hair development, Huxley's layer and the entire root sheath structurally complement the size and structure of the hair. According to Usta *et al*. (2016), degenerative alterations in the Huxley's layer are the primary cause of the development of hypertrichotic lesions.

A reduced number of hair follicles in a fully developed neonate indicates congenital hypotrichosis. Six types of congenital hypotrichosis in cattle have been reviewed from complete hairlessness to semi-hairlessness.

1. Hairless, lethal, encountered in exotic breeds. Affected calves die shortly after birth due to this simple autosomal recessive gene.
2. Semi-hairlessness has been reported only in Polled Herefords and is characterized by a thin coat at birth. Later, the hair coat is sparse, patchy, and the skin is wrinkled and scaly. It is inherited as a recessive trait.
3. Hypotrichosis associated with anodontia has been described in Maine-Anjou calves as a recessive trait.
4. Viable hypotrichosis, encountered in Guernsey's and exotic breeds, characterized by partial to complete absence of hair at birth, is due to homozygosity of a simple autosomal recessive gene.
5. Hypotrichosis with missing incisor teeth has been reported in Holstein-Friesian calves. The trait is possibly dominant.
6. Streaked hairlessness in Holstein-Friesians is characterized by vertical hairless streaks over hip joints and sometimes over the body and legs and is a dominant sex-linked gene.

Among these the semi – hairless types generally occur in Polled Herefords. They have a very thin hair coat at birth. The hair is sparse and patchy, and the skin may be wrinkled and scaly. Histologically, degenerative changes in the hair follicles can be observed.

Fig. 1. Hairless condition (hypotrichosis congenita) in

CONCLUSION

In this case, we conclude that as uterine torsion is a common cause of dystocia in dairy cows, it should be diagnosed as early as possible to safeguard the life of the dam as well as the fetus. Congenital hypotrichosis being a genetic origin, the cow should be monitored for inheritance in the subsequent calving.

CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

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