

# SUCCESSFUL SURGICAL MANAGEMENT OF ILEO-CEACOLIC INTUSSUSCEPTION IN AN ADULT LABRADOR RETRIEVER DOG

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Intussusception is a common surgical disorder in dogs and cats. Intussusception is commonly observed in puppies < 1 year of age and in adult intussusception is a rare condition. A three years-old Labrador Retriever dog was presented with a history of vomiting and bloody diarrhoea for the past five days. Abdominal palpation revealed a relatively mobile and soft mass in caudal abdomen. Contrast radiography of abdomen revealed coiled spring appearance of the terminal part of the small intestine. Ultrasound examination revealed a series of concentric hyperechoic and hypoechoic rings. The clinical history and physical examination was suggestive of intestinal intussusception. The intussusception was found at ileocolic junction on laparotomy. Resection and end-to-end anastomosis was performed.

**Key words:** Intussusception, Ultrasound, hyperechoic, hypoechoic, ileocolic.

## Introduction

Intussusception is defined as a prolapse or invagination of one portion of the intestinal tract into the lumen of an adjoining segment. The components of an intussusception include the invaginated intussusceptum, and the enveloping segment intussusceptum. Allenspach (2010). Most common sites of intussusception are enterocolic intussusception, and particularly ileocolic intussusception. Vomition, bloody diarrhoea; abdominal pain and emaciation are common clinical signs. Diagnosis is usually by combination of history, physical examination and use of imaging techniques like plain and contrast radiography and ultrasonography (Paryani, 2013). The present case report describes the successful surgical management of intussusception in three year old Labrador Retriever dog.

## Case History and observations

Three year old Labrador retriever dog was presented to Department of Surgery and Radiology, Veterinary College, KVAFSU, Bangalore with the history of inappetence, vomition and bloody diarrhoea since five days. Initially the pet was treated with anti-

parasitic, antibiotics, and antiemetic drugs in private clinic but no improvement was seen. Dog was dull at the time of presentation. Physiological examination revealed that the dog was pyretic. respiratory rate, heart rate and capillary refill time were within the normal range. A relatively mobile and soft mass was located in caudal abdomen during the abdominal palpation. A Complete blood count and serum biochemistry profile and urinalysis were performed. CBC showed moderate leukocytosis ( $21.2 \times 10^3/\mu\text{l}$ ) and neutrophilia ( $11.9 \times 10^3/\mu\text{l}$ ). Serum biochemical abnormalities included hypoproteinemia (45 g/L) and hypoalbuminemia (18 g/L). The dog was referred to radiographic and ultrasonographic examination. Contrast radiography of abdomen revealed coiled spring appearance of the terminal part of the small intestine (Fig. 1). A series of concentric hyperechoic and hypoechoic rings appeared on ultrasound examination (Fig. 2). The history, clinical, radiological and ultrasonographic findings were suggestive of intestinal intussusception and mid ventral laparotomy was planned.



Fig. 1. Contrast radiography of abdomen showing coiled spring appearance of the terminal part of the small intestine.



Fig. 2. Abdominal ultrasonograph showing concentric hyper-echoic and hypo-echoic rings.

### Surgical treatment

The ventral midline was prepared aseptically for surgery after premedication of Atropine sulphate @ 0.04 mg / kg body weight subcutaneously and Pentazocine HCl 1mg/kg was given intramuscularly as preemptive analgesia. As a preanesthetic, Diazepam @ 0.5 mg / kg body weight was given intravenously. Anesthesia was induced with 10 mg/kg of propofol intravenously and maintained with isoflurane and oxygen mixture. Animal was prepared for aseptic surgery. Exploratory laparotomy confirmed intussusception at ileo-caeco-colic junction (Fig. 3). The intussusception could not be reduced manually and the intestinal segment was not viable. The non-viable intestinal segment was resected and an end-to-end anastomosis of the viable segments was

performed using No. 3-0 polydioxanone in a simple interrupted pattern with knots placed inside by in out and out in technique. Linea alba was closed in simple interrupted suture pattern using Polyglactin 910 No.1 suture material. Subcutaneous tissue was apposed in simple continuous suture pattern. The skin edges were apposed in simple interrupted pattern using polyamide No. 2-0 suture material. Post-operatively, Ceftriaxone - tazobactam at the dose rate of 20 mg/kg body weight was administered intravenously for 5 days. Meloxicam at the dose rate of 0.3 mg/kg body weight was administered daily once for three days subcutaneously. Animal was given only intravenous fluids for four days followed by liquid diet. Skin sutures were removed on 10<sup>th</sup> post-operative day. Animal made an uneventful recovery.



Fig. 3. Intraoperative photograph showing an ileocolic intussusception in ascending colon.



Fig. 4. Intraoperative radiograph showing end-to-end anastomosis.

## Discussion

Intestinal intussusceptions are common in dogs and cats. It is more prevalent in German shepherd dogs (Lewis and Ellison, 1987; Oakes *et al.*, 1994; Dixon, 2004). The age of dog reported in the present case was three years, while 80% cases of intestinal intussusception have been reported in pups less than one year of age (Dixon, 2004). The case under discussion showed a complaint of less frequent vomiting and bloody diarrhoea that are typical signs of ileocolic intussusception (Lewis and Ellison, 1987). Intestinal intussusception has varied etiologies such as intestinal parasitism, enteritis, linear foreign bodies, and prior abdominal surgery (Wilson and Burt, 1974). Intestinal intussusception is mostly found to be associated with enteritis (Wilson and Burt, 1974 and Ellison, 1986); as was the case with the dog under report, besides that no other clinical findings were identified. In older animals it is found to be associated with neoplasia of intestines (Oakes *et al.*, 1994). Abdominal radiography and ultrasonographic studies may be diagnostic. Ultrasonography is an accurate diagnostic method that has totally replaced conventional radiology in the diagnosis of intestinal intussusception (Goyal *et al.*, 2010). A cylindrical intestinal mass with a characteristic "ring sign" on ultrasonography is highly specific for intussusception. In the present case also ultrasonography of ileocolic intussusception showed concentric hyperechoic and hypoechoic rings in the transverse plane. Intussusception was first tried to be reduced manually but this technique failed due to the devitalized tissue, so resection and end-to-end anastomosis was performed which is considered as a viable treatment of intestinal

intussusception (Ellison, 1986). The present case presents a rare picture of intussusception in a three year Labrador Retriever.

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