

CLINICAL FINDINGS, HAEMATO-BIOCHEMICAL ALTERATIONS AND CONSERVATIVE TREATMENT OF CAECAL DILATATION IN A BUFFALO

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ABSTRACT

This article describes the clinical findings, haemato-biochemical alterations, and conservative treatment of a buffalo suffering from caecal dilatation. The clinical findings were anorexia, scanty faeces, reduced rumen motility, distension of right flank, ping sounds on auscultation and percussion of right flank and dilated caecum at pelvic brim on per-rectal examination. The hemato-biochemical alterations were neutrophilic leukocytosis, increased AST, BUN and lactate, and low calcium levels. Conservative treatment resulted in uneventfully after a period of five days.

Keywords: *Bubalus bubalis*, buffaloes, caecal dilatation, conservative treatment

INTRODUCTION

Caecal dilatation occurs due to gaseous distension of caecum and results in partial or complete loss of defecation. The disease is usually

diagnosed by rectal examination, ultrasonography or laparotomy. In most of the cases of caecal dilatation, the etiology is usually vague but most commonly etiology has been associated with diet and hence most cases are reported to occur during stall feeding (Esperson, 1964). The typical clinical findings are distension of right flank, pings sound on percussion and auscultation of right flank, and palpable dilated organ lying at pelvic brim on per rectal examination with absence or mucus coated scanty faeces (Hussain *et al.*, 2012; Singh *et al.*, 1993). The other non-specific clinical signs are anorexia, partial or complete loss of defecation, ruminal hypomotility or atony. The vitals like temperature, heart and respiration rate are usually within normal reference range. The reports about conservative treatment of caecal dilatation in buffaloes are rare. The present report describes conservative treatment of caecal dilatation in a buffalo along with clinical findings, haematology, and biochemical alterations.

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CASE HISTORY, OBSERVATIONS AND DISCUSSION

A 6 years old female buffalo in her second lactation was presented at Large Animal Clinics of Teaching Veterinary Hospital, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana. The buffalo had history of anorexia, reduced water intake, abdominal pain, and loss of defecation from last 4 days. The buffalo had calved 10 days back and had dystocia.

When examined the buffalo was slightly depressed, and had congested mucous membranes, slight dehydration, bilateral abdominal distension, and reduced rumen motility (2/2 minutes). The rectal temperature (102.4°F), respiratory rate (28 per minute) and heart rate (78 beats per minute) were within normal limits and there were no abnormal sounds on auscultation of heart and lungs. These clinical findings were similar to those already reported in caecal dilation of buffaloes (Hussain *et al.*, 2012). Rectal examination revealed reduced quantity of faeces with mucus, sticky rectal mucosa, restricted hand movements, doughy rumen, and palpable large blind pouch (dilated caecum). Auscultation and percussion of right paralumbar fossa revealed ping sounds. The diagnosis of caecal dilatation was established on the basis of ping sounds and palpable blind pouch (dilated caecum) on rectal examination, after ruling out other gastrointestinal disorders (Hussain *et al.*, 2012). Faecal sample was negative for occult blood and abdominocentesis did not reveal any peritoneal fluid.

Haematological analysis showed neutrophilic leukocytosis (Table 1) and marked left shift, suggesting an inflammatory reaction. The release of corticosteroid due to stress could

had resulted in decreased number of lymphocytes (Jain, 1986). Differential leukocyte count has been reported to be a better indicative of inflammation than total leukocyte count in caecal dilatation of buffaloes (Hussain *et al.*, 2012). However, in current case both total and differential leukocyte counts were indicative of inflammation. The biochemical alterations were slightly increased lactate and potassium, and slightly deranged liver and kidney functions (Table 1). Anorexia and constipation could have lead to cellular disturbances of liver parenchyma, hence the slight increase in total bilirubin and liver enzymes (Kaneko *et al.*, 2008). The hepatic malfunction along with dehydration could be the reasons for increased lactate (Vary *et al.*, 1988). Similar hematological and biochemical changes have been reported in other gastrointestinal disorders of cattle and buffaloes like rumen impaction (Hussain and Uppal, 2012), omasal impaction (Hussain *et al.*, 2013), intestinal obstruction (Hussain *et al.*, 2015) and vagal indigestion (Hussain *et al.*, 2014) etc. So, the hemato-biochemical analysis was not diagnostic, but it helped in assessing the severity of the hemo-dynamic alterations.

Conservative treatment was instituted as demeanour of the patient was mildly abnormal. The animal received 15 litres of normal saline, metoclopramide (1 mg/kg BW intramuscular twice daily), enrofloxacin (7.5 mg/Kg BW intramuscular) for a period of four days and 450 ml calcium borogluconate intravenous once only. The animal passed faeces on the second day of treatment and appetite improved after that. The animal recovered uneventfully after a period of five days and no recurrence was reported by the owner until follow up for one year.

Table 1. Haematological and biochemical analysis of blood in a buffalo with caecal dilatation.

Measurement	Value	Reference range*	Measurement	Value	Reference range*
Haemoglobin (g/dL)	11.9	8-15	Total protein (g/dL)	7.5	3.74-7.46
PCV (%)	29.2	24-46	Albumin (g/dL)	2.6	3.03-3.55
Total leukocyte count (μ L)	14250	4000-12000	Globulin (g/dL)	4.9	2.9-4.9
Neutrophils (μ L, %)	12112, 85	600-4000	BUN (mg/dL)	41	7.8-25
Lymphocytes (μ L, %)	2137, 15	2500-7500	Creatinine (mg/dL)	2.3	1-2
Platelet ($\times 10^3$)	162	100-600	Lactate (mmol/L)	2.9	0.6-2.2
RBC ($\times 10^6$ /uL)	6.71	5-10	Sodium (mmol/L)	150	132-152
Total Bilirubin (mg/dL)	0.7	0.01-0.5	Potassium (mmol/L)	6.4	3.9-5.8
AST (U/L)	220	43-127	Chloride (mmol/L)	106	97-111
ALKP U/L)	69	27-107	Calcium (mg/dL)	8.3	9.7-12.4
GGT (U/L)	41	15-39	Phosphorus (mg/dL)	6.6	5.6-6.5
Glucose (mg/dL)	71	42-75	Magnesium (mg/dL)	3.1	1.7-3

*Haematological values from Radostits *et al.* (2007); biochemical values from Kaneko *et al.* (2008).

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