

Original Research Article

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Gastric Impaction and Jejunal Intussusception due to Foreign Body in a Labrador – A Pathomorphological Report

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ABSTRACT

Keywords

Dog, Foreign body, Intussusception, Jejunum, Gastric impaction, Pathomorphology

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This report describes the pathomorphological findings in a Labrador dog which was presented for necropsy with a history of dullness, dehydration, severe haemorrhagic enteritis, vomiting and was treated privately. Post mortem examination revealed intussusception in the jejunal region while stomach was impacted with bits and pieces of foreign body consisting of comb, malleable plastic material, ropes and hair. Intestines revealed patchy haemorrhagic areas and tear in the mucosa with intact serosa and patchy haemorrhages. Brain revealed severe congestion of the cerebral vessels. Microscopical examination revealed a tear in the mucosa of intestine with intact serosa.

Introduction

Gastric foreign bodies and intussusception are common in young age group of dogs around one year. Incidence of gastric foreign bodies in dogs are mainly due to the indiscriminate feeding habits viz., consumption of inedible materials at the young age which can also be attributed to the condition called pica. The invagination of one portion of intestine into another portion results in intussusception which may be due to lack of homogeneity of the bowel wall which alters the intestinal motility. Clinical signs of vomiting, melena,

abdominal pain and anorexia supervene in such cases.

The sequelae include electrolyte and acid base disturbances, perforation, endotoxaemia and hypovolemic shock. Severe and acute forms may lead to sudden death (Mshelia *et al.*, 2015; Applewhite *et al.*, 2002; Gibson, 2015; Raymond, 1972).

The present case describes the jejunal intussusception and gastric foreign body impaction and its pathomorphological findings in a Labrador dog.

Materials and Methods

A female Labrador dog of age 1 year 6 months (Fig. 1) was brought to the Teaching Veterinary Clinical Complex, Madras Veterinary College, Chennai with a history of severe dehydration, vomiting and haemorrhagic enteritis. The dog was under supportive treatment for more than two weeks privately. The dog collapsed on the day of admission. It was brought to the Department of Veterinary Pathology, Madras Veterinary College for necropsy examination.

The necropsy examination was conducted keeping in record the history, clinical signs and a set of differentials. Tissue samples of 4mm thickness were collected from intestine in 10 per cent formalin and processed for histopathology after fixation. The sections were stained with Haematoxylin and Eosin (H&E) and viewed under light microscopy.

Results and Discussion

Necropsy examination of the dog revealed gas filled distended intestinal loops (Fig. 2) and intussusception in the jejunal region with severe hyperaemia and haemorrhage on the serosa (Fig. 3). On incision of the stomach, bits and pieces of foreign body consisting of sharp edged comb and its broken pieces, half chewed malleable plastic material, ropes and hair was noticed impacting the gastric mucosa (Fig. 5 and 8).

The mucosa was diffusely congested and revealed multiple patchy areas of haemorrhage indicating the impact of the presence of foreign body. The foreign body was entangled into a mass along with linear thread of about 50 cm in length and tuft of hair. The foreign objects had sharp edges which were correlated with the severe lacerations of irregular sizes in the oesophagus with hyperaemic edges.

Oesophageal mucosal epithelium revealed multiple erosions of irregular sizes with hyperaemic edges exposing the muscularis mucosa throughout the length (Fig. 4). Intestines revealed patchy haemorrhagic areas and tear in the mucosa with intact serosa and patchy haemorrhages (Fig. 6, 7). Brain revealed severe congestion of the cerebral vessels. On incision, apoplexy was observed.

Histopathological examination of the intestine revealed a tear in the mucosa, submucosa and muscularis mucosa of intestine with intact serosa. Multiple areas of congestion and haemorrhages were noticed on the serosa (Fig. 9). Brain revealed meningeal blood vessel congestion.

The present case describes the condition in a Labrador of age 1.6 years which correlates with the reports of Mshelia *et al.*, (2015), Leib and Sartor (2008) and Applewhite (2002). They have described that the gastrointestinal foreign bodies are highly frequent in the dogs of age group around one year and are mainly due to the indiscriminate eating habits at younger age which could be attributed to the condition called pica. The incidence of intussusception in the jejunal portion in this case is in agreement with the earlier reports that depict the incidence and occurrence of intussusception in the other portions of the gastrointestinal tract. However, the incidence is anatomically higher and frequent in ileocecolic junction, gastroesophageal junction and pylorogastric region (Applewhite *et al.*, 2002).

In this case, multiple varieties of foreign body could have been consumed by the dog at various intervals which had caused the impaction. Moreover, the presence of assorted degrees of erosions in the oesophageal and the intestinal mucosa reveal the effects of the sharp edged foreign body and its further impingement in the stomach.

Fig.1 1.6 year old female Labrador dog presented for necropsy; **Fig.2** Dog – Necropsy - Gross examination - Distended intestinal loops; **Fig.3** Dog – Gross examination - Intussusception in the jejunal region revealing severe hyperaemia and serosal hemorrhage

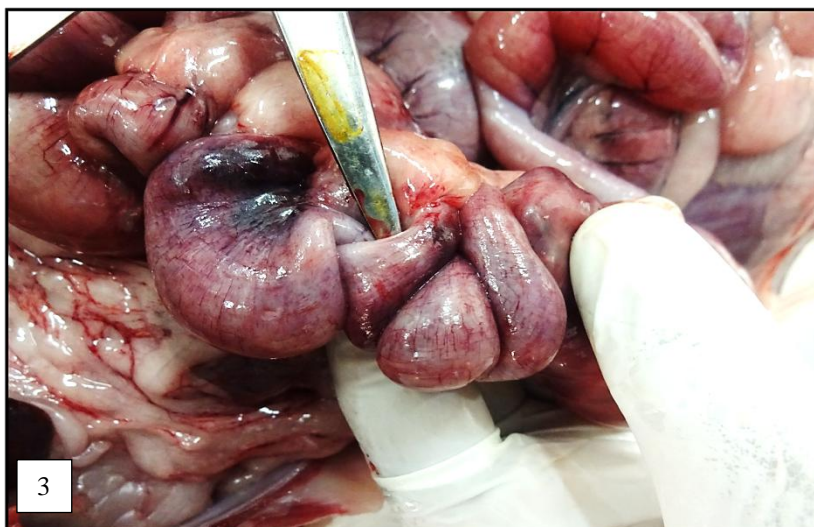


Fig.4 Dog – Gross examination - Severe erosions of irregular sizes in the oesophagus with hyperaemic edges; **Fig.5** Dog – Gross examination - Bits and pieces of foreign body impacting the stomach; **Fig.6** Dog – Gross examination - Extension of the thread into the intestine which caused the tear in the intestinal mucosa

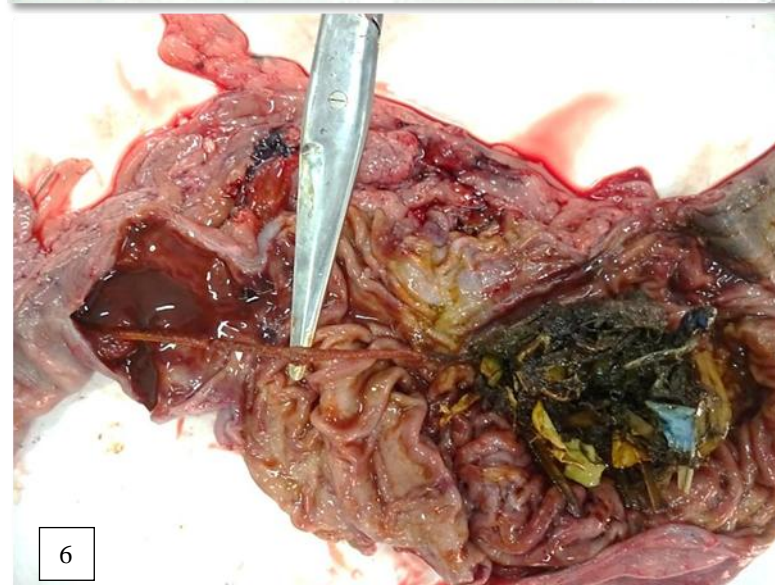
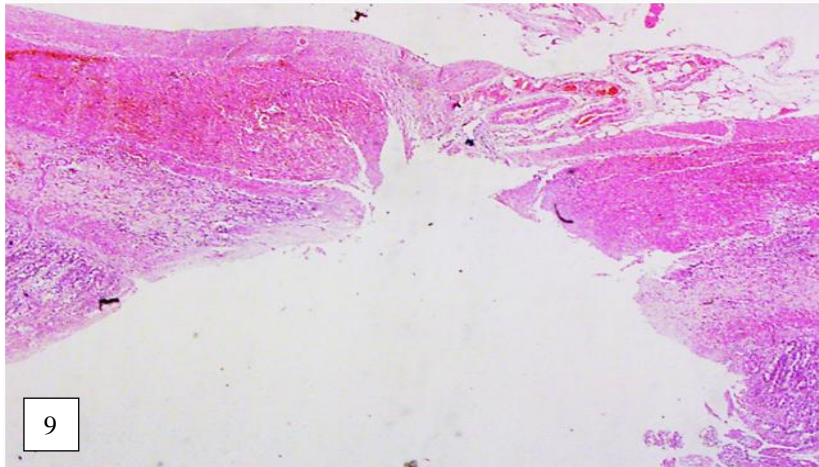
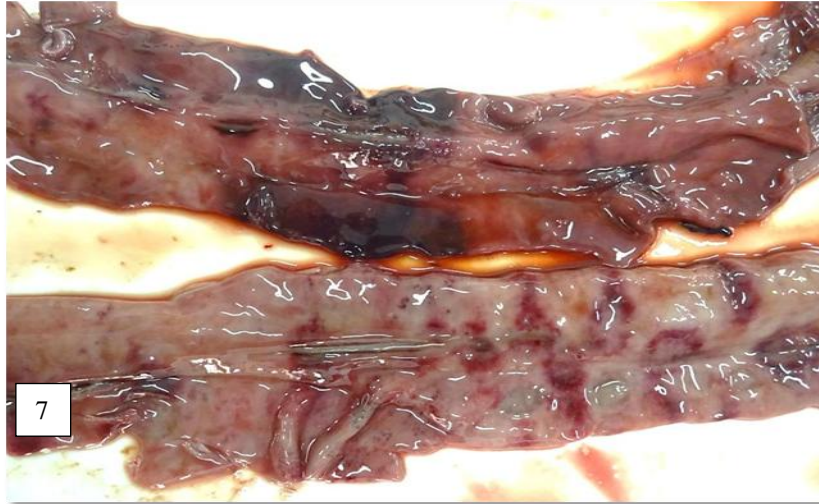


Fig.7 Dog – Gross examination - Intestines revealed patchy haemorrhagic areas and tear in the mucosa and intact serosa and patchy haemorrhages; **Fig.8** Dog – Gross examination - Foreign body - Comb, malleable plastic material, ropes and hair; **Fig.9** Dog – Histopathology - Intestine – The portion of tear in the intestinal mucosa - Multifocal areas of congestion and haemorrhages in the serosa and mucosa (H&E 4x)



In addition, the time interval and chronicity of the condition with signs of haemorrhagic enteritis and the accidental consumption of the linear foreign body could have added to the point of entanglement of the foreign body mass and the subsequent hypermotility would have caused the intussusception. Delay in diagnosis and surgical intervention precipitated the fatality in the present case (Gibson, 2015; Reymond, 1972; Kumar *et al.*, 2011; Gianella *et al.*, 2009).

In conclusion, the present case describes in detail the gross and the histopathological findings in a Labrador dog which collapsed due to jejunal intussusception and gastric impaction due to foreign body.

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