

PARTIAL HYSTERECTOMY IN RINGWOMB CAUSING UTERINE NECROSIS IN A GOAT

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ABSTRACT

Cesarean section is a life-saving operative technique, helpful in saving the life of dam as well as fetus if done at appropriate time to relieve dystocia. Incidence of dystocia in small ruminants is usually low. Both maternal and fetal factors contribute to the dystocia. Maternal dystocia commonly relates to incomplete cervical dilatation (ringwomb), narrow birth canal, uterine inertia and fetal factors associated with dystocia are malposition/presentation, fetopelvic disproportion/fetal oversize, and fetal malformation. Present case discusses about caesarean section in a goat occurring due to ring-womb and partial hysterectomy performed was thereafter.

Keywords: Partial hysterectomy, Emphysematous fetus, dystocia, goat, ringwomb.

INTRODUCTION

Incidence of dystocia in small ruminants is low throughout the world, around only <5% (Majeed, 1994; Mehta et al., 2002; Brounts et al., 2004; Purohit, 2006). However the occurrence of obstetrical problems is similar in goats when compared to that of sheep (Majeed, 1994), but the incidence of dystocia is much higher among goats (Mehta et al., 2002). Dystocia in small ruminants can occur due to poor maternal pelvic conformation, an oversized fetus, fetal malpresentation, partial uterine inertia, vaginal prolapse, ringwomb, uterine torsion, and ectopic pregnancy (Brounts et al., 2004; Purohit, 2006 and Sharma et al., 2014). Ringwomb or incomplete cervical dilatation, accounts for an incidence rate of 20 to 30% of all the dystocia presented (Jackson, 1995; Noakes et al., 2009). Theories behind the incomplete dilatation stated that there may be lack of release of hormones involved in softening collagen or a lack of response of the collagen in the cervix to hormonal stimulation (Wu et al., 2004; Palliser et al., 2006). Delay in the treatment of dystocia increased the risk of losing the newborn, as well as the dam. Among the entire listed causes fetal factor contributes about 44.44% of overall dystocia in does (Anusha et al., 2016). Dystocia due to emphysematous fetus and oversized fetuses are usually subjected to caesarean section (Anusha et al., 2016). Prolonged dystocia in ewes causes necrotic metritis and is usually fatal (Bhattacharyya et al., 2015). An ovariohysterectomy has been described as a way to treat severe necrotic metritis in chios ewe (Brozos et al., 2012).

CASE HISTORY AND OBSERVATION

A four year old Beetal goat in its 3rd parity was presented in the clinics with the history of straining since four days. On presentation, the animal appeared dull, exhausted and anorectic. According to owner, goat has completed her gestation four days back, straining with no progress in parturition was noticed.

Clinical evaluation of the animal suggested it to be in septicemic-hypovolemic shock. Physiological parameters exhibited increased heart and respiration rates (tachycardia and tachypnea), subnormal rectal temperature, pale mucous membrane, sunken eye balls and moderate to severe dehydration status. Per vaginal examination revealed a slightly hard, partially corrugated and closed cervix. To restore the systemic hemodynamics of the animal, it was stabilized by administering 5 % DNS, 340 ml (@ 7 ml/kg b.w) and NS, 450 ml (@ 10 ml/kg b.w) intravenously. Initially the doe was treated with Valethemate Bromide 5 ml (Epidosin; Kumra farma, Jakarta, Indonesia) and Cloprostenol sodium (Vetmate, Vetcare, India) -2 ml for cervical relaxation and induction of parturition. Doe was kept under observation for 24 hours as the time of action for Cloprostenol in does was 24 hours; but there was no progress in cervical dilation and parturition. Hence, the present case was diagnosed as maternal dystocia due to incomplete dilation of cervix and incomplete relaxation of vaginal canal. Emergency caesarean section was the only treatment option and it was performed after animal was stabilized.

SURGICAL PROCEDURE AND TREATMENT

Animal was placed on right lateral recumbency and the fetus was palpated trans-abdominally. Caesarean

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section was done under local infiltration of 2% Lignocaine by following aseptic precautions and skin incision was given parallel and oblique to the milk vein. Upon exteriorizing the uterus the signs of metritis were which was depicted by clear demarcation between normal with the necrosed uterus (Fig.1). Thinning of uterus had occurred which was suggestive of ischemic necrosis. Microbial invasion of the uterus resulted in gangrenous metritis which also has led to thinning of the uterus. A linear incision was made on the greater curvature of the uterine horn preventing incision of caruncles. An emphysematous kid was delivered from the uterine incision (Fig. 2). Partial hysterectomy was done to remove the necrosed uterine tissue (Fig. 1). However, the procedure reduced the uterine tissue but it also prevented the spreading of infection to the normal healthy parts of the uterus. Uterine edges were sutured by using double layer of inversion suture pattern for this a layer of Lambert sutures followed by Cushing pattern were applied by using 0 chromic catgut (Surgical sutures Pvt. Ltd., Bangalore, India) (Fig. 3, 4).

Postoperatively the goat was administered with antibiotic (Inj. Cefatime 500 mg I/M, Vet Mankind, New Delhi) and supportive therapy for five days. Inj. Flunixin meglumine (1.1 mg/kg; Megludyne I/M; Virbac, India), rumenatorics and multivitamins (6 ml I/M; Belamyl, Zydus AH, India) were administered for the next 5 days. Sutures were removed after 14 days and the goat exhibited speedy recovery.

RESULTS AND DISCUSSION

In the above case, the main etiology of dystocia was ringwomb i.e. incomplete dilatation of cervix which led to fetal emphysema and ultimately gangrenous metritis. Among all reported etiologies of dystocia in goats, incidence rate of dystocia due to incomplete dilation of cervix are around 20 to 30 % (Jackson, 1995; Noakes et al., 2009). Maternal dystocia was commonly associated with incomplete dilatation of the cervix followed by narrow pelvis and uterine inertia (Purohit, 2006; Noakes et al., 2009; Majeed and Taha, 2012). Ringwomb was more frequently observed in primiparous goats as compared to pluriparous (Majeed and Taha, 2012). Caesarean section is the most common method of treating ringwomb in order to save the life of the fetus (Ghosh et al., 1992).

Partial hysterectomy was done to prevent the spreading of infection to the healthy uterine parenchyma. However, there was no report of partial hysterectomy in goats in the pertinent literature. Site of the skin incision may vary depending upon the size of goat and number

of fetus. Ovariohysterectomy was done earlier in sheep in polypoid uterine leiomyosarcomas (Vemireddi et al., 2007) and in uterine necrosis (Brozos et al., 2012). Thus partial ovario-hysterectomy was conducted in goat (Figure 1) to prevent further damage to the healthy uterine tissue. In the present case the left uterine horn was distinctly necrosed and congested with multiple largely diffused areas of green to grey color suggestive of ischemic necrosis. Post-operative follow up of the goat after one week revealed it to be active, healthy and without any complications.

CONCLUSIONS

This procedure could be adopted so as to prevent further necrotizing of the uterus and maintain the fertile life of the animal.

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