

HYDRALLANTOIS IN AN EWE (CASE REPORT).

(HIDROALANTÓIDE EM UMA OVELHA. RELATO DE CASO)

(HIDROALANTOIDES EN UNA OVEJA. RELATO DE CASO)

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RESUMO

Uma ovelha da raça Suffolk, 4 anos de idade, no terceiro trimestre de gestação foi encaminhada ao Hospital Veterinário com história primária de distensão abdominal bilateral aguda e progressiva. Após 10 dias de internação, o animal foi submetido a uma cesariana na região paramamária que revelou útero distendido com paredes finas e preenchido com 18 litros de líquido alantóico e presença de 2 cordeiros. Dois dias após a cirurgia, a ovelha estava alerta, era capaz de se levantar e tinha apetite normal. A distensão abdominal não retornou após a cirurgia nem retenção de placenta ou sinais de metrite foram observados. Dez dias após a cirurgia o animal retornou para a fazenda. Nova cobertura foi desencorajada neste caso.

PALAVRAS-CHAVE: Hidroalantóide. Ovelha

SUMMARY

A 4-year-old Suffolk ewe in the last trimester of gestation was referred to Veterinary Teaching Hospital with history of an acute, progressive, bilateral abdominal distention. After 10 days of hospitalization, the animal underwent a cesarean section in the paramammary region that revealed a grossly distended, thin-walled, fluid-filled uterus with 18 liters of allantoic fluid and 2 lambs. Two days after surgery, the ewe was alert, able to stand and had normal appetite. Abdominal distention did not recur after surgery and neither retention of fetal membranes nor septic metritis signs were observed. Ten days after surgery the animal was discharged to the farm. Rebreeding was discouraged in this case.

KEY WORDS: Hydrallantois. Ewe.

RESUMEN

Una oveja de la raza Suffolk, de 4 años de edad, en el tercer trimestre de gestación fue referida al Hospital Veterinario con historia primaria de distensión abdominal bilateral aguda y progresiva. Después de 10 días de internación, el animal fue sometido a una cesárea en la región paramamaria que reveló un útero distendido con paredes finas y lleno con 18 litros de líquido alantóico y presencia de 2 corderos. Dos días después de la cirugía, la oveja estaba alerta, era capaz

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de levantarse y tenía apetito normal. La distensión abdominal no retornó después de la cirugía ni retención de placenta o signos de metritis fueron observados. Diez días luego de la cirugía el animal retornó para la hacienda. Se recomendó no realizar nuevas coberturas en este caso.

PALABRAS-CLAVE: Hidroalantoides. Oveja.

INTRODUCTION

Hydrallantois (hydrops of the allantois), is characterized by a larger than normal accumulation of allantoic fluid during a 5- to 20-day period in the last trimester of pregnancy that occurs mainly in the bovine and rarely in mares and ewes (MILTON et al., 1989). Hydrallantois is the single pathologic factor present in 85 to 90% of dropical conditions in the bovine (BARTH, 1986, MILTON et al., 1989, TONIOLO e VICENTE, 1993, PEEK, 1997). The cause of hydrallantois is not certain. Adventitious placentae are commonly present and there may also be a deficient number of caruncles. This deficiency may be due to either a congenital lack of development or uterine disease acquired in later life. A reduction in the number of cotyledons has also been associated with hydrallantois (PEEK, 1997). Decreased active transport of sodium across the chorioallantoic membrane, increased permeability of 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 conditions and heart or renal diseases of the ewe (TONIOLO e VICENTE, 1993) may contribute to this process.

The finding that after delivery of the foetus when membranes are retained, fluid may continue to accumulate supports the proposition that a membrane defect may be present during hydrallantois (WINTOUR et al., 1986). Most fetuses of animals with hydrallantois may have congenital defects, are underdeveloped, or are apparently normal but not viable (MILTON et al., 1989, HENRY et al., 1991, MORIN et al., 1994).

The clinical signs associated with hydrallantois vary somewhat with the volume of fetal fluids accumulated and the duration of the condition (MILTON et al., 1989), and affected animals have a reduced appetite due to visceral compression, weakness and inability to rise (PEEK, 1997), dehydration and may have respiratory difficulty (BARTH, 1986). Hydrallantois must be differentiated from hydramnios, intestinal obstruction, ascites, rupture of bladder, an abdominal mass (eg, tumor, abscess, or fat necrosis), rumen tympany (in ruminants), extensive ventral edema (in mares), hydrometra (in ewes), and multiple fetuses (MORIN et al., 1994).

The condition is diagnosed by means of physical examination and, in cows and mares, performing rectal examination (BLANCHARD, 1989, MORIN et al., 1994). Transrectal or transabdominal ultrasonography has been used to help diagnose hydrallantois and is especially useful in ewes (MORIN et al., 1994). The sudden increase in weight and volume of the abdominal contents predisposes the female to ventral herniation or rupture of the prepubic tendon (BARTH, 1986, STICH et al., 2003, MOBINI et al., 2004). Possible sequelae are rupture of the uterus, rectal and vaginal prolapse due to tenesmus or increase in intra-abdominal pressure, dystocia associated with uterine atony, retained placenta, metritis and agalactia (TONIOLO e VICENTE, 1993).

The scarcity of literature describing ovine hydrallantois encouraged us to describe this case. This report addresses the diagnostic possibilities associated with a distended abdomen, and how to manage the affected patient once you have made a diagnosis. We are aware of only international publications that describes similar cases and this is the first clinical report in veterinary literature in Brazil.

CASE REPORT

A 4-year-old Suffolk ewe in the last trimester of gestation was referred to Veterinary Teaching Hospital. The primary complaint was acute, progressive, bilateral abdominal distention in the last 20 days. On initial examination, the ewe showed a severe symetric bilateral abdominal distention, mainly in the ventral region without the presence of gas tympany. An orogastric tube was passed through the mouth into the rumen, to rule out rumenal distention as the cause of the abdominal distention, and resulted in negative passage of gases and/or fluids. The rumenal motility was normal and the ewe passed normal feces during examination. The animal was alert and able to stand and walk. The presumptive diagnosis was hydrallantois or hydramnios. Due to the proximity of the parturition and the clinical conditions of the patient, it was decided to wait some few days until the end of the gestation period. After 10 days of hospitalization, the ewe's abdominal circumference continued to increase progressively, and the animal showed a great difficulty to remain in standing position and dyspnea. After

recumbency of two days' duration, the animal was sedated with 1% acepromazine¹ (0.1 mg/kg body weight, IV), local infiltration with 2% lidocaine² was provided and a right lateral C-section in the paramammary region was performed, revealing a grossly distended, thin-walled, fluid-filled uterus with 18 liters of allantoic fluid and 2 lambs. The fluid was drained using a No. 26 nasogastric tube³ to prevent hypovolemic shock. The male lamb was dead at the time of delivery and the female survived for only 2 minutes, despite the attempts to resuscitate it. After the fetuses removal, the uterus was rinsed with copious amounts of saline solution⁴. The uterus was sutured with No. 0 chromic catgut⁵ in a two continuous inverting pattern (Schimieden and Cushing). The peritoneum and the abdominal transverse muscle were sutured together and a second layer of sutures were used to close the internal and external abdominal oblique muscles. Both layers were sutured with 3 chromic catgut⁵ in a Sultan pattern. The subcutaneous tissue was closed with 2-0 chromic catgut⁵ in Cushing pattern. Finally, skin was closed with interrupted horizontal mattress (Wolff) pattern using 2-0 nylon⁶. During surgery, the ewe was maintained on Ringer's lactate solution⁷ administered IV to prevent circulatory shock resulting from extensive fluid removal. Calcium gluconate⁸ was administered in conjunction with the Ringer's lactate solution as adjunctive therapy to stimulate the uterine involution. After recovering from anesthesia, the ewe received 5 UI of oxytocin⁹ IM to promote uterine contraction and involution. Ceftiofur¹⁰ (2.2 mg/kg, SC, SID) was prescribed for 7 days. The lambs were estimated to be 20 days premature and were apparently normal. The placenta was edematous but with no signs of infection nor fibrin deposition. Allantoic fluid collected during surgery was watery, amber-colored, and acellular, with the absence of bacteria on Gram stain. The ewe's previous gestations and parturitions had been normal.

Two days after surgery, the ewe was alert, able to stand and had normal appetite. Abdominal distention did not recur after surgery and neither retention of fetal membranes nor septic metritis signs were observed. Ten days after surgery the animal was discharged to the farm.

DISCUSSION

This ewe showed the same clinical signs described by Milton et al. (1989), and in other species with hydrallantois, like caprine (MORIN et al., 1994, MISRI e SINGH, 2001), buffaloes (CHANDOLIA et al., 1988, CHANDOLIA et al., 1989, PRABHAKAR et al., 1991, PHOGAT et al., 1993), and cattle (MEMON et al., 1981, BASILE, 1987, ELMORE, 1992).

In sheep, allantoic fluid volume varies during gestation (WINTOUR et al., 1986, WINTOUR et al., 1993), and increases to a maximum of 700 to 1,500 ml at term (WINTOUR et al., 1986, TONIOLO e VICENTE, 1993), in comparison to cows (≤ 19 L), and mares (≤ 15 L) (MORIN et al., 1994). These data show that with hydrallantois, the volume of fluid may be ≥ 10 times this amount (MILTON et al., 1989, MORIN et al., 1994, MISRI e SINGH, 2001) as occurred with this ewe (18 liters).

Hydrallantois treatment is directed at evacuation of the uterus by cesarean section or induced termination of pregnancy with prostaglandin (MORIN et al., 1994, BRAUN Jr., 1997). If a large volume of allantoic fluid in the uterus is expelled rapidly, circulatory shock can develop (MISRI e SINGH, 2001), as observed in a doe that suddenly collapsed after the abdomen was punctured by trocar and canula to drain the allantoic fluid. So before draining the fluid, the right jugular vein of this ewe was cannulated to rapidly administer Ringer's lactate to avoid circulatory shock.

Various methods have been used to treat hydrallantois in cows and buffaloes such as prostaglandin F2 α (MEMON et al., 1981, CHANDOLIA et al., 1989) or induction of parturition by injecting dexamethasone or flumethasone intramuscularly (BARTH, 1986, CHANDOLIA et al., 1988, ELMORE, 1992, PHOGAT et al., 1993). However, in all reports of parturition induction as part of the treatment for hydrallantois, the time between drug administration and calving was higher when compared to healthy animals submitted to the same treatment protocol. This fact suggests that the enlarging of the uterus probably has caused uterus atony difficulting fetal expulsion.

In this ewe, induction of parturition was not considered in the beginning due to the gestational age (approximately 120 days), which would impossibilite the fetuses survival due to the pulmonary immaturity. However, after ten days of hospitalization, the animal remained recumbent, indicating an agravament of its clinical condition. We elected to perform an emergencial cesarean section on this ewe, because of the abdominal distention and respiratory alterations in an attempt to save the animal and the fetuses. Similarly to our findings, Milton et al. (1989) and Morin et al. (1994) reported the recovery of apparently normal but non viable twin fetuses after cesarian section, despite the attempts to resuscitate them. However, the dams were completely recovered at the end

1 Acepram 1%, Univet S.A. Indústria Veterinária.

2 Xylestesin 2% sem vasoconstritor, Cristália Produtos Químicos Farmacêuticos Ltda.

3 Sonda gástrica de Levine nº. 26 – Laboratório Sanobiol Ltda.

4 Solução de cloreto de sódio a 0,9% - JP Indústria Farmacêutica S.A.

5 Categute cromado, Johnson & Johnson Ltda.

6 Mononylon, Johnson & Johnson Ltda.

7 Ringer com Lactato - JP Indústria Farmacêutica S.A.

8 Glucafós – Schering-Plough do Brasil Ltda.

9 Ocitocina injetável – Univet S.A. Indústria Veterinária.

10 Excenel – Pfizer do Brasil Ltda.

of the treatment. Rebreeding was discouraged in this case.

The few reports found in the literature about hydrallantois in sheep suggest this is a very rare complication of pregnancy in this specie (WINTOUR et al., 1986, WINTOUR McFARLANE, 1993). There is few information about the physiology and pathology of hydrallantois in sheep (WINTOUR et al., 1986) and treatment protocols are extrapolated from other species, mainly from cattle.

The cause of hydrallantois in this ewe was not certain. Since no abnormalities were detected in the fetuses and placental edema was the only lesion found, we believe that this could have caused a decrease in the active transport of sodium across the chorioallantoic membrane or an increase in the permeability of the chorioallantoic membrane. Hormonal imbalances due to phytoestrogens ingestion (ADAMS et al., 1981) in the pasture cannot be discarded.

The outcome of this ewe may suggest a better prognosis for ovine hydrallantois, compared with that for cows and mares with hydrallantois. However, the substantial medical and supportive care given to this ewe may have reduced the incidence and severity of hydrallantoic sequelae as also reported by Milton et al. (1989). This type of intervention is expensive and may be indicated only to a purebred ewe.

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