Case Report

SURGICAL MANAGEMENT OF RUMEN IMPACTION DUE TO PLASTOBEZOARS IN A CATTLE

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ABSTRACT

A nine-year-old non-descriptive cow was presented to Veterinary Clinical Complex, VC&RI, Orathanadu with the history of anorexia, dullness and diarrhoea for past five days with absence of rumination. Clinical examination revealed dehydration and pale mucous membrane. Rumen was hard on palpation with absence of motility. Haematological parameters revealed decreased haemoglobin value. Exploratory laparo-rumenotomy was performed and about 48 kgs of impacted plastic materials along with nylon ropes and wires were removed. Postoperative care and dressing were carried out for five days. The animal made an uneventful recovery.

Keywords: Rumen Impaction; Plastic materials; Laparo-rumenotomy; Cattle

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INTRODUCTION

Rumen impaction is a condition results from the accumulation of indigestible materials in the rumen which interferes with the flow of ingesta leading to distension of the rumen and passing of scanty or no faeces. Clinical rumen impaction was characterized by pale mucous membrane, complete cessation of rumination, impacted rumen, atony and increased BUN (Vanitha *et al*., 2010). Primary rumen impaction occurs in cattle mostly with depraved appetite. The indigestible materials such as plastics, ropes or leather pieces get entangled to form large, tight balls inside the rumen due to churning movement. Poor-quality roughage, improper plastic waste disposal, and inadequate availability of grazing land could also be reasons for rumen impaction. The present paper reports an unusual case of rumen impaction with 48 kgs of plastic material and its successful surgical management.

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CASE HISTORY AND DIAGNOSIS

A nine-year-old recently calved non-descriptive cow was brought with history of anorexia, severe bruxism and diarrhoea for past five days, treated already with laxatives but no improvement was noticed. Clinical examination revealed pale conjunctival mucous membrane and dehydration. Rumen was hard and impacted on palpation with atony. Radiographic examination revealed absence of metallic foreign bodies and clear diaphragmatic border. Haemato-biochemical parameters showed decreased Haemoglobin and increased BUN values (Table 1). Based on history, clinical and radiographic findings, the case was tentatively diagnosed as Rumen impaction and opted for exploratory laparo-rumenotomy.

TREATMENT AND DISCUSSION

Preoperative stabilisation of animal was carried out and left flank was prepared aseptically for surgery. Under Proximal paravertebral nerve block with 2% Lignocaine hydrochloride, laparo-rumenotomy was performed (Figure 1) and about 48 kg of impacted polythene bags, nylon ropes and wires (Figure 2) were removed. After filling the rumen with bran, jaggery and live yeast culture bolus, the rumen was closed with cushing followed by lambert suture pattern using catgut size 2. The peritoneum and muscle layers were closed with ford interlocking pattern using catgut size 2 and the skin was closed with cross mattress pattern using monofilament polyamide size 2. The animal was maintained in intravenous fluid therapy, antibiotics, analgesics and rumenotorics for five days. On the 2nd postoperative day, rumen cud transfer with gradual introduction of feed and water was carried out. On 7th postoperative day, animal returned to its normal feeding habit and showed fruitful recovery (Figure 3).

Ramprabhu *et al.* (2003) reported that rumen impaction occurs due to accumulation of indigestible materials in the rumen. They also stated that indiscriminate feeding habits and mineral deficiency make them susceptible to inadvertent ingestion of foreign materials. Rumen impaction mainly causes depression, anorexia, reduced milk yield, abdominal distension and loss of defecation (Vanitha *et al*., 2010). The watery consistency of rumen fluid may be due to the presence of inactive microflora associated with foreign body syndrome, which disrupts bacteria and protozoa (Jasmin *et al*., 2011). Decrease in haemoglobin, packed cell volume and total erythrocyte count may be due to dietary deficiency (Mayer *et al*., 1996) and sloughing, stunting, erosion, inflammatory response and hyperplasia due to pressure on the wall of the rumen caused by the foreign bodies (Hailat *et al*., 1996). A highly significant increase in BUN value may be due to faulty rumen fermentation and reduced microbial activity. Exploratory laparo-rumenotomy was the only solution for the diagnosis and treatment of rumen impaction. Balanced feeding habits and restricting animal grazing in urban areas with inadequate waste disposal systems prevent their condition.

Table.1. Pre and post-operative haematobiochemical parameters

Parameters	Pre-operative	Post-operative
RBC (*106/cmm)	4.2	4.1
WBC (*103 /cmm)	10.4	11.8
PCV (%)	21.3	24.8
Hb (g/dL)	5.75	5.48
BUN (mg/dL)	113	96
Creatinine (mg/dL)	3.32	2.25
Total Protein (g/dL)	7.33	6.87
Albumin (g/dL)	3.57	3.24

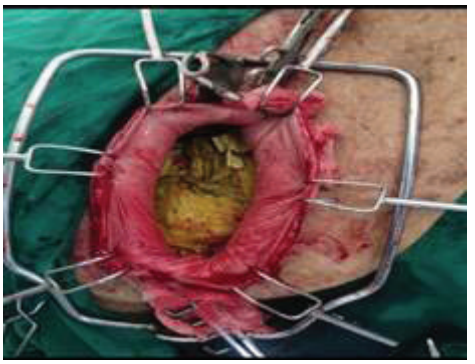

Fig.1. Plastics inside the rumen

Fig.2. Impacted plastobezoars removed from the rumen

Fig. 3. 7th Post-operative day

CONCLUSION

Heavily impacted rumen with 48 kgs of plastic materials was successfully removed by rumenotomy under left proximal paravertebral nerve block and the animal made an uneventful recovery.

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