

HYDRALLANTOIS IN A CROSS BRED HEIFER - A CASE REPORT

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Hydrallantois in a 3yr old cross bred heifer was diagnosed based on sudden bilateral abdominal enlargement and by findings of per rectal and vaginal examination. Caesarean section was performed and about 140 litres of allantoic fluid was drained out and a live foetus was delivered.

Key words: Caesarean, Heifer, Hydrallantois

Hydrallantois is one of the gestational disorders that accounts for 85-90 % of the dropsical condition affecting bovine foetus and its membrane (Peek, 1997). It is characterized by a rapid accumulation of clear, watery and amber colour allantoises fluid resulting in rapid abdominal enlargement within 5–20 days of the late gestation (Roberts, 1971). This condition is usually seen sporadically in dairy and beef cattle (Rangasamy *et al.*, 2013). However it is less frequent in heifer than in multiparous animals (Roberts, 1971). The present report described a case of hydrallantois and its management in 3 year old cross bred heifer in 8 month of pregnancy.

A 3 year old cross breed heifer of military farm Jammu, weighing around 350 kg body weight developed symptoms of sudden

enlargement of abdomen in last 7–8 days and was unable to sit on its own. On general examination the animal was dull and depressed with sunken eye balls, dry muzzle and bilateral distension of abdomen (Fig. 1). The physiological parameters: pulse rate, respiration rate and rectal temperature were 98/min, 68/min and 101.8°F, respectively. Per rectal and per vaginal examination revealed a greatly distended uterus filling most of the pelvic cavity. It was not able to palpate fetus while performing rectal examination. Based on the history, symptoms and observation, the condition was interpreted as Hydrallantois.

Blood samples were collected in a sterile vial containing EDTA, before caesarean section and 48 hours after surgery to access haematobiochemical parameters (Table 1).

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Initially the animal was treated with 500 µg PGF_{2α} (Intervet India Pvt Ltd) intramuscular along with 40 mg dexamethasone (Zydus AHL) i/v, inj. ceftriaxone (Vetoquinol India Animal Health Pvt Ltd) 4gm i/m, inj. B-complex (Indian Immunologicals Ltd) and calcium borogluconate (Indian immunologicals ltd) 250 ml slow i/v and 200 ml s/c was also administered. In spite of this, after 48 hours of treatment, there was no appreciable improvement on cervical dilatation and the animal became recumbent and decided for caesarean section.

Left paramedian site was prepared aseptically for caesarean section after restraining the animal. Operation was performed under local infiltration with 2% lignocaine hydrochloride solution. An eight inch long incision was made parallel to the milk vein. The uterus was brought to

the incision and a sterile rumen trochar was used for paracentesis. About 80 litres of allantoic fluid was slowly drained over a period of ½ hr (Fig. 2), after which an incision was made through the uterus and additional 60 litre of fluid was drained out from the uterus. After complete removal of allantoic fluid, foetus was palpated and a live foetus was delivered (Fig. 3).

The animal was administered 10 litres of each 5 % dextrose normal saline solution and normal saline solution i/v along with antibiotics, ceftriaxone (Vetoquinol India Animal Health Pvt Ltd) @ 10 mg/kg b.wt bid i/m and meloxicam (Intas Pvt Ltd) @ 0.3 mg /kg b.wt i/m for 5 and 3 consecutive days, respectively. Whereas, inj. of dexamethasone (Zydus AHL) 60 mg was given i/v on the day of surgery, bolus of furazolidone and urea (Pfizer Health Ltd) was placed in uterus for 3 consecutive days.

Table 1. Haematobiochemical profile of the animal on caesarean section

Sl. No	Test	Before caesarean section	After 48 hrs of caesarean section
1	Hb	9.0 g/dL	8.5 g/dL
2	PCV	26.7%	25.9%
3	TLC	24.0 × 10 ⁹ /L	10.6 × 10 ⁹ /L
4	Neutrophils	52%	55%
5	Lymphocytes	40%	40%
6	Monocytes	4%	2%
7	Eosinophils	4%	3%
8	R.B.C	6.5 × 10 ¹² /L	5.9 × 10 ¹² /L
9	SGOT	380 unit/L	420 unit/L
10	SGPT	65 IU/L	90 IU/L

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Fig. 1. Bilateral abdominal enlargement

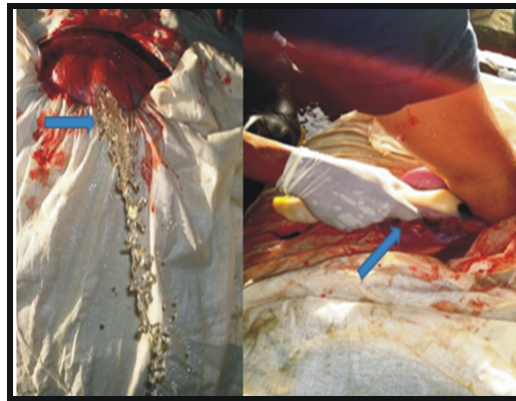


Fig. 2. Arrow showing allantoic fluid
and foetal fore limb



Fig. 3. Live foetus

However, the animal didn't survive and died on day 8 post surgery.

Hydrallantois is excessive accumulation of fluid in allantoic sac. It may result from abnormal functioning of the placentomes due to inadequate numbers of caruncles and development of adventitial placentome (Maxie, 2007). In cattle it may also be due to infection caused by bovine viral diarrhoea virus (Collyer, 1990). The handling of hydrallantois case varies with the duration and severity of the condition. Various treatment methods have been used to induce parturition in cattle and buffaloes suffering from hydrallantois *viz.* use of PGF_{2α} preparation, dexamethasone and estrogen preparation (Sharp *et al.*, 1978 and Kumar *et al.*, 2012). However, caesarean section is also remains a choice, when animal fails to response to above said treatment (Rangasamy *et al.*, 2013).

In the present case, sudden increase in fluid imposed pressure over diaphragm which might be responsible for respiratory distress. The shifting of fluid from interstitial tissue or cell to allantoic cavity might have been responsible for dehydration, sunken eyes, dullness and depression (Arthur *et al.*, 1989). Failure of cervix to dilate using PGF_{2α} and

dexamethasone was in agreement with Rangasamy *et al.* (2013) and thus caesarean remains the only treatment option (Arthur *et al.*, 1989). To compensate fluid loss large quantity of fluid were administered and inj. dexamethasone was given to prevent the shock due to rapid drainage of fluid. Haematological values like Hb, PCV, TLC and R.B.C were decreased after 48 hrs post surgery. Biochemically SGOT and SGPT were increased which might be due to uterine adhesions (Ducommun, 1967) as well as cellular destruction. Hydroallantois must be differentiated from hydroamnios, rumen tympany, extensive ventral edema, hydrometra and multiple fetuses (Morin *et al.*, 1994). Since no abnormality were detected in foetus and placental edema was the only lesion found which in turn might have possibly interfered with sodium channel at the cellular level (Jackson, 1980) and caused a decrease in the active transport of sodium across the chorioallantoic membrane or an increase in permeability of chorioallantoic membrane (Peiro *et al.*, 2007). Postoperative complications like retained placenta and septic metritis are common (Roberts, 1971). It may be concluded that early diagnosis and management is very important for hydroallantois cases.

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