



ISSN (E): 2277-7695

ISSN (P): 2349-8242

NAAS Rating: 5.23

TPI 2022; SP-11(6): 89-91

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www.thepharmajournal.com

Received: 17-03-2022

Accepted: 22-04-2022

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Surgical management of ring womb condition in dumba ewe: A case report

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Abstract

Ring womb or failure of the cervix to dilate at the time of parturition remains one of the major causes of dystocia in ewes. An adult dumba (Fat rumped) ewe in her second parity was referred to the Veterinary Clinical Complex, Post Graduate Institute of Veterinary Education and Research (PGIVER), Jaipur with a history of distension of the udder and delivery straining with no signs of progression in the labour from last 48 hours. On radiographic examination, the presence of one full term foetus was observed. On external examination, an oedematous vulva with the slight vaginal discharge was observed. Slight elevated rectal temperature with a normal respiration rate was recorded. On per vaginal examination, the external os of the cervix was felt hardened and only one finger dilation was observed. As the ewe failed to respond to the drug therapy and narrowed diameter of the birth canal, there was no possibility for vaginal delivery. A dead foetus was delivered by caesarean section under local anaesthesia. The ewe recovered uneventfully without any complications.

Keywords: Caesarean section, cervix, dumba, ring womb

Introduction

According to Blood *et al.* (2011) [2] abnormality or difficulty in giving birth to the point of needing human intervention is referred as dystocia. Dystocia in sheep can be due to poor maternal pelvic conformation, an oversized foetus, lamb malpresentation, uterine inertia in polytocous ewes, vaginal prolapse, ring womb, uterine torsion and ectopic pregnancy (Brozos *et al.*, 2012) [3]. Dystocia in a ewe may urgently require veterinary support for the successful parturition. During pregnancy, the cervix acts as a major protective physical barrier for the uterus. Dilatation and softening of the cervix in the first stage of labour is a slow process referred to as cervical priming (Jackson, 2004) [8]. Notably, the most common indications for caesarean section in the ewe are the inability of the cervix to dilate (Roberts, 1986) [11]. The term 'ringwomb' is used to describe the condition when the cervix fails to dilate completely during parturition (Noakes, 2002) [9]. The degree of incompleteness of dilatation varies from complete closure to the state when there is just a small frill of cervical tissue present that considerably reduces the size of the birth canal (Praveen and Naidu, 2015) [10]. Ringwomb or failure of the cervix to dilate at the time of parturition remains one of the major causes of dystocia in ewes (Upasana *et al.*, 2019) [15]. Fat tailed sheep constitute 25% of the world's sheep population (Davidson, 1999) [5]. Fat-tailed sheep breeds are known to deposit up to 20% of their carcass weight as tail fat (Yousefi *et al.*, 2012) [16]. There were varieties known as the Dumba or broad or fat-tailed sheep, the caudal extremity forming huge lump or mass of fat. Prolonged dystocia results in necrotic metritis in ewes and is usually fatal (Scott, 2005) [12]. A delay in treatment of dystocia increases the risk of losing the lambs, as well as the ewe. This clinical case report presents successful surgical management of ring womb in Dumba (Fat rumped) ewe.

Case history and clinical observations

An adult dumba ewe in her second parity was referred to the Veterinary Clinical Complex, PGIVER Jaipur with a history of distension of the udder and delivery straining with no signs of progression in the labour from last 48 hours after treatment by a local vet. On per vaginal examination, the external os of the cervix was felt hardened and only one finger dilation was observed. On radiography examination, one fully grown foetus was observed.

There was narrow diameter of the birth canal, there was no possibility for vaginal delivery, the condition was diagnosed as “Ring womb”. So, it was decided to perform an emergency caesarean section under local anaesthesia to deliver the foetus.

Treatment and Discussion

Prior to the surgical procedure, the ewe was administered the antibiotic and anti-inflammatory drug intramuscularly. Then ewe was restrained in the right lateral recumbence and under the local anaesthesia (2% Lignocaine) using the linear infiltration in the oblique dorso-ventral side after proper shaving of the incision site. After anaesthesia, a 6 cm long incision was made through the ventral paramedian line (in between linea alba and subcutaneous abdominal vein), a sharp incision was made into subcutaneous tissues then abdominus rectus muscles and peritoneum were incised. After exteriorisation of the uterine horns, a longitudinal incision was made on the greater curvature of the right uterine horn starting at the upper third to uterine bifurcation through which the one dead foetus was extracted (Figure 01 & 02). Uterine horns were flushed with normal saline 500 ml followed by Metrid 100 ml. The suturing of the uterine incision was done with chromic catgut No. 1 in two layers using continuous Cushing and lamberts pattern respectively. Abdominal muscles were sutured in a continuous pattern with chromic catgut No. 2. The skin was sutured using braided silk No.1 in a horizontal mattress pattern. Postoperatively, ceftriaxone (0.5 g, BID, IM) for three days and meloxicam (0.5 mg/kg-1, OD, IM) for three days were prescribed. Antiseptic dressing using 5% povidone iodine was continued twice daily till suture removal two weeks' post- operation.



Fig 1: On radiographic examination, the presence of one full term foetus



Fig 2: One dead foetus extracted from uterus during C-section



Fig 3: Recovered one dead male foetus



Fig 4: Dumba ewe after recovery

The animal was fully incomplete dilatation of the cervix is one of the commonest maternal causes of dystocia in goats and sheep (Noakes *et al.*, 2001) [9]. In ruminants, incomplete dilatation of the cervix is frequent due to its tough fibrous structure with large amounts of collagen (Das *et al.*, 2010) [4]. Ring womb or incomplete cervical dilatation accounts for an incidence of 20 to 30% of all dystocia cases in ewe and doe (Abdullah *et al.*, 2015) [11]. Some studies have reported that ring womb condition is associated with factors like age, low calcium level, phosphorus deficiency and low glucose level (Sharun and Erdogan, 2019) [13]. The techniques of C-section mainly ventral midline, paramedian and left flank method are preferred in small ruminants (Smith, 2008) [14]. The ventral midline and paramedian approach are superior to the left flank method due to fewer post-operative complications (intraoperative haemorrhages and tissue reactions) (Ennen *et al.*, 2013) [7].

Conclusion

In conclusion, obstetrical emergencies in small ruminants require effective management and timely corrections without unnecessary delay in order to save the life of ewe.

Acknowledgment

The authors are highly thankful for the Department of Veterinary Gynaecology and Obstetrics, Post Graduate Institute of Veterinary Education and Research (PGIVER), Jaipur to provide the necessary equipment and facilities to successfully carry out the surgical management of this case.

Conflict of interest

The authors have declared no conflicts of interests exist.

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