

Surgical Management of Dystocia due to Second Degree Burn in a Primiparous cow

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Abstract

Dystocia in a primipara cow due to vulvar stenosis is reported and managed. Vulvar stenosis was sequel of a second degree burn at the perineal region. Episiotomy was performed to widen vulvar lips. To avoid reoccurrence in subsequent parturitions, suturing of incision separately along vulvar lips was undertaken. The animal recovered uneventfully and widening of vulvar lips proved beneficial indicated in eutocia with birth of a normal healthy male calf.

Keywords: Burn; dystocia; episiotomy; primipara; vulvar stenosis

Introduction

Cattle and buffaloes show highest incidence of dystocia among all domestic animals (Purohit *et al.*, 2011 and Jeengar *et al.*, 2015). The incidence is three times more in primiparous compared to pluriparous animals (Mee, 2008). The causes of dystocia are broadly classified into fetal and maternal dystocia. Maternal dystocia occurs either due to obstruction or constriction of birth canal which includes pelvic abnormalities, incomplete cervical dilation, uterine torsion, neoplasms of vulva/ vagina, persistent hymen and congenital vaginal or vulvar stenosis or due to insufficient expulsive forces during parturition. The study reports an unusual cause of maternal dystocia *i.e.* acquired vulvar stenosis as a sequel of scarring caused by second degree burn in young age.

History and Observations

A four years old, non-descript primipara cow, weighing 200 kilograms was presented with detailed history revealing complete gestation, straining since one day, rupture of fetal sacs, recumbency and anorexia since last twelve hours. The cow had history of second degree burn at age of six months where several regions of body were affected including thighs, perianal region and tail. Physiological parameters were normal with mild fever of 102.4°F. Clinical observations showed continuous straining, vulvar stenosis and scarring of perineal region (Fig. 1). Anterior presentation of fetus with head in

birth canal was observed by two finger per-vaginal palpation. Complete per-vaginal examination couldn't be performed due to vulvar stenosis.

Treatment and Discussion

Based on clinical and gynaecological observations, the case was diagnosed as dystocia due to vulvar stenosis and surgical treatment was decided episiotomy. Traction was not attempted as it would have resulted in tearing of overstretched stenosed vulvar lips. The animal was restrained in right lateral recumbency. Pre-operatively; fluid therapy, analgesics and antihistaminics were given to stabilize the animal and antibiotics were administered for prophylaxis. Purse-string sutures at anus were placed. Vulvar lips were washed with dilute Potassium permanganate solution (1:10000 parts) and prepared aseptically with Povidone iodine. Local infiltration of two percent Lignocaine hydrochloride was done along the incision site. On dorsal commissure of vulva, vertical incision was taken and head of foetus was found in birth canal (Fig. 2). Vaginal examination after episiotomy revealed that cervix was fully dilated and foetus was removed by traction (Fig. 3). To avoid reoccurrence in the following parturition, incision was sutured with nylon in simple interrupted pattern separately along vulvar lips so as to widen vulvar lips (Fig. 4 and 5). Post-operatively antibiotics, antihistaminics and anti-inflammatory were given for consecutive five days. Skin sutures were removed on tenth post-operative day. The cow recovered uneventfully, exhibited regular estrus, was artificially inseminated and parturated with a healthy male calf.

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Dystocia management

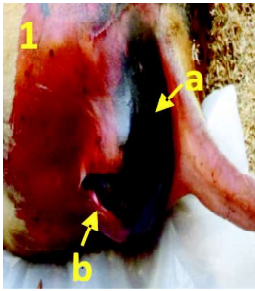


Fig. 1a: Scar of burn wound
b: Fetal head



Fig. 2: Incision on dorsal
vulval commissure



Fig. 3: Dead fetal delivery

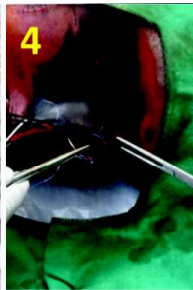


Fig. 4: Episiotomy incision sutured
separately along vulval lips

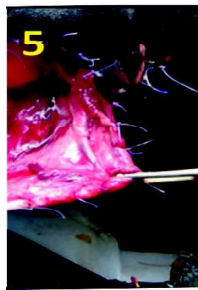


Fig. 5: Widened vulvar lips



Fig. 6: Recovery on fifth
post-operative day

Except for superficial dermal burns, all deeper burns *i.e.* second degree deep dermal and full thickness burns heal by scarring (Goel and Shrivastava, 2010). In our case, as a sequel of burn at perianal region, scarring during healing of burn wound and consequent stricture of vulval opening led to narrowing of birth canal occurred which lead to maternal dystocia due to inadequate and narrow birth canal.

Congenital vulvar stenosis is a developmental defect that might result in dystocia during first calving due to inadequate space. Its successful management through episiotomy is reported (Bhatt *et al.*, 2012 and Mohan *et al.*, 2018). Acquired vaginal stenosis due to second degree burn which is a rare obstructing anomaly and its surgical management by dorsal episiotomy along with correction of vulvar stenosis by suturing of episiotomy incision separately to widen vulvar passage permanently is not reported earlier and hence the present case puts the same on record.

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