

HYDROALLANTOIS INA GOAT (*CAPRA HIRCUS*)- A CASE REPORT

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ABSTRACT

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A rare case of hydroallantois and its clinical management in a full term pregnant 2½ year old pleuriparous goat having symptoms of anorexia, respiratory distress, bilateral abdominal distension, reluctant to stand and move is reported. Abdominal ultrasonographic examination revealed presence of large volume of fluid with enlarged but reduced numbers of cotyledons. Abdominocentesis was performed for relieving respiratory distress; fluid therapy along with prostaglandin (cloprostenol sodium) and dexamethasone was administered for induction of parturition and managing the shock. Approximately 13 liters of allantoic fluid was removed in 2 consecutive days and two fetuses (one live and one dead) without any observable congenital defect were delivered by gentle traction. Parenteral as well as intra-uterine antibiotic coverage along with oral ecobolic (exapar liquid) was given for 5 days. Placentas were expelled out after 48 hours.

Key Words: Hydrallantois, Goat, Placental dropsy, Ultrasonography, Clinical management

INTRODUCTION

Hydroallantois, a placental dropsical condition characterized by progressive bilateral abdominal distension, respiratory distress, depression, tendency to adopt recumbent posture, difficulty in standing and walking is caused by abnormal accumulation of large volume of allantoic fluid in the uterus of pregnant female during 5-20 days period in last trimester of pregnancy. It has been commonly reported to occur in bovine, bubaline, equine and rarely in ovine and caprine (Milton *et al.*, 1989; Prabhakar *et al.*, 1991; Morin *et al.*, 1994). Present paper reports about a rare case of hydroallantois and its successful therapeutic management in a goat with twin pregnancy.

CASE HISTORY AND OBSERVATIONS

A full term pregnant 2½ year old pleuriparous goat (45 kg body weight) in her second parity was presented at Teaching Veterinary Clinical Complex of the College at Bikaner with complaint of anorexia, respiratory distress, difficulty in walking and progressive abdominal distension since 5-6 days. Clinical examination revealed normal rectal

temperature, tachycardia, restlessness, cessation of rumination, dyspnoea and enormous ventro-bilateral abdominal distension (Fig. 1). Animal was depressed and reluctant to move or stand. Fluid splashing was observed by abdominal ballotment indicating presence of large volume of fluid but fetus could not be palpated. Per vagina examination revealed closed cervix. Fluid filled uterine horns with enlarged but lesser numbers of placentomes were observed by ultrasonographic examination (Fig.2).

TREATMENT AND DISCUSSION

Animal was infused with 2.5 liters of fluid containing 1.5 liter ringer's lactate and 1.0 liter of DNS administered intravenously. Approximate 6.5 liters of amber colored fluid was removed by abdominocentesis with trocar and canula for relieving the pressure discomfort. Microbiological culture and microscopic examination of gram stained smear revealed absence of cellular contents or bacteria in the fluid. Two litres of fluid (1 liter of DNS and ringer's lactate each) was again infused after removal of amniotic fluid. Prostaglandin (Injection Pragma 250 mcg IM) and 20 mg of dexamethasone were administered intramuscularly for induction of

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parturition and also for counteracting shock. Next day 2 liters of fluid (1 liter DNS and Ringer's Lactate each) was again given and 3.5 liters of abdominal fluid was removed by abdominocentesis. Goat started active labour by the evening. Per vagina examination revealed dilated cervix, allantoic sac was punctured and 3 liters of allantoic fluid was removed again thereafter, water bag was ruptured and two fetuses (one live and one dead) were delivered by judicious traction applied over forelegs of fetuses. Fluid therapy (2.5 liters of Ringer's lactate) was administered again. Goat was injected with Oxytocin (15 IU IM) and calcium borogluconate (40 ml IV). Parenteral as well as intra-uterine antibiotic coverage (Oxytetra-cycline 10 mg/kg b.wt. IM and 500 mg IU) as well as oral ecboic was given for 5 days.

Hydrallantois is the single pathologic factor present in 85 to 90% of dropsical conditions in the bovine (Milton *et al.*, 1989 and Toniollo *et al.*, 2003). The exact cause of hydrallantois is not certain but it has been reported to be associated with consumption of legumes with high estrogens, hypothyroidism and placental or uterine disease (Mobini *et al.*, 2002) or diseased uterus wherein caruncles are not functional and rest of the placentomes are enlarged and diseased (Bhattacharyya *et al.*, 2012). Other contributing factors associated with hydroallantois are increased permeability as well as decreased active transport of sodium across the chorioallantoic membrane, hormonal imbalances, fetal renal disease (Morin *et al.*, 1994), multiple fetuses in the uterus, fetal liver disease, uterine torsion and/or twisting of the umbilical cord, deficiency of vitamin-A causing decreased endometrial resistance to infections (compromises the number of caruncles), malnutrition and cardiac or renal diseases in the ewe (Toniollo *et al.* 2003). In present case decreased numbers of enlarged placentomes as observed during ultrasonography are indicative of diseased uterus or placenta with resultant inadequate/abnormal functioning of placentomes might be the underlying cause of hydroallantois.

Physical examination and transrectal or transabdominal ultrasonography is recommended for confirming the hydroallantois in ewes and does (Milton *et al.*, 1989, Morin *et al.*, 1994 and Bhattacharyya *et al.*, 2012), in present case, physical examinations, clinical findings and transabdominal ultrasonography was employed for arriving at a definite diagnosis of hydroallantois. The symptoms, clinical and ultrasonographic findings in present case were similar to those reported in earlier reports of hydroallantois in ewes (Milton *et al.*, 1989 and Bhattacharyya *et al.*, 2012) and doe (Kumar *et al.*, 2012).

Increased hydraulic pressure on diaphragm due to immense abdominal enlargement causes difficulty in breathing thereby treatment should be directed toward evacuation of uterus and termination of pregnancy by caesarian or by use of prostaglandins. If a large volume of allantoic fluid in the uterus is expelled rapidly, circulatory shock can develop (Misri and Singh, 2001). In the present case, abdominal discomfort and respiratory distress were relieved by percutaneous abdominocentesis, simultaneously fluid therapy was given for managing hypovolumic shock; dexamethasone and prostaglandin were given for terminating the pregnancy and also for counteracting the shock. Bhattacharyya *et al.* (2012) and Morin *et al.* (1994) preferred caesarian section for relieving severe abdominal discomfort and respiratory distress.

Normal allantoic fluid volume in sheep and goats has been reported to be between 0.5 to 1.5 liters (Mary and David, 2009). Even 12 liters of allantoic fluid has been reported from a case of hydroallantois in a doe (Morin *et al.*, 1994). In the present case, 13 liters of allantoic fluid was removed by per cutaneous as well as per vaginal amniocentesis.

Most fetuses of animals with hydrallantois are underdeveloped with congenital defects or are apparently normal but not viable (Milton *et al.*, 1989 and Morin *et al.*, 1994). In the present case, one dead fetus removed was underdeveloped, whereas one live fetus had normal development. None of the

fetus had any observable congenital defect. Some of the possible sequelae of hydroallantois reported previously are rupture of the uterus, rectal and vaginal prolapse, dystocia associated with uterine atony, retained placenta, metritis and agalactia (Toniollo *et al.*, 2003). In the present case, following delivery atony of uterus and placental retention for 24 hours was observed.

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Fig. 1: Fluid aspiration from bilaterally distended abdomen of hydrallantoic goat

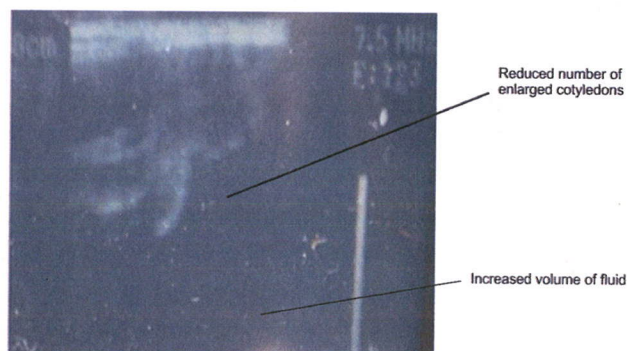


Fig. 2: Abdominal ultrasonograph showing fluid accumulation and enlarged cotyledons