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The Pharma Innovation

ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(7): 2591-2592

www.thepharmajournal.com
Received: 02-04-2022
Accepted: 06-05-2022

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Correction and management of total uterine prolapse in indigenous cattle: A case report

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Abstract
A six year-old Sahiwal breed cow was suffering with total uterine prolapse was presented as an emergency case in the field. Clinical examination of perineal area revealed that, complete uterine prolapse along with the fetal membranes. Replacement of prolapsed uterine organ was done after manual removal of placental remnants undertaken by reduction, reposition and retention by rope truss method. The case was followed for five days and treated with antibiotic and analgesic. Uneventful recovery of animal was observed.

Keywords: Total uterine prolapse, sahiwal cow, rope truss retention method

Introduction
Uterine prolapse is one of the potential complication associated with calving essentially occurs immediately or several hours after parturition (Roberts, 1971). The uterus turns inside out from its normal position and passes through the vaginal opening as prolapse (Arthur *et al.*, 1996; Powell, 2007; Bhattacharyya *et al.*, 2012) [1, 6, 2]. Occurs in all large animals, and most commonly in cow and ewe, less common in mare, doe and sow. The predisposing causes of uterine prolapse in cattle is increased straining associated with dystocia, hypocalcaemia which lead to reduced uterine tone and myometrial fatigue, increased abdominal pressure associated with tympany and recumbancy, retained foetal membranes, forceful traction in assisted parturition and excessive estrogen in the feed may initiate eversion followed by total uterine prolapse after parturition (Murphy *et al*., 2002; Hanie, 2006; Jackson, 2004) [5, 3, 4]. If treated early, a cow suffering from uterine prolapse has a 40% chance of becoming pregnant; hence, the outcome of therapy is dependent on the duration, severity of the case, wound, and contamination (Tyagi and Singh, 2002) [8]. Uterine prolapse should be treated as an emergency situation in order to permit replacement before significant edema, mucosal damage, contamination and cervical closure occur. Furthermore, client communication to limit mobility should be emphasized, lowering the risk of uterine artery rupture or avulsion from the internal iliac, which can lead to deadly bleeding. The prognosis of a prolapsed uterus is typically positive in uncomplicated situations when there has been no major damage to the uterus; otherwise, if quick care is not provided, life is at risk.

Case history and clinical observation
As an emergency case in the field, a 6-year-old female Sahiwal cow weighing roughly 400 kg with a history of total uterine prolapse after giving birth to a male calf by forceful extraction was given. The animal was in the standing position with the vital parameters of hyperthermia (39.6 °C) tachycardia (102 bpm) and respiratory rate 45 cycles/min according to physical examination. Clinical examination of the perineal area indicated that both uterine horns and the mucosal surface with cotyledons were evident, as well as a portion of the chorioallontoic membranes from the external genitalia (Fig.1).

Fig 1: Total uterine prolapse along with fetal membranes

The uterine mass was edematous, engorged, cold to the touch, and filthy with bedding materials. There was no blood vessel rupture or urinary bladder prolapse. The prognosis was fair because there was no shock and minimal degree of laceration and contamination.

Treatment and Discussion

The treatment procedure began with epidural anesthesia was achieved by infiltration of 7 ml of 2% lignocaine hydrochloride into the epidural space of sacrococcygeal vertebrae to desensitize perineum and prevent straining. The animal was brought to a slope area and pointing her head downhill for lowering her head than the hindquarters, which letting gravity to assist rather than hinder the replacement. The gross debris was removed from the mucosal surface by washing with lukewarm water. The fetal membranes were manually removed from caruncles and a 0.5% Povidone iodine solution was applied over the prolapsed uterus to prevent contamination. The prolapsed organ was then lifted to the level of the vulva and carefully forced back into the vagina by manual pressure with the help of an assistant to restore the normal position. The uterus's body was pushed first, then the horns; the uterus was restored to its normal position by inserting a hand to the tip of both uterine horns to ensure that no invagination remained. After repositioning the uterus, an injection of Oxytocin (15 IU i/m) was administered to promote involution. Care was taken to avoid the reoccurrence of prolapse. The rope truss technique was used for retention, in which cloth ropes were tightly wrapped around the cow's perineal region and tied to the ropes wrapped around the chest and neck (Fig.2). The perineal region was covered with a clean towel to prevent abrasions. The animal was administered with fluid therapy by infusing 5% DNS (2 litres) and Calcium Borogluconate (400 ml) in i/v. To avoid post-operative complications, an antibiotic (Ceftriofur @ 2mg/kg body weight), analgesic (inj. Flunixin meglumine @ 1.1 mg/kg body weight) and antihistamine (inj. Chlorpheniramine maleate 10ml i/m) were administered for three days. The cow's rehabilitation went off without a hitch.

Fig 2: Retention by rope truss method

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