

HYDRALLANTOIS IN BUFFALOES

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ABSTRACT

This communication reports three cases of hydrallantois in buffaloes and their management. Two buffaloes out of three buffaloes were handled successfully without any postoperative complications.

Keywords: *Bubalus bubalis*, buffalo, hydrallantois, fetus, organ

INTRODUCTION

Hydrallantois (hydrops of the allantois) is characterized by a larger than normal accumulation of allantoic fluid, its volume ranging from 40 to 160 liters or more (Roberts, 1971) during a 5 to 20 days period in the last trimester of pregnancy (Morrow, 1986). It occurs mainly in the bovine (Roberts, 1971) and rarely in mares (Henry and Morris, 1991; Stich and Blanchard, 2003), goats (Misri and Singh, 2001) and ewes (Milton *et al.*, 1989; Peiro *et al.*, 2007). Hydrallantois is the single pathologic factor present in 85 to 90% of dropsical conditions in the bovine (Roberts, 1971; Barth, 1986; Peek, 1997). It is usually associated with diseased

uterus in which most of the caruncles in one horn is not functional and rests of the placentomes are greatly enlarged and possibly diseased (Roberts, 1971). 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 (Roberts, 1971) may further contribute to this process.

This study deals with observations, treatment and management of 3 clinical cases of hydrallantois in buffaloes presented in field conditions of district Hamirpur in Himachal Pradesh.

HISTORY AND CLINICAL OBSERVATIONS

Case 1

A cross-bred pluriparous Murrah buffalo aged about 8 years, with a gestation period of 288 days was presented with the history that abdomen is highly distended and the animal is finding difficulty in lying down or getting up. On general examination, the abdomen was completely and bilaterally distended (Figure 1). Other signs of parturition were absent. Per-vaginal examination revealed a closed cervix. Fetus could not be palpated per rectally as the abdomen was distended.

Case 2

A non descript pluriparous buffalo aged about 9 years and with a gestation period of 295 days was presented with the history of partial anorexia and distended abdomen for last 10 days. Animal was also finding difficulty in lying down as well as in getting up. On general examination animal was dull, depressed and showed the signs of labored breathing. Per-vaginal examination revealed a fully dilated cervix with intact fetal water bags. Fetus was not palpated as abdomen was distended completely with fetal fluid.

Case 3

A primiparous Murrah graded buffalo aged about 4 years with a gestation period of 298 days was presented with the history of distended abdomen and labour pains since last 8 h. Continuous straining was present but parturition was not occurring. A continuous discharge of amber colored fluid from vagina was evident. Owner had complaint that about 25 liters of fluid had escaped out. On per-vaginal examination cervix was fully dilated and uterus was still filled with fluid. Approximately 35

liters of fluid was removed manually. Fetus was not palpable.

TREATMENT AND DISCUSSION

The buffalo presented in case no. 1 had a closed cervix, to which inj. Dinoprost 25 mg total dose was given via intramuscular route. The cervix opened after 48 h of the treatment. In all the buffaloes except the buffalo in case no. 3, the fetuses were extracted out after the rupture of fetal water bags. As the fetuses were small in size, they could be easily pulled out by normal traction. In case no. 3, the water bags were already ruptured and the fetus was taken out by traction after doing episiotomy. Approximately 55 to 85 liters of fluid was removed from the uterus of these buffaloes. Fetuses of buffaloes presented in case no. 1 (Figure 2 and Figure 3) were affected with generalized edema and ascitis. A post mortem was conducted on the fetus removed from buffalo of case no. 1. The abdominal organs of the fetus were found edematous (Figure 4) with enlarged liver and pulpy kidneys. The fetus removed from buffalo presented in case no.3 was normal and free from any abnormality. The placentas in all the buffaloes were retained and were containing adventitious placentomes.

All the three buffaloes were treated with Inj. Dexamethasone 40 mg total dose administered via intravenous route before removal of fluid. Inj. Streptopenicillin 2.5 g b.i.d was given for 5 days by intramuscular route. Intravenous infusions (Inj. Normal Saline) 10 liters for 5 days were infused in all the buffaloes along with Inj. Calcium borogluconate 450 ml (300 ml slow i.v and 150 ml s.c), except the buffalo presented in case no. 3 which died on day 3 of the treatment.



Figure 1. Hydrallantois in buffalo.



Figure 2. Fetus removed from case no. 1.



Figure 3. Fetus removed from case no. 2.



Figure 4. Edematous abdominal organs.

Buffalo no. 1 recovered spontaneously without any complications and in buffalo presented in case no.2 puerperal metritis developed.

After delivery of the fetus, when membranes are retained, fluid may continue to accumulate in the uterus (Wintour *et al.*, 1986). But in the above cases no such accumulation was present. Most fetuses of animals with hydrallantois are reported to be underdeveloped, may have congenital defects, edematous or may be suffering with ascites (Roberts, 1971; Srinivas *et al.*, 2007) or are apparently normal but not viable (Milton *et al.*, 1989; Henry and Morris, 1991; Morin *et al.*, 1994). The clinical signs associated with

hydrallantois vary with duration of the condition and the volume of fetal fluids accumulated (Milton *et al.*, 1989). The 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).

In some animals affected with hydroallantois, the cervix may be closed. In such animals induction of parturition can be done either with dexamethasone or flumethasone (Barth, 1986; Chandolia *et al.*, 1988; Prabhakar *et al.*, 1991; Elmore, 1992; Phogat *et al.*, 1993) or with PGF_{2α} (Memon *et al.*, 1981; Chandolia *et al.*, 1989) administered intramuscularly.

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