INTUSSUSCEPTION DUE TO SAND IMPACTION IN A LABRADOR RETRIEVER DOG: AN ULTRASONOGRAPHIC DIAGNOSIS

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ABSTRACT

Common cause of bowel obstruction in dogs is due to intussusception. This study documents clinical findings in a six month old male Labrador brought with a history of food and water, emaciated, dull and depressed. Abdominal palpation revealed pain on palpation and gritty particles were felt in the intestines. The dog was maintained on fluid therapy and surgical correction was planned. Under general anaesthesia , the intestine was exteriorised, separated from intussusception and part of it was excised. On examination of the excised intestine sand particles were seen. The dog recovered in a week.

Key words: Intussusception, ultrasonography, sand

Introduction

The intussusception is an invagination of a portion of the gastrointestinal tract (intussusceptum) into the lumen of an adjoining segment (intussuscepiens) (Levitt and Bauercan, 1992). Intestinal telescoping and intestinal invagination are synonymous with intussusceptions.Intussusception is classified according to the location like enterocolic (ileocolic), caecocolic, enteroenteric, duodenogastric and gastroesophageal. It is also classified as high (proximal to the jejunum) and low (distal to the duodenum) intussusception. The most common type of intussusception in dogs was found to be the jejunojejnal and ileocolic. Diagnosis of intussusceptions was based most often on clinical signs of bowel obstruction in association with the palpable abdominal mass. Radiography and ultrasound aids in diagnosis and find the cause of intussusceptions. This report presents intussusception due to sand impaction in a dog: an ultrasonographic diagnosis.

Case history and observations

A six-month-old male Labrador Retriever weighing 14.3 kg was brought to Madras Veterinary College Teaching Hospital, Chennai-7 with the history of vomiting immediately after taking food and water for two weeks. Animal was emaciated (Fig.1) with dullness and depression. On clinical examination vital signs were normal. The dog exhibited abdominal pain on palpation and gritty particles were felt in the intestines.

The haematological examination showed mild anaemic changes such as decreased Hb (9.1g/dl), PCV (27.8%), RBC(4.53million/cumm) and TLC (8900/cumm). Serum biochemistry revealed increased Alkaline Phosphatase (495IU/dl) and decreased total protein (3.63g/dl). Radiograph of lateral abdomen revealed impacted faeces in intestine and gas filled loops. Abdominal ultrasound revealed concentric rings (bull's eye appearance) with hypoechoic inner area and with a hyperechoic area ventrally (Fig. 2).

Based on the history, clinical signs, ultrasonographic findings, present case was diagnosed as of intussusception with foreign body.

Treatment and Discussion

The dog was maintained on fluid therapy and surgical correction was planned. Under general anaesthesia (Propofol 5 ml, Ketamine + Diazepam 7 ml), the intestine was exteriorised, separated from intussusception and part of it was excised. On examination of the excised intestine sand particles

Fig.1: Emaciation

Fig. 2: Concentric rings (bull's eye appearance)

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were seen. The dog recovered in a week.

Intussusception in dogs is an extreme medical emergency and if it is not indentified and treated very quickly could rapidly take the life of dog. Predisposing causes include change of diet, enteritis, intestinal parasitism, linear foreign body, previous abdominal surgery and mural lesions such as neoplasia; however, many intussusceptions are idiopathic (Lamb and Mantis, 1998). Foreign bodies and intussusception can be noticed in puppies and kittens because of their indiscriminate eating habits (Simon *et al*., 2010). Intestinal obstruction due to sand impaction is an uncommon condition in the dog (Moles *et al*., 2010). Eighty per cent cases of intestinal intussusception have been reported in pups under one year of age (Khan *et al*., 2011).

Clinical signs in dogs with intussusceptions are usually the result of partial intestinal obstruction, bacterial over growth, ischaemia or infarction of the intussuscepturn and localised peritonitis. Hence, dogs may vomit, have diarrhoea (sometimes haemorrhagic) and show signs of depression or abdominal pain. Less frequent vomiting and chronic bloody diarrhoea are typical signs of ileocolic intussusceptions (Khan *et al.,* 2011).

Accumulation of gas proximal to the intussusception may be observed on plain radiography. The intussusception,on ultrasonography, may appear as hyperechoic and hypoechoic concentric rings in transverse plane and as multiple hyperechoic and hypoechoic parallel lines in longitudinal plane. The typical appearance of an intussusception in transverse images has given rise to descriptive terms such as the 'target sign' or 'bull's-eye sign' (Lamb and Mantis, 1998; Atray, 2012). In case of ultrasonography of sand impaction, the sand appears hypoechoic (Singh *et al.,* 2010) and the ventral aspect of sand accumulations was hyperechoic, causing varying acoustic shadowing.

The surgical management of intestinal intussusceptions involves either manual reduction, or resection and anastomosis, or both. The decision to resect is based on the surgeon's gross evaluation of the viability of the intestinal components of the intussusceptions (Levitt and Bauercan, 1992). Enteropexy is a procedure performed to create adhesions of bowel to adjacent viscera or the abdominal wall to prevent local recurrence of intussusceptions (Smeak, 2020).

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