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Short Communication

MANAGEMENT OF HYDRALLANTOIS IN A NON-DESCRIPT COW BY TRANSCERVICAL ALLANTOCENTESIS

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Sudden, abnormal accumulation of allantoic fluid in allanto-chorionic sac pertains hydrallantois. The aforesaid condition can be treated by caesarean section or slow drainage of fetal fluid to avoid hypovolemia. Present case uses transcervical allantocentesis method along with other regular medicines for management of hydrallantois.

Key words: Cow, Gestational disorder, Hydrallantois, Placenta, Pregnancy

Hydrallantois is one of the gestational disorders, where rapid and abnormal bilateral distension of abdomen occurs due to rapid accumulation of watery, amber color fluid inside the allantoic sac (Roberts, 1971). Hydrallantois accounts for about 88% of dropsical conditions of fetal sac (Kumar *et al*., 2018) and commonly occurs during the last phase of third trimester of pregnancy (Manokaran *et al.*, 2011). In this condition, reduction of placental vascularization occurs which causes metabolic changes in the placental tissue and fetal membrane, therefore leading to

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accumulation of fetal fluid. However several authors reported, fetal malformation, fetal hepatic or renal disorders (Hydronephrosis) and umbilical cord torsion, as predisposing factors for hydrollantois (Jackson, 2006)

An adult non-descript cow on its 4th parity was presented to Department of Veterinary Gynaecology and Obstetrics (DUVASU), Mathura, with a history of bilateral abdominal enlargement since last 15 days. Rectal palpation showed highly enlarged fluid filled uterus along with distinct observation of fremitus. However, ultrasonographic examination revealed existence of huge amount of fluid inside the uterus and presence of freely floating foetal membrane. Based on history, symptoms and clinical examination, the case was diagnosed as hydrallantois.

Therapeutic management was decided to induce parturition through dilation therapy. Therefore animal was administered with synthetic prostaglandin (PGF2α) i.e. cloprostenol Na @ 500 µg, followed by valethamate bromide @ 48 mg, dexamethasone @40 mg and estradiol valerate @ 30mg intramuscularly (Kumar *et al*., 2018). Animal was kept under observation, however, per vaginal examination carried out at every two hour interval. After 8 hours of therapy, per vaginal examination revealed sufficient dilation of cervix then it was decided to proceed with transcervical allantocentesis for slow, steady and continuous drainage of allantoic fluid so as to avoid hypovolemic shock. For that an 18 Gauze Rusch catheter was fixed at the internal os of cervix by piercing the allantoic sac gently. Later on the balloon was inflated with 10 mL air, along with intravenous fluid administration simultaneously. After 14 hours of continuous dribbling, around 85L of allantoic fluid drained out, followed by assisted delivery using simple traction delivered a dead calf successfully (Fig. 1B). However in order to avoid hypovolemic shock, which could arise due to splanchnic pooling of blood and fluid loss, 3 L of DNS, 3 L of RL, 2 L of NS along with 10 mL of dexamethasone (40 mg of total dose) was administered intravenously. Remaining symptomatic and supportive therapy provided as per standard protocol.

Hydrallantois is a rare obstetrical disorder and mostly affects cows (Resum *et al*., 2016; Kumar *et al*., 2018). The exact cause of hydrallantois is not well understood. However hydrallantois may results due to dysfunctional caruncles leading to edematous placentomes resulting in formation of adventitious placenta (Drost, 2007). Enhanced membrane permeability along with decreased active transport of sodium across the chorioallantoic membrane, hormonal imbalances and fetal

Hydrallantois in a cow

Fig. 1. Showing (A- Cow showing bilateral abdominal distention, B-Fully developed fetus, C&D-Enlarged and edematous caruncles)

renal disease are also responsible for hydrallantois (Morin *et al.*, 1994). Excessive fluid accumulation in hydrallantois condition results abdominal distension and sometimes loss of condition and recumbancy with fatal outcome to dam (Noakes *et al*., 2001).

Dropsical condition of fetal sacs including hydrallantois is characterized by presence of huge amount of fluid in fetal sacs, therefore management of these conditions need to be addressed with caution as sudden drainage of fluid may cause hypovolumic shock leading to death of dam. Transcervical allantocentesis facilitates slow and steady drainage of fetal fluid. However transcervical allantocentesis is a time consuming method but it insures well-being of dam.

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