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Intestinal ileus in a cross bred jersey cow: A case report

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Abstract

A Cross bred jersey cow aged three years was presented to Large Animal Medicine Unit of Veterinary Clinical Complex, Veterinary College and Research Institute, Orathanadu with the history of Anorexia and not voided dung for past 2 days. On thorough clinical examination the animal showed normal vital parameters, distended abdomen with absence of rumination and rectal examination revealed empty rectum. Ultrasonographic examination revealed dilated intestinal loops with mild peritonitis. Haematology revealed decreased haemoglobin, packed cell volume, neutrophilia and lymphopenia. Serum biochemistry revealed elevated blood urea nitrogen, magnesium and decreased total protein. Based on the history, haemato-biochemical values and ultrasonography, the condition was confirmed as intestinal ileus. On the first day animal was treated with inj. Azithromycin @ 4mg/kg b.wt, inj. Ringers lactate @ 10ml/kg b.wt, inj. Tribivet @ 10mg/kg, inj. Chlorpheniramine maleate @ 5mg/kg b.wt, inj. Ranitidine @ 2mg/kg b.wt, and owner advised to follow Microsac plus p/o and dewormed with Bol. Fenbendazole @ 5mg/kg b.wt p/o. On the next day animal showed clinical improvement with reduction in abdominal distension and started to void dung. The same day animal was treated with inj. Ringers lactate @ 10ml/kg b.wt, inj. Tribivet @ 10mg/kg b.wt, Liquid paraffin 200ml p/o, inj. Pantoprazole @ 1mg/kg b.wt, inj. Chlorpheniramine maleate @ 0.5mg/kg b.wt, inj. Calcium borogluconate 100ml p/o, inj. Azithromycin @ 4mg/kg b.wt and advised to follow powder Mgso4 @ 250g p/o BID. Animal showed uneventful recovery after 3 days of therapy.

Keywords: Ileus, intestine, azithromycin, abdominal distension

Introduction

Ileus, also referred to as functional ileus or paralytic ileus, is characterized by a marked reduction or absence of intestinal motility, resulting in inactivity of the intestinal musculature and impaired passage of ingesta (Ambily *et al.*, 2018)^[1]. This condition is frequently observed in cows during late pregnancy and within the first week postpartum. Etiologies include vagal nerve injury, dysautonomia, viral enteritis, extrinsic compression of the intestine (e.g., by a liver abscess), visceral myopathy and idiopathic pseudo-obstruction. Affected animals typically exhibit anorexia, progressive abdominal distension, signs of abdominal discomfort, fluid-splashing sounds on auscultation, moderate bloat, dehydration and absence of dung or passage of scant feces. Definitive diagnosis is aided by ultrasonographic evaluation, which reveals dilated intestinal loops with markedly reduced or nil peristaltic activity.

Case Presentation and Observation

A Cross bred jersey cow aged three years was presented to Large Animal Medicine Unit of Veterinary Clinical Complex, Veterinary College and Research Institute, Orathanadu with the history of Anorexia and not voided dung for past 2 days. Clinical examination revealed distended abdomen (Fig 1) with absence of rumination.

Physical examination revealed all vital parameters were normal. Rectal examination revealed traces of dung (Fig 2). Ultrasonographic examination revealed dilated intestinal loops(>5cm) with mild peritonitis (Fig 3). Blood samples were collected for haemato-biochemical analysis.

Results and Discussion

Paralytic ileus is characterized by cessation of peristaltic activity of the intestinal tract,

resulting in functional obstruction without any detectable gross structural abnormality. It is typically manifested by generalized intestinal hypomotility or atony (Ravi *et al.*, 2024) [4].

Hematological evaluation revealed hemoglobin (Hb) of 5.2 g/dL, packed cell volume (PCV) of 19.6%, total erythrocyte count (TEC) of $7.84 \times 10^6/\mu\text{L}$, and total leukocyte count (TLC) of $11.8 \times 10^3/\mu\text{L}$. The differential leukocyte count showed 59% neutrophils, 40% lymphocytes, and 1% basophils. Serum biochemical analysis revealed blood urea nitrogen (BUN) of 50 mg/dL, creatinine of 1.59 mg/dL, glucose of 30 mg/dL, total protein of 5 g/dL, albumin of 3 g/dL, aspartate aminotransferase (AST) of 121 U/L, alkaline phosphatase (ALP) of 119 U/L, calcium of 10.5 mg/dL, and magnesium of 2.48 mg/dL. The hemoglobin concentration (5.2 g/dL) and packed cell volume (19.6%) were below the normal reference ranges for adult cattle (Hb: 8–15 g/dL; PCV: 24–46%) (Constable *et al.*, 2017) [2], indicating mild to moderate anemia. Such anemia in gastrointestinal disorders may result from reduced feed intake, inflammatory mediators, and hemodilution associated with fluid therapy or systemic compromise. Normocytic normochromic anemia is frequently observed in inflammatory or chronic disease conditions.

The total leukocyte count ($11.8 \times 10^3/\mu\text{L}$) showed mild leukocytosis with neutrophilia (59%) and relative lymphopenia (40%). Neutrophilia is consistent with inflammatory response or stress leukogram, commonly reported in bovine abdominal disorders (Weiss & Wardrop, 2010). The elevated blood urea nitrogen (50 mg/dL) with only mildly increased creatinine (1.59 mg/dL) suggests pre-renal azotemia secondary to dehydration and reduced renal perfusion. In bovine gastrointestinal stasis, anorexia and decreased water intake commonly lead to hemoconcentration and prerenal increases in nitrogenous waste products (Constable *et al.*, 2017) [2].

Based on the history, clinical findings and ultrasonographic examination showing dilated intestinal loops with reduced peristalsis, the case was diagnosed as intestinal ileus in a crossbred Jersey cow. On day 1, the animal was treated with azithromycin (4 mg/kg body weight, intramuscularly), Ringer's lactate (10 mL/kg body weight, intravenously), Tribivet® (10 mg/kg body weight, intramuscularly), chlorpheniramine maleate (5 mg/kg body weight, intramuscularly), and ranitidine (5 mg/kg body weight, intramuscularly). The owner was advised to administer Microsac Plus® orally and fenbendazole bolus (5 mg/kg body weight, per os). On day 2, the animal showed clinical improvement, evidenced by reduced abdominal distension and passage of dung. Treatment included Ringer's lactate (10 mL/kg body weight, intravenously), Tribivet® (10 mg/kg body weight), liquid paraffin (200 mL, orally), pantoprazole (1 mg/kg body weight, intravenously), chlorpheniramine maleate (5 mg/kg body weight), calcium borogluconate (100 mL, intravenously), and azithromycin (4 mg/kg body weight). Magnesium sulfate powder (250 g, orally, twice daily) was also advised. Azithromycin administered at 4 mg/kg body weight resulted in rapid restoration of intestinal motility. Macrolide antibiotics are reported to exhibit prokinetic properties by stimulating motilin receptors and enhancing gastrointestinal smooth muscle activity. Reddy *et al.* (2018) [3] demonstrated that azithromycin was more effective than neostigmine in managing functional ileus in cows, with shorter time to normalization of motility. Similarly, Sivaraman *et al.* (2024) [5] reported clinical success even at lower dosages (1 mg/kg body weight).



Fig 1: Distended abdomen



Fig 2: Traces of dung in rectal examination

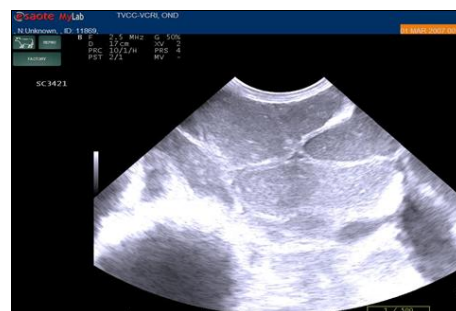


Fig 3: Ultrasonography -Dilated intestinal loops



Fig 4: Ultrasonography-After treatment intestinal loops diameter were decreased

Conclusion

Ileus is a state of functional obstruction of intestine. Intestinal ileus is common in cow in late pregnancy or 1st week after parturition (Constable *et al.*, 2017) [2]. Based on the condition we should not conclude it as “INTUSSUSCEPTION” or “INTESTINAL OBSTRUCTION” if treatment is followed surgically then it may lead to further complications. So following “PROKINETIC THERAPY” is best as it even time saving. By this intestinal ileus could also be confirmed. If prokinetic therapy is not followed at right time it may lead to achazia and animal may collapse.

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Conflict of Interest

Not available

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