MANAGEMENT OF HYDROALLANTOIS IN MEHSANA BUFFALOES - TWO CASES

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ABSTRACT

Hydroallantois in Mehsana buffaloes were successfully treated by terminating pregnancy using combination of PGF2α and dexamethasone at therapeutic single dose in two different cases.

Keywords: *Bubalus bubalis*, buffaloes, hydroallantois, Mehsana buffalo, termination of pregnancy

INTRODUCTION

Hydroallantois is one of the gestational disorder in which sudden increase in allantoic fluid occurs in allantoic cavity associated with a diseased uterus in which most of caruncles in one horn are not functional and rest of placentomes are greatly enlarged and possibly diseased leading to bilateral enlargement of abdomen (Roberts, 1971). It is single factor present in 85 to 90% of the dropsical conditions affecting the bovine foetus and its membranes. This is more common last phase of third trimester in dairy and beef cattle and less so in buffaloes and heifers (Srinivas and Sreenu, 2006). Hydroallantois usually develops rapidly within 5 to 20 days with distended uterus and enlarged abdomen. The condition can be diagnosed by physical examination (vaginal/rectal) and ultrasonography in bovines. Termination of pregnancy is one of the effective treatments for this condition (Govaere *et al*., 2012). Extensive studies have been conducted in cattle due to its common reports, however literatures for buffaloes are lacking.

The present reports describe management of two cases of hydroallantois in mehsana buffaloes that were 8 and 6 months pregnant.

CASE HISTORY AND CLINICAL OBSERVATIONS

Two buffaloes ageing 10 and 3.5 years in 7th and 1st parity at 8th and 6th month of gestations were presented with history of restlessness, stiff and slow gait, polydypsia but reduced appetite, sudden enlargement of abdomen (Figure 1) within 7 to 20 days and difficulty in urination.

On general physical observations buffaloes were dull, dehydrated and having a difficulty in sitting and getting up. The respiration and pulse rate were slightly elevated, however rectal temperature was normal. On per vaginal examination cervix was pushed inside vaginal passage with variable dilation from one to two fingers and liquefaction of cervical plug was also noticed. Per rectal examination revealed highly distended uterus filling most of the pelvic cavity. The tense uterine

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wall has not allowed to palpate placentomes and foetus. Although, excellent freemitus was noticed indicating presence of live foetuses. The trans-rectal as well as abdominal ultrasonographic examination using 7.5 and 5 MHz transducer, respectively, revealed anechoic foetal fluid, hyper-echoic foetal membranes and few cotyledond but no any foetal parts were witnessed (Figure 2).

TREATMENT

On the day of arrival both buffaloes were thoroughly examined and infused with three litres of normal saline and ringer lactate each along with injection dinoprost tromethamine (Lutalyse, 25 mg i/m) and dexamethasone (Dexona, 4 mg/kg, i/v).

The buffalo having six month gestation showed cervical dilation on next day evening i.e., approx. 30 h after treatment and live immature abnormal male calf in posterior longitudinal presentation was delivered through traction, which succumbed after 20 minutes of birth. Another buffalo with eight month of gestation took four days for cervical dilation and she was infused with three litres of normal saline and ringer lactate during this period. The delivered calf was grossly normal in appearance and died after 35 minutes of delivery.

Large quantity of watery fluid (Figure 3) (approx. 150 to 200 Litres) was drained from uterus by making a tear in the foetal membrane before removal of foetus in order to prevent animal from shock. After delivery they were administered with Inj. Oxytocin (75 IU, i/v), Gentamycin (4 mg/kg, i/m), multivitamin (Gvobex 10 ml, i/m), meloxicam (Melonex 20 ml, i/m) and chlorphenir amine maleate (Avil 10 ml, i/m) along with intravenous fluid. The retention of placenta was observed in both cases with gross abnormalities i.e., less number of cotyledons, hyperaemia, whitish salt depositions.

DISCUSSION

Figure 1. Buffalo showing bilateral enlarged abdomen.

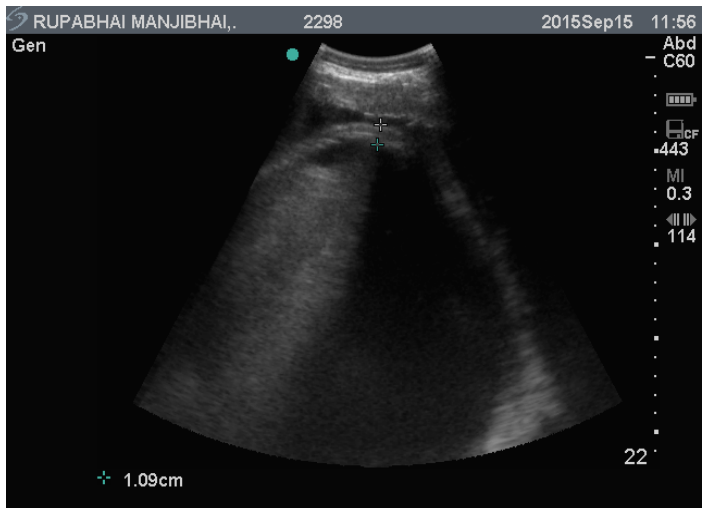

Figure 2. Trans-abdominal ultrasonography revealed anechoic foetal fluid, hyper-echoic uterus but no any foetal parts.

Figure 3. Large quantity of fluid is drained from uterus.

In hydroallantois, accumulation of allantoic fluid was rapid due to placental abnormalities and possible interference with sodium metabolism at cellular level (Jackson, 1980) and mostly seen during 8 to 9 months of pregnancy (Roberts, 1971). The shifting of fluid from interstitial tissue or cell to allantoic cavity might be responsible for dehydration, dullness and depression in present cases corroborating findings of Arthur *et al*. (1989).

Termination of pregnancy is one of the effective treatments of this condition (Govaere *et al*., 2012). Studies have shown that either dexamethasone or prostglandin F2 and its synergestic analogues alone or a combination of these two drugs would result in trermination of pregnancy at any stage of gestation. Daily administration of large doses of stilbesterol (50 to 120 mg) or estradiol (8 to 10 mg) for 4 to 7 days alone or together with glucocorticoid and antibiotics may frequently result in cervical dilatation and abortion (Roberts, 1971). The termination of pregnancy by combitation of dexamethasone and prostglandin F2 is more effective than alone (Shukla *et al*., 2008). The results of present reports are in accordance with previous experiences in cattle (Momont, 2005) and buffalo (Shukla *et al*., 2008; Pandey *et al*., 2015). In contrary to this Napolean *et al*. (2012) failed to terminate the pregnancy with the use of combination of these drugs. Prakash *et al*. (2014) placed a rusch catheter (18") through cervix to drain the allantoic fluid and terminating pregnancy with combination of inj. Cloprostenol (4 ml, Pragma) and Dexamethasone (4 mg/kg) intramuscularly. The present cases were also successfully treated using combination of inj. lutalyse (5 ml) and Dexamethasone (4 mg/kg) intramuscularly. Hydroallantois in buffaloes was handled successfully using Dexamethasone (Prabhakar *et al*., 1991), prostaglandin analogues (Chandolia *et al*., 1989), combination of prostaglandin and corticosteroids (Shukla *et al*., 2008); Palanisamy *et al*. (2014) used double dose of dinoprost tromethamine (50 mg, Lutalyse, i/m) in combination with dexamethasone (24 mg, i/m) to treat hydrallantois in buffalo heifer and after 55 h the pregnancy was terminate successfully.

In these present cases, first dilation therapy was given and then foetuses were removed with manual traction. Both buffaloes were kept on medications for three more days and resumed their normal appetite within a week. The milk production was also recorded in a buffalo with 8 month of gestation up to one kilogram a day.

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