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## Dystocia followed by Cervico-Vaginal prolapse and its surgical management in a heifer

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### Abstract

A crossbred Holstein Friesian heifer with full term pregnancy was presented with the complaint of frequent sit ups, restlessness, abdominal contractions, inappetance, reluctance to move followed by protruded mass in the vagina. On observation, the heifer was dull and depressed with protruded mass in the vagina which was haemorrhagic with the palpable live fetus inside. Based on the history and clinical symptoms, the condition was diagnosed as cervico-vaginal prolapse due to dystocia. The caesarean section was performed under epidural and local anaesthesia with lignocaine. Supportive therapy was done with fluid therapy, antibiotics and analgesics. The prolapse was reduced back into original position and the condition was not reverted. Routine postoperative therapy provided had an uneventful recovery.

**Keywords:** Holstein Friesian, caesarean, lignocaine, prolapse

### Introduction

Vaginal prolapse occurs most commonly in heavy dairy cattle before calving, usually in the last trimester of pregnancy (Roberts, 1971) [1]. The pressure and weight of the gravid uterus, severe straining at recumbent position to expel manure, unnoticed mild prolapse with slight irritation and calf's head or feet inside the pelvic canal causing tendency to strain may be certain factors of the incidence (Deka *et al.*, 2016) [3]. Even though increased level of estrogen is considered as a prime factor for ante partum vaginal prolapse (Roberts, 1998). This condition places considerable stress on the animal. Delayed cases may develop fatal septicaemia. It is regarded as an emergency condition and should be managed before excessive edema, mucosal trauma, contamination and fatal haemorrhage lead to a grave prognosis (Miesner and Anderson, 2008) [5].

The caesarean section can also be done to reduce the incidence during last trimester of pregnancy (Kumar *et al.*, 2016) [4]. Postoperative oxytocin treatment in uterine prolapse is considered to be helpful in restoring uterine tone and subsequent prevention of recurrence of prolapse (Noakes *et al.*, 2001) [6]. However, preoperative treatment with oxytocin, although it reduces the size of the prolapsed organ, makes replacement more difficult (Manfield, 2006). Calcium borogluconate therapy is recommended (even if the animal does not shows clinical signs of hypocalcaemia), along with a course of parental antibiotic (Noakes *et al.*, 2001) [6]. Therefore, the purpose of this study is to put on record these details of cervico-vaginal prolapse in a heifer. Also the management of the condition by a caesarean section to delivering the calf and reverting the condition.

### Materials and methods

A crossbred Holstein Friesian heifer with full term pregnancy was presented with the complaint of frequent sit ups, restlessness, abdominal contractions, inappetance, reluctance to move followed by protruded mass in the vagina (Fig. 1). On observation, the heifer was dull and depressed with protruded mass in the vagina which was haemorrhagic with the palpable live foetus inside. Clinical examination revealed relaxation of perineal ligaments, abdominal contractions and there was no opening of cervix. Hence, initially the animal was treated with Dextrose-25 solution and with calcium borogluconate to make cervix open. There was no opening of cervix even after medical treatment, hence it was decided for caesarean section. The animal was properly restrained in right lateral recumbence and the surgical area was anaesthetized using epidural anaesthesia and local infiltration around site of incision using 2% lignocaine (Lox\* 2%) solution.

A wide surgical field was prepared by clipping the entire flank in between the transverse processes of dorsally, to just above the milk vein ventrally and from the last rib to the hind leg, level of the tuber coxae. The operated site was scrubbed with surgical spirit followed by povidone iodine solution and surgical drapes were applied on the operation site. The site of incision was ventral oblique just opposite to stifle joint. After incision the muscles and peritoneum, the uterus was exposed to remove the fetus. A live calf was delivered by gentle traction through the incision made on the uterus (Fig. 2). The uterus is sutured with chromic cat gut No. 2 (Truegut) in continuous cushioning followed by lambert pattern (Fig. 3). The abdominal muscles along with peritoneum were sutured together using No. 2 polyglycolic acid. The skin suture was applied in simple interrupted pattern using nylon. 5 IU oxytocin was given after surgery completed. Routine postoperative therapy was provided with ceftriaxone (Intacef) at the rate of 15 mg/kg body weight intravenously twice a day and Meloxicam (Melonex) at a rate of 0.3 mg/kg body weight subcutaneously once a day. Antiseptic dressing was advised with povidone iodine solution and fly repellent lorexane ointment application was advised. The skin sutures were removed on 10<sup>th</sup> postoperative day.

### Results and Discussions

The animal had an uneventful recovery. The increase in the

estrogen and relaxin level that occur during the last trimester of pregnancy cause relaxation of the pelvic ligaments and surrounding soft tissue structures (Wolfe, 2009) [10]. To retain the prolapsed mass after proper reduction, various through and through transvulvar suturing techniques have been tried (Bhattacharyya *et al.*, 2007) [2], but they are prone to tear the vulva particularly in cases showing subsequent violent straining (Noakes *et al.*, 2001) [6]. The currently most favoured technique is Buhner's subcutaneous perivulvar suture application using vetafil or umbilical tape. However, under field conditions vetafil is very costly and umbilical tape is not readily available in sterile form.

The analgesia was achieved by the administration of lignocaine epidurally and local infiltration around the site of incision. Epidural anaesthesia was used to block the sacral and coccygeal nerves so as to desensitize the tail, anus, perineum, vulva and vagina (Ramsingh *et al.*, 2013) [7]. Caesarean operation is one of the most common surgical procedures performed by the veterinarians and is considered as a routine obstetric technique because of its high maternal and fetal survival rates (Kumar *et al.*, 2016) [4]. Preoperative and postoperative oxytocin and also calcium borogluconate treatment in uterine prolapse is considered to be helpful in restoring uterine tone and subsequent prevention of recurrence of prolapse (Noakes *et al.*, 2001; Manfield, 2006) [6].



**Fig 1:** Cervico-vaginal prolapse



**Fig 2:** Removing live fetus from uterus



**Fig 3:** Uterine wall sutured with cushioning followed by lamberts suture pattern



**Fig 4:** Mother and calf after relieving dystocia

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