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Case Report

Diagnosis and Management of Obstructive Colic Due To Faecolith in a Horse

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Abstract

A 5-year-old male horse weighing 300 kg was presented to the Veterinary Clinical Complex, VCRI, Orathanadu, with a history of severe colic persisting for five days. The horse showed restlessness, intermittent rolling, abdominal distension, inappetence and straining to pass mucus-coated faecal pellets. On physical examination, the horse exhibited mild hyperthermia, tachycardia, tachypnea, congested mucous membranes and abrasions from rolling. Shivering, hind limb shifting and altered borborygmi were noted. Rectal palpation revealed a painful, hard mass with serrated edges.Abdominal ultrasonography revealed distended intestinal loops (12.4 cm diameter) with anechoic contents, mixed echogenic material cranial to the obstruction and absence of peristaltic movement. Blood analysis indicated elevated BUN, creatinine and bilirubin levels, with other parameters within normal ranges. The case was diagnosed as obstructive colic due to a faecolith. Initial treatment included intravenous fluid therapy, analgesics (flunixin meglumine), antihistamines, gastro-protectants and antibiotics. Liquid paraffin was administered via nasogastric intubation. By the third day, rectal examination revealed the faecolith within reach. Sedation facilitated manual removal of the 340 g faecolith, after which normal defecation resumed. Supportive care and fluid therapy continued for two additional days, resulting in complete recovery within seven days. This case reports an effective diagnosis and management of obstructive colic due to faecolith in a horse.

Keywords: Horse, Faecolith Impaction, Fluid Therapy, Obstructive Colic, Laxatives.

Introduction

Colic is a significant cause of discomfort in horses and causes mortality in horses if not addressed properly (Traub-Dargatz *et al*., 2001). Colic is primarily caused by abrupt changes in diet and irregular feeding schedules with low-quality grains. It can also result from gastrointestinal parasites and certain infectious agents (Chakrabarti, 2006). The most common intraluminal obstruction is caused by faecolith, phytobezoar, trichobezoar, phytotrichobezoar, or phytoconglobate (Smith, 1990).Horses with faecolithexhibit abdominal pain. The progression of pain is slow due to the significant space available in the area proximal to the obstruction, allowing for the accumulation of ingesta, gasand fluid. Heart rate typically shows only a mild to moderate increase (Ruggles and Ross, 1991).Abdominal ultrasonography is asensitive diagnostic tool for identifying large colon dilatation and volvulus in horses (Ness *et al.,* 2012). Medical management is effective inpartial obstruction and can be managed by fluid therapy, motility modifier, and faecal softener (Ruggles and Ross, 1991). Such kind of faecolith in a horse was reported and managed medically.

Case Presentation and Observation

A 5years old non-descriptivemale horse with 300 kg body weightwas presented to the medicine unit, Veterinary Clinical Complex, VCRI, Orathanadu, with a history of restlessness, intermittentrolling on the ground, voided small pellet faeces with straining. Animal voided mucus-coated one or two pellets with great effort (Fig 1). Abdomen was distended,inappetence and mild abdominal discomfort which progressively became severe colic pain over the period of 5 days. On physical examination, slight increased temperature(39.8°C), tachycardia (100 beats/min), tachypnea (30 breaths/min), increased pulse rate (98 beats /min) and congested mucus membrane were noticed. Animal had shivering and shifting of hind limbs with discomfort. Severe abrasions were noticed around the eyes, point of hip and limbsdue to rollingon the ground. There were altered borborygmi sounds (fluid splashing) noticed on right dorsal and ventral flank area.The animal exhibited palpable and severe pain on rectal, hard irregular shaped (serrated edges) mass.

Abdominal ultrasound examination was done by EsoateMylab one with 2.5-5 mHZconvex probe. It revealed distended intestinal loops (12.4cm in diameter) with anechogenic content on the right side at the level of 8th ICS (Fig 2). Alsopresence of mixed echogenic intestinal contents and gas pocket in cranial to the obstruction and the absence of peristaltic movement were also observed.The blood samples were collected from jugular vein, which revealed normal haematology and biochemical values except elevated BUN, creatinine and bilirubin (Table 1). Based on the history, clinical examination and abdominal ultrasound examination the case was confirmed as obstructive colic due to faecolith.

Table 1: Hemato-biochemical alteration due to faecolith horse

S.No.	Parameters	Units	Observed value	Reference
1.	Hb	g/dL	12.4	11 - 19
2.	PCV	%	41	32 - 53
3.	RBC	million/cmm	10.45	6.8 - 12.9
4.	WBC	thousand/cmm	12.35	5.4 -14.3
5.	Neutrophils	%	70	35 - 75
6.	Lymphocyte	%	28	20 - 70
7.	Monocyte	%	2	1 - 8
8.	BUN	mg/dL	38	10 - 24
9.	Creatinine	mg/dL	2.21	1.0.9-1.9
10.	Total protein	g/dL	6.08	6-7.7
11.	Albumin	g/dL	3.59	2.9-3.8
12.	Bilirubin	mg/dL	8.50	1-2
13.	AST	U/L	365.8	220- 600

The horse was stabilized by fluid therapy, Inj. Normal saline @ 6 litersandInj. Ringers lactate@6 litersIV along with Inj. Flunixin meglumine @ 1.1mg/kg, Inj. Chlorpheniramine maleate 10ml IM, Inj. Pantoprazole @ 1mg/kg IV, Inj. Ceftriaxone tazobactam @ 10mg/kg IVand Inj. Tetanus toxoid 5ml I/M.Liquid paraffin @1500ml was

administered by nasogastric intubation. On third day rectal examination, the mass was palpated on rectum around one feet distance on palpation severe pain was exhibited by the animal.Horse was sedated withInj.Xylazine@0.5mg/kg, Inj.Diazepam@ 0.05mg/kgand Inj. Butorphanol @ 0.02mg/kg and around 340g of faecolith was relieved per rectally (Fig 3). After relieving the faecolith, animal started to void normal faeces (Fig 4). Further fluid therapy and supportive care was continued for another two days. The animal was uneventfully recovered after 7 days of treatment.

Fig 1. Mucus coated hard dry pellet feces reveled on rectal examination of horse at the time of presentation.

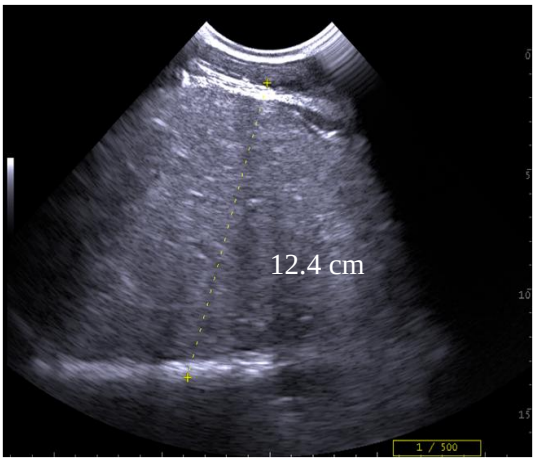

Fig 2. Abdominal USG showed distended intestinal loops (12.4 cm) with mixed echogenicity in fecal impaction horse.

Fig 3. Dry faecolith was relieved rectally after treatment.

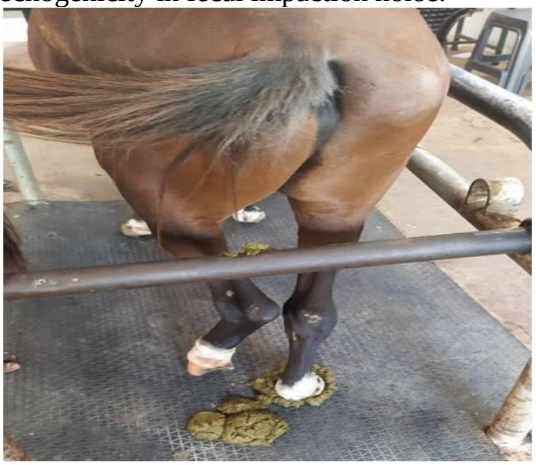

Fig 4. Horse voiding normal faeces after relieving faecolith.

Discussions

Faecoliths are discrete concretions of inspissated faecal material that forms because of poor-quality diet, poor mastication and reduced water consumption (Keller and Horney, 1985).The key components of medical treatment for horses with colic is withholding food and water, administering fluids, analgesic and antispasmodic drugs, andlaxatives through a nasogastrically (Suryawanshi*et al.*, 2019).Horses with colic should receive extensive fluid therapy to prevent hypotensive shock (Ferraro, 2008).Intravenous fluid administrationhelps to increase the volume of body fluids, which stimulate the secretion of fluids into the colon. This secretion assists in rehydrating and softening dehydrated ingesta within the colon (White and Lopes, 2003).Ruggles and Ross (1991) reported that leukopenia with a left shift is commonly observed in horses with diffuse faecal impactions of the colon; however, serum biochemical and peritoneal fluid values are generally within normal limits, but contrast to thisincreases in BUN, creatinine and bilirubin were noticed. Singh *et al.* (2021) stated that the administration of flunixin meglumine along with fluid rehydration, as well as laxative and supportive therapy, was highly effective in 84.61% of impacted colic in horses. Further, to soften faecal impactionsoral laxatives are commonly administered via a nasogastric tube withmineral oil @5-10mL/kg every 12 hours, dioctyl sodium sulfosuccinate @50mg/kg in 6 litters of water and magnesiumsulfate@1g/kg in 6L of water (Prange *et al.*, 2019).

Conclusions

This case report highlights the successful diagnosis and management of obstructive colic in a horse caused by a faecolith. The integration of clinical examination, abdominal ultrasonography and rectal palpation was crucial in identifying the obstruction and assessing its severity. Timely and comprehensive medical management, including fluid therapy, analgesics, gastroprotectants and antibiotics, stabilized the animal, while sedation-assisted manual removal of the faecolith resolved the obstruction. Post-treatment care ensured a complete and uneventful recovery within seven days. This study emphasizes the importance of early diagnosis, multimodal treatment approaches and supportive care in effectively managing obstructive colic in horses.

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Contribution by Authors

All the authors contributed equally to writing the manuscript. The final manuscript was read by all authors and consented to publication.

Conflict of Interests

There is no conflict of interest.

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