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Clinico-Obstetrical management of clockwise 180° post cervical uterine torsion in ewe

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Abstract

A rare case of dystocia due to uterine torsion has been reported in a non-descriptive ewe. A 2 year old full term primiparous ewe with clinical sings of intermittent training at the time of lambing without fetal fluid was presented since 2 days. A 180° right side post cervical uterine torsion was diagnosed. Detorsion was achieved successfully by modified schaffer's method and delivered a dry, muconium tinged, dead male lamb. Ewe was complicated with evisceration of intestine through vaginal tear. The erythrogram values were fall within the normal range. In leucogrm, leucocytes increased in uterine torsion affected ewe and their relative distribution showed lymphopenia and neutrophilia. The creatinine (1.70 mg/dl), aspartate aminotransferase (120.50 U/L) and alkaline phosphate (1830.00 U/L) levels were recorded to be higher, whereas BUN, ALT, inorganic phosphorus, calcium, glucose, total protein and albumin were fall within the normal ranges. The doe was recovered uneventful.

Keywords: Ewe, uterine torsion, modified Schaffer's method, vaginal tear

Introduction

Revolution of the pregnant uterus on its longitudinal axis leads to narrowing of cephalic portion of the vagina is the major obstetrical disorder of bovines and rare in the ewes (Arthur *et al.*, 2001), possibly due to less veterinary involvement in dystocia cases and does not recognize the condition by farmers (Scott, 2011). Uterine torsion is the more dangerous to dam as well as fetus, if the degree 180° or more and threaten the life of both fetus and dam (Roberts, 2004). It was managed successfully either non-surgically relieve the torsion by rolling of the dam (Manokaran *et al.*, 2014) or surgically by caesarean section (Phogat *et al.*, 2007). Ewe suffered with uterine torsion with post delivery complication of evisceration of intestine through vaginal tear was placed on record.

Case History and Observations

A non-descript two years old primiparous, full term pregnant ewe was brought to college clinics with the history of restlessness, anorexia, no vaginal discharge and intermittent straining since last 48 hours. The clinical parameters were 102° F rectal temperature, 26/minute respiration rate and 72/min heart rate. The ewe was clinically dull, depressed, congested eye mucus membrane and distended abdomen. Pelvic ligaments were relaxed and upper commissure of the right vulvar lip was stretched inward. Pervaginally, clockwise spirally twisted anterior part of the vagina causing stenosis of birth passage. Fetal Parts were palpated through relaxed and mild dilated cervix. Based on the history, clinical signs and vaginal examination the case was diagnosed as clockwise post cervical uterine torsion of about 180°.

Hemato-biochemical profile

Blood was collected in heparinized vial before the obstetrical maneuvers. The hematological attributes were analyzed by using auto cell counter (Celltac, Nihon Kohden, Japan). Some biochemical and enzymatic profile was estimated by using commercial available kits (Agappe diagnostic LTD, India) into fully automatic blood biochemical analyzer (Randox, Monaco, UK). The values of hematological profile were red blood cells (10.90 x 10⁶/μL), hemoglobin (10.30 g/dL), pack cell volume (31.40%), mean corpuscular volume (28.80 fL), mean corpuscular hemoglobin (9.50 pg), mean corpuscular hemoglobin concentration (32.80 g/dL), total white blood cells (13.60x 10³/μL), lymphocyte (16.80%), granulocytes (80.60%), eosinophil (2.50%), monocyte (0.10%), platelets (188.00 x 10³/μL). Blood urea nitrogen, creatinine, inorganic phosphorus, calcium, glucose, total protein and albumin concentration were estimated 16.30 mg/dl, 1.70 mg/dl, 8.60 mg/dl, 10.80 mg/dl, 17.00 mg/dl, 9.40 g/dl and 2.60 g/dl, respectively. The level of aspartate aminotransferase, alanine aminotransferase and

alkaline phosphatase levels in uterine torsion affected ewe were found to be 120.50 U/L, 17.90 U/L and 1830.00 U/L, respectively

Obstetrical and Therapeutic Maneuvers

Ewe was treated by modified Schaffer's method of rolling using plank as a hollow iron pipe of approximately 100 cm in length and 6 cm in diameter. She was casted on right side lateral recumbency with both the forelegs and hind legs hold separately and plank was placed over the left flank region in order to fix the position of uterus inside the abdominal cavity. The ewe was slowly rolled on the same side of the torsion by maintaining pressure over the flank. After two complete rotations, torsion was relieved and fetus was palpated through three finger dilated cervix. The animal was administered with injection Eoidosin (5 ml) and Oxytocin (30 IU) via slow intravenous for further cervical dilatation. Water bag was appeared at vulvar orifice after 1 hour. A dry and yellow tinged, muconium coated dead male fetus in antero-longitudinal presentation, dorso-sacral position with extended forelimbs was delivered by mild traction. Protrusion of intestinal loops just after delivery from right dorso lateral vaginal tear (3 – 4 cm in length). It was repositioned under 1 ml of 2 percent lignocaine hydrochloride epidurally. Post-operatively, ewe was administered with Inj. DNS 5% -500 ml (I/V), Inj. Meloxicam - 5ml (I/M), Inj. Oxytetracycline - 7 ml (I/V) and Inj. Clomet - 5 ml (I/M). Two Furea boli (Nitrofurazone 60mg, Urea 6g) were placed inside the uterus and ewe was discharged on the same day.

Result and Discussions

The ewe showed uneventful recovery. Rolling of the dam is one of the oldest and simplest method used to detorsion (Roberts, 2004). Similarly, 180° post cervical uterine torsion was also successfully corrected by applying two rotation according to Schaffer's method (Kumar *et al.*, 2014; Manokaran *et al.*, 2014) but Ijaz and Talafha (1999) reported rotation of the ewe's body noted to be unsuccessful in 360° uterine torsion. However, the pre-cervical uterine torsion of 270° was successfully managed successfully by caesarean section (Phogat *et al.*, 2007). In present case, no any evidence of water bag had ruptured or escape of fetal fluid from vagina as reported by Kumar *et al.*, (2014) but they delivered the viable fetus per-vaginally. Niadu (2012) was successfully corrected the uterine torsion of 180° in ewe by using schaffer's method. The use of iron rod was found to be effective over the advantages of wooden plank in terms of it causes laceration of abdominal skin, teat or pendulous udder during rotation beside the fixation of uterus.

Roberts (2004) stated that the degree of uterine torsion, 180° or more is dangerous to fetus as well as dam. The spontaneous vaginal tear is common in small ruminants as compared to bovine and commonly observed in pregnant ewe but it was further highly prone to rupture or tear in uterine torsion affected ewes due to ischemia of reproductive organs (Mosdol, 1999). This tear may be occur at the time of rolling of dam or forced extraction of fetus which further leads to protrusion of visceral organs. Kumar *et al.*, (2014) and Manokaran *et al.*, (2014) could not noted any type of vaginal or uterine tear, it might be due to lesser duration of torsion 10 and 8 hours, respectively. In present case, prolonged duration of uterine torsion leads circulatory disturbance in reproductive organs potentially weaken the vaginal wall and in combination with excessive tenesmus resulting vaginal tear. Like a present case, Bruce Watt (2014) also observed the 10

cm long tear after delivering of muconium tinged dead fetus in 360° clockwise uterine torsion in ewe.

Hemato-biochemical indices are essential indicators of any patho-physiological alteration in animal body (Karapehliyan *et al.*, 2007). The uterine torsion affected ewe at the time of parturition showed the increased the number of leucocytes by their relative distributions with neutrophilia and lymphopenia. The level of creatinine, AST and ALP levels were elevated than the adult sheep and goat (Njidda *et al.*, 2004 and Shaikat *et al.*, (2013). This alteration was may be due to increased duration of torsion lead to ischemic genitalia of dam and fetal death. Carlson, (1996) stated that the ALP activity is increased in case of hepatic disorders or during growth due to bone metabolism that indicates uterine torsion in ewe can affected the liver. An increase in enzymatic activity is directly proportional to the degree of damage suffered by an organ (Kawashima *et al.*, 2007). The BUN and glucose level were greatly reduced than recorded by Njidda *et al.*, (2004) and Desco *et al.*, (1989) in normal healthy adult sheep. The erythrograms indices, inorganic phosphorus, calcium, total protein and albumin concentration were undisturbed significantly than reported in goat (Shaikat *et al.*, 2013).

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