

Surgical Correction of Uterine Prolapse in Cows

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ABSTRACT

The present study was aimed for surgical management of uterine prolapsed diagnosed in 40 adult cows during May to September 2019 in Wasit province, Iraq. Initially, the symptoms of hypocalcaemia, prolong dystocia, fetal attraction, fetal oversize, retained fetal membrane, and chronic paresis were reported in some cases. The cows showed protrusion of mass through the vulva after its first calving. On clinical examination animal was apparently healthy and confirmed as uterine prolapse. Surgical intervention was performed to correct abnormal symptoms as well as to return the prolapsed uterus of study cows. The steps involved removing the placenta found above large caruncles adhered to surface of prolapsed mass as well as cleaning the endometrial surface and repairing lacerations if existed. Then, the surface of uterus was washed with povidone iodine 5% to remove any affection or feces. The uterus then returned to its normal position then suturing of vulva by horizontal mattress suturing. The Animals have an uneventful retrieval.

Keywords: Uterine prolapse, Cows, Horizontal mattress suture, Iraq

INTRODUCTION

The Uterine prolapse is a common condition in dairy cattle, which includes a partial or complete prolapse of uterus, vagina and cervix (**Divers and Peek, 2007**). It occurs usually during the first 24 hours of calving (**Divers and Peek, 2007; Blowey and Weaver, 2011**). Uterine atony and dystocia are main predisposing factors; however, hypocalcemia considers one of the most common factors, which play a role in increasing the incidence of the state (**Andrews et al., 2008**). Such as the cases that accompanying of strong tenesmus with uterine atony exposure the animals to uterine prolapse (**Ghasem et al., 2016**). Usually, uncomplicated cases of uterine prolapse has a good prognosis if corrected in time, while it dead in late time or in corrected suturing, hence it should be always treated as a veterinary emergency. The correction of a prolapsed uterus, usually involves, disinfection and washing the organ, reduction in size of the organ if edematous with glycerol, returning the organ back and applying stay sutures (**Ishii et al., 2010**)

A prolapse is the abnormal repositioning of an organ from its normal anatomical position. Uterine prolapse occurs when the previously gravid horn invaginate after delivery of fetus and protrudes from vulva. This condition is frequently associated in ruminants with dystocia and hypocalcaemia (**Noakes et al., 2002; Roberts, 1986**). Most cases occur within a few hours after delivery and condition is more common in dairy cows than other species (**Odegaard, 1977**). **Arthur et al. (1999)** reported uterine prolapse as a common problem during 3rd stage of labor. During prolapsed, sometimes fetal membranes may also be found. This study was aimed to describe the main clinical symptoms of uterine prolapse in cows and to describe the main surgical steps to correct this recurrent field case among animals.

MATERIALS AND METHODS

Animals

Forty local breed cows of different ages and genders, and having and having poor work performance were included in the present study. Case history data were collected from owners before examination. In addition, immediate anamnesis of the cows and the medications they received were also evaluated. A clinical cases were conduct at in Wasit province / Iraq at 40 cows was found to be affected with genital prolapse, that treated with return uterine prolapse into normal anatomical position and one of total cases make hysterectomy surgical technique because of large edematous, laceration and severe inflammation.

Preparation of animal

Control of animal with using stanchion or robs, lift the prolapsed uterus up to make the cow urinateor using of catheter to remove urine from urinary bladder because pressure this mass prolapsed at external urethral orifice, In some cases suffer from edematous and large swelling can using caudal Epidural anesthesia that used with 2% Lignocaine HCl, washing uterine prolapse with the removal of the placenta, feces, straw and uterine fluids with cold water to remove congestion and reduce blood flow for easy introduction into the pelvic entrance.

Clinical examination

Pulse rate, respiratory rate, mucous membrane color, capillary refill time and body temperature were recorded, and the abdomen was auscultated. Blood samples were collected for CBC. Biochemical analyses which included albumin, AP, ALT, amylase, BUN, calcium, creatinine, globulin, glucose, potassium, sodium, phosphate, total bilirubin and total protein were also estimated.

Protocol of surgical treatment:

The clinical cases were diagnosed by the presence of a uterine mass containing carancles protruding from the vaginal opening immediately after birth or after 24 hours, and some of them contain the placenta, feces, straw, most of the late cases suffer from large swelling with fluid inside the uterine mass.

Caudal Epidural anesthesia that used with 2% Lignocaine HCl administrated into the animals after 5 hours while the animals before 4 hours push mass of prolapse manual without anesthesia.

The prolapse that return into the normal anatomical position with hand pressure Carefully towards vaginal open With the use of a medical assistant at work, after that, the uterine mass returns to its position in the pelvis, and push the mass from inside the pelvis to the abdominal part, then suturing the vulva with intermittent horizontal Mattress. Antibiotic locally and systemic to reduce inflammation, the suturing are removed after 7 days.



Fig. 1:Uterine prolapse in cows at different cases



Fig. 2: Restoring uterine prolapse with pushing to its normal anatomical position after washing and applying pressure by hand.



Fig.3. uterine prolapsed suffer from severe edematous lead to dead patient

RESULTS

One cow died out of 40 (5%) before the intervention because delayed uterine prolapse to return in normal position at time then the owner's negligence by not calling the veterinarian, as he sewed the vulva incorrectly by himself, then the uterus came out again, which led to edema, shock, gangrene and finally ended with the animal's death. 39 cows survived after restoring the uterus to normal position. In these results, it was obtained that age has no role in uterine prolapse, so that it may occur in the first or second birth or in cows with multiple births. Failed placenta previa plays a major role in uterine prolapse. The retention of the placenta in cows is one of the common conditions that occurs after childbirth that ends with the uterus prolapse, especially when the animal is in the lying position due to the intense push to remove the placenta, which must be released within the period (2-12 hours) after the birth of the newborn and it is possible to say that the placenta, one of the causes of this condition is also hypocalcemia.

Likewise, in cases of dystocia, oversized fetus, or sinful withdrawal of the fetus, where the owner withdrawal fetus at severely performed causing the uterus prolapsed. Can be return the uterine prolapse in cows while they are standing or recumbency, also the prolapse must be inserted deeply inward to avoid the uterus returning to the outside.

The clinical examination of cows that suffer from uterine prolapse should be undertaken as signs of toxemia like in appetite, an increased respiratory rate, raised pulse and congested mucus membranes may be consisted with metritis. Vascular compromise, trauma and fecal contamination may also increase toxin intake across the uterine mucosa. Careful removal of these materials, after soaking with warm dilute antiseptic solution is usually successful causing only minor capillary bleeding. Vigorous attempts to remove superficial contamination should be avoided as they may prove counterproductive by increasing toxin uptake.

Discussion

Withdrawal the placenta by hand or separation from caruncles one alone ligament and separated by a piece of caruncles and any dung above uterine prolapse then raise the mass and washing with water and povidine iodide, then pushing to reduction with two men by a gentle push inside pelvic, reposition and holding the vulva with Mattress suturing agree with **(Potter, 2008)**.

Approximately, 2-3 cm should be left between stitches Mattress sutures to prevent laceration from puncture of stitches and should be deeply of external vulva inside pelvic according to long vulva in cow. When reposition the mass by pushing to anatomical position and because late reposition and found edema, laceration, rupture, infection and necrosis

Though the surgical correct is often necessary due to various damages of prolapse (large edema, laceration, rupture, infection and necrosis). In this study, application of Mattress suturing in end vulva near the pelvic to avoid to laceration when pressure of the cow in recumbency in earth and using pieces of gauze for external suturing by vulva suture needle agree with **(Wolfe, 2009)**. This method was to effective without any complications. The uterine prolapse was reposition to normal anatomical position by push with fist pressure slowly or alternatively using both hands. The laceration and injury of uterine associated management by the owner should not delay to inform the veterinarian about the case

(Murphy and Dobson 2002). Because this causes uterine hemorrhage and fibrosis, meaning that the longer the uterine prolapse is delayed and then it becomes more difficult to return prolapse.



Figure 4. Locking of the birth passage from both edges of the vulva by Mattress transverse suturing

Likewise, uterine prolapse complication not found discussed in previous references in buffalo is available (Miesner and Anderson, 2008). Rapid intervention to restore the normal uterus reduces postpartum problems and economic losses in cows (Roberts, 1986). Consequently, the necessity of immediate and accurate therapeutic intervention for uterine prolapse after fetal delivery and uterine prolapse taking into account the fertility of the cow for the next pregnancy in the least time.

The prolapse of the uterus occurs for multiple reasons, including dystocia and severe uterine contractions to get rid of the placenta, as well as other causes of calcium deficiency and the size of the fetus compared to the size of the mother cow and its old age, all of which leads to a weakness in the ligaments holding the uterus (**White, 2007**).

Cows that have had uterine prolapse and have been properly treated can get pregnant again. Mother of cows that have not been treated properly and have infection, rupture, and decomposition in which complications develop, so pregnancy will not happen again easily (**White, 2007**). There is no way to prevent uterine prolapse, but this condition can be reduced by giving birth to cows in standing position and removing the placenta to clean the uterus from its contents and stop uterine contractions (**Thomas, 2009**). Delayed uterine prolapse or improper intervention by the owner of the animal leads to the exit of the uterus again, where edema, shock, gangrene occurs, which ends with the death of the animal (**Potter, 2008**).

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