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The Pharma Innovation



ISSN (E): 2277- 7695 ISSN (P): 2349-8242 NAAS Rating: 5.23 TPI 2021; SP-10(5): 479-480 © 2021 TPI www.thepharmajournal.com Received: 24-03-2021 Accepted: 28-04-2021

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Surgical management of intussusception in a cow

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Abstract

The invagination of one segment of the intestine into the lumen of an adjacent segment is known as intussusception, and it is a common cause of intestinal obstruction in cattle which may result in lifethreatening consequences. This case report describes diagnosis and successful surgical management of intussusception in a crossbred cow. A 3-year-old HF crossbred cow weighing 410 kg was presented with history of an episode of colic followed by anorexia, cessation of faeces from 4 days. Heart rate, respiration rate and body temperature of the cow were determined as 72/min, 80/min and 102.8°F in the clinical examination, respectively. Capillary filling time was calculated as 3 sec. No significant change was detected in skin elasticity. No difference was observed between the right and left abdominal walls in the inspection. Animal was passing urine normally and animal was parturated 4 months ago. Per-rectal examination was performed to find the obstructed portion and to see the contents of the rectal cavity. On Per-rectal examination, rectum was found to be empty with very few black faeces. Hard intestines were felt upon per-rectal examination cranial to pelvic brim. A tentative diagnosis of complete small intestinal obstruction was made. Right flank exploratory laparotomy done under local anesthesia (2% lignocaine). Intestines were examined for pathologic situation changes. During examination, solid consistency intestine segment was palpated at slight right of the ventral line. Resection and end-to-end anastomosis were performed. Postoperative medication included broad spectrum antibiotics, analgesics, fluid therapy and supportive medication.

Keywords: Cattle, HF cross, intussusception

Introduction

The invagination of one segment of the intestine into the lumen of an adjacent segment is known as intussusception, and it is a common cause of intestinal obstruction in cattle (Constable *et al.* 1997, Turgut and Ok 1997) ^[1, 2]. The invaginated portion of intestine is termed the intussusceptum, and the outer, or receiving, segment of intestine is termed the intussusception affects cattle of all ages, breeds, and genders on a sporadic basis and can occur at any time of year. In cattle, jejunojejunal intestine intussusception is the most common form. Cattle may also have ileoileal, ileocecocolic, cecocolic, and colocolic forms (Hamilton and Tulleners 1980, Constable *et al.* 1997) ^[1, 3]. Intestine intussusception is observed in calves less than two months of age (Karapınar and Köm 2007) ^[4]. Surgery is the only treatment method for intestine intussusception (Turgut and Ok 1997) ^[2].

History and clinical signs

The present clinical case report composed of a 3-year-old HF cross bred female cow weighing 410 kg referred to Large Animal Clinic at Khalsa College of Veterinary and Animal Science, Amritsar. The present case report describes the diagnosis and surgicomedicinal management of intussusception in HF crossbred cattle. HF cross bred cattle presented with the history of an episode of colic followed by anorexia, cessation of faeces from 4 days. Heart rate, respiration rate and body temperature of the cow were determined as 72/min, 80/min and 102.8°F in the clinical examination, respectively. Capillary filling time was calculated as 3 sec. No significant change was detected in skin elasticity. No difference was observed between the right and left abdominal walls in the inspection. Animal was passing urine normally and animal was parturated 4 months ago.

Per-rectal examination was performed to find the obstructed portion and to see the contents of the rectal cavity. On Per-rectal examination, rectum was found to be empty with very few black faeces. Hard intestines were felt upon per-rectal examination cranial to pelvic brim.

Treatment

Fluid therapy (Inj. NSS) was administered to replace fluid and electrolyte deficits. Right

paralumbar fossa exploratory laparotomy was done after giving regional anaesthesia with 2% lidocaine. The intussusception was exteriorized from the abdomen and isolated (Fig. 1). The margins for excision were selected in healthy appearing intestine. Infiltration of lidocaine 2% into the mesentery was done where intestine was planned to be resected. The mesenteric vessels (arteries and veins) were ligated using absorbable suture material No. 2-0 polyglactin 910. After completion of mesentery ligation and transection, Doyen intestinal forceps were used to occlude the lumen of the normal and abnormal bowel. Then the intussusception and associated bowel were resected (Fig. 2a, b) and discarded. The proximal segment was exteriorized carefully to its maximal length, and the Doyen forceps was removed. Ingesta within the intestine was milked out through the enterectomy site. The two segments of intestine were reunited by end-toend or side-to-side anastomosis with an absorbable suture material (No. 2-0 polyglactin 910) using a simple continuous suture pattern with second layer of cushing suture pattern. The affected intestine was thoroughly washed with sterile isotonic fluids, tested for leakage, and then reinserted into the abdomen.

Postoperative medication included broad spectrum antibiotics (inj. Ampicillin + Cloxacillin @ 10 mg/kg, twice a day, IM for 5 days), analgesic (inj. Meloxicam @ 0.2 mg/kg, once daily, IM for 3 days), fluid therapy (inj. Normal saline

solution 10 litre, IV daily for 3 days) and supportive medication (2 boli of yeast and 50 g of pulvLiv 52, once daily orally for 7 days) along with daily antiseptic dressing using povidone iodine. Surgical wound healed uneventfully and skin sutures were removed after 14 days.



Fig 1: Intussusception was exteriorized from the abdomen



A

Fig 2: Resected intussusception

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