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Scientific Report

Small colon faecalith impaction in a thoroughbred foal

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Summary

An 8-month-old female thoroughbred foal was presented showing signs of colic. The foal was anxious, exhibiting signs of abdominal pain and distention. The foal had tachycardia (120 beats/min), tachypnea (40 breaths/min). Blood samples obtained for haematologic and serum biochemistry analysis that showed a PCV of 30% and a TPP of 70 g/L. The peritoneal fluid analysis revealed a clear fluid with mild elevation of total protein. The early treatment involved intravenous administration of a balanced electrolyte solution and analgesics. The signs of abdominal pain were progressive and nonresponsive to treatments. Therefore, exploratory laparotomy was elected. During the exploratory laparotomy a faecalith impaction of small colon was detected. The mass was manipulated, macerated and milked toward the rectum and anus. It was finally removed via the anus without enterotomy incision. Midline incision and skin incision were sutured routinely. The foal made an uneventful recovery.

Key words: Faecalith impaction, Small colon, Thoroughbred foal

Introduction

Colic is an important cause of discomfort in horses and is the most common cause of death (Traub-Dargatz *et al.*, 2001). Disorders of the large intestine are frequent causes of equine colic. About 50% of deaths in horses are caused by or related to conditions in the large intestine (Smith, 1990). Colic related to the small colon is usually caused by obstruction and strangulation (Bernard, 2004). The most common abnormality involving the small colon in the mature horse is intraluminal obstruction with faecalith (Smith, 1990). With the exception of the miniature breed foals, faecalith impaction of small colon is an uncommon finding in the foals (Bernard, 2004) but faecalith impaction of small colon is a common finding in this breed (McClure *et al.*, 1992). To the best of our knowledge, there was no report on faecalith impaction of small colon in a thoroughbred foal.

Case presentation

An eight-month-old female thoroughbred foal was referred to the Department of Surgery, School of Veterinary Medicine of Shiraz University showing signs of colic. The foal was anxious. The abdomen was distended and painful. There was noticeable grade 1 rectal prolapse due to persistent straining without faecal passing since 72 hrs before. Clinical examination revealed tachycardia (120 beats/min), tachypnea (40 breaths/min). Rectal palpation was impossible due to size limitations. Blood samples were obtained for haematologic and serum biochemistry analysis that showed a packed cell volume (PCV) of 30% and a total plasma protein (TPP) of 70 g/L (normal range: 60–73). Abdominocentesis was performed with a teat cannula. The peritoneal fluid was clear and had mild elevation of total protein to 25 g/L (normal range: <20). The treatment given consisted

of intravenous administration of a balanced electrolyte solution and analgesics. The abdominal pain was progressive with no response to the treatment. Therefore, exploratory laparotomy was done. The foal was pre-medicated using 0.2 mg/kg of 2% xylazine HCl. Anaesthesia was induced by 10% ketamine (2.2 mg/kg) plus diazepam (0.2 mg/kg) and was maintained with halothane. A midline celiotomy was performed in dorsal recumbency position. The small colon was found impacted by faecalith during the exploration. The faecalith mass was manipulated, macerated and milked toward the rectum and anus, and finally removed via the anus without enterotomy. The midline incision was sutured with absorbable suture material (Vicryl, No. 2) in simple interrupted pattern. The fascia was apposed using absorbable suture material and skin was sutured with non-absorbable suture material (Nylon, No. 2) in simple interrupted pattern. The foal recovered from anaesthesia without any complications. Penicillin (20,000 IU/kg) plus streptomycin (12 mg/kg) were administered daily for five days post-operatively. The foal was treated successfully and was in good condition one month after surgery.

Discussion

In miniature breed foals, possible contributing factors for faecalith formation included poor quality roughage, dental diseases and inadequate water consumption (Hughes *et al.*, 2003). Some predisposing factors such as poor quality roughage and inadequate water consumption have been noticed in the history of colicky foal in this report. Determining the need for surgery may be difficult in foals, but assessment of condition by several diagnostic tools will help in electing a correct treatment protocol. Due to size limitations, some of the diagnostic modalities applicable to adult horses, say rectal palpation, are not applicable in foals (Chaffin and Cohen, 1995; Furr, 1997). If we could perform rectal palpation we would have earned more information on the abdominal cavity conditions. Due to abdominal distention, persistent pain, tachycardia, tachypnea, signs

of advanced colic in the foal and also because the foal did not respond to analgesic treatment, surgical intervention was chosen. In general, persistent pain, lack of appropriate response to analgesics, persistent tachycardia and progressive abdominal distention are indications for surgical interventions in colicky foals (Bernard, 1992; Chaffin and Cohen, 1999; Singer and Smith, 2002). Complete blood count (CBC) was in normal range in our case. Peritoneal fluid analysis showed mild elevation of total protein without any changes in the colour of fluid. Bernard (1992) showed the correlation between elevated peritoneal total protein and intestinal strangulating obstructions. In miniature breed foals removal of the faecalith via small colon enterotomy incision has been reported as a successful surgical treatment (McClure *et al.*, 1992). In our case, however, the faecalith mass was removed through the anus with manipulation, maceration and milking the mass toward the anus. Thus, the abdominal cavity saved from contamination and excessive injuries during the enterotomy.

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