

ILEOCOLIC INTUSSUSCEPTION WITH HISTIOCYTIC ULCERATIVE TIFLOCOLITIS IN A GERMAN SHEPHERD DOG: A CASE REPORT

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SUMMARY

Ileocolic double intussusception was diagnosed in a five years old male German Shepherd dog on the basis of gross and histopathological findings. Necropsy examination revealed intussusception of ileum at enterocolic junction. The serosal surfaces of the intussuscepted parts were adherent to one another. Microscopic examination of section revealed hemorrhagic necrotizing enteritis with moderate lympho-plasmacytic infiltrate with clusters of histiocytes in the colon and cecum. Hemorrhagic gastritis and sinusoidal congestion in liver was also observed. Dog died due to endotoxic shock as indicated by diffuse haemorrhages in all visceral organs.

Key words: Ileocolic, histopathology, intussusception, necropsy

Intussusception is an uncommon but potentially life-threatening condition that can occur in dogs and cats of all ages. In this condition excessive peristaltic motility forces a segment of the intestinal loop inside another segment as smaller tube slides into the slightly larger tube just ahead of it. There are many different causes of this condition (Byrne *et al.*, 2005). Although the precise cause remains speculative, however an abnormality in peristalsis due to acute enteritis, surgical trauma, parasitic overload and phytobezoars plays a role for the occurrence of intussusceptions. Intussusception may result in luminal obstruction, mucosal congestion, or infarction, depending upon the length of the intussusception and size of the intestinal loops involved. If the disease prolongs, the animal undergoes profound depression and it has been suggested that endotoxemia may become the lethal agent (Jones *et al.*, 1997). Commonly, the sliding of a segment of bowel is defined, whereas, very rarely, two separate parts can prolapsed into the same distal segment, giving rise to double intussusceptions (Han *et al.*, 2008). To our knowledge, double intussusception is a very rare. Hence present case describes double intussusception in German shepherd dog.

A five year old male German shepherd dog was presented to the Department for necropsy examination. History taken from owner revealed that the dog had dyspnoea, bloody vomiting, abdominal pain and distension. Dog was undergoing antibiotic therapy since three days however during night hours dog died suddenly. A detailed necropsy was conducted. Necropsy examination revealed

intussusception (Fig. 1A) to be swollen and congested with fibrinous adhesion between the invaginated portions of intestine at enterocolic junction. The affected tissue samples along with healthy tissue were collected in 10% formal saline. The tissue sample were processed and embedded in paraffin blocks. Sections of 5 µm were taken on slides in duplicate stained with haematoxylin and eosin. The serosal surfaces of the intussuscepted parts were adherent to one another. The blood vessels in the rest of the intestines were engorged. The intestinal lumen for a considerable distance above the obstruction was greatly distended with hard compact plant material forming the phytobezoars along with inflammatory exudates (Fig. 1B). The portion of the invaginated intestine revealed signs of transmural necrosis, infarction, large hemorrhagic areas, and fibrin deposits on the serous and mucosal surfaces. Below, the obstruction the bowel was empty and normal. Intestinal wall were showing lesion of ischemic necrosis and acute enteritis (Fig. 1C). Lungs were severely hemorrhagic and liver showed moderate congestion. Stomach was impacted with plant material and mucosa was diffusely ulcerated with severe congestion (Fig 1D). Mesenteric lymphnodes were enlarged and hemorrhagic. Microscopic examination of affected tissues revealed hemorrhagic necrotizing enteritis with moderate lymphocytic-plasmacytic infiltrate in the colon with occasional clusters of histiocytes, and a severe histiocytic infiltration with neutrophil, lymphocyte, and plasma cell infiltration in the cecum. Hemorrhagic gastritis and sinusoidal congestion in liver was also observed. (Fig. 2A, B, C and D). Kidney showed focal

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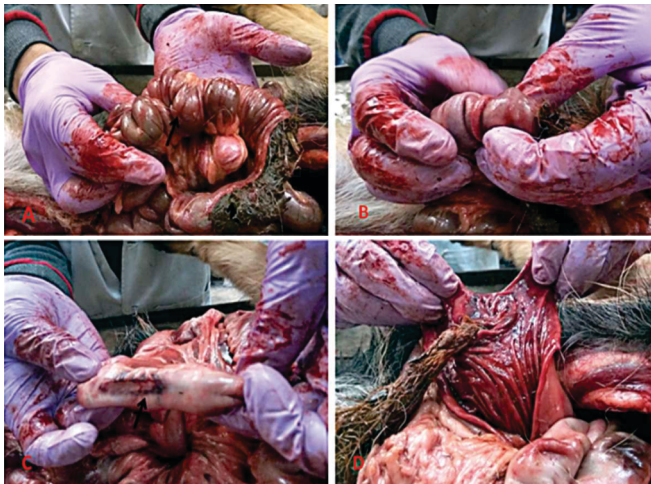


Fig. 1: A- Double intussusception in ileum impacted with phytobezoars; B-Telescoping of intestinal segment and hypertrophy of the local muscularis mucosa; C-Ischemic necrosis of intestinal wall; D-Hemorrhagic ulcerative gastritis.

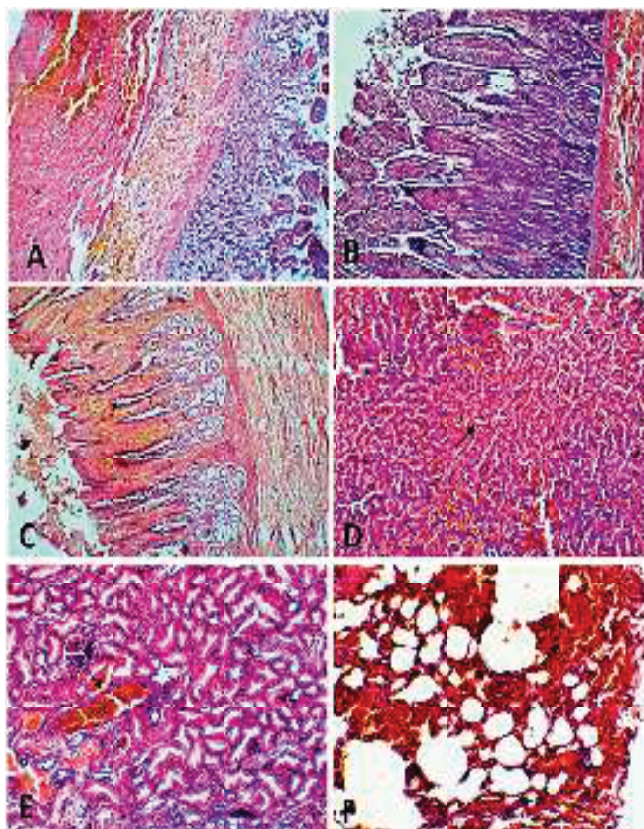


Fig. 2: A- Necrotizing hemorrhagic enteritis with sloughing of villi and diffuse haemorrhages in lamina propria and muscularis mucosa; B-Moderate lymphocytic-plasmacytic infiltrate in the colon with clusters of histiocytes; C-Hemorrhagic ulcerative gastritis with diffuse haemorrhages, sloughing of gastric pits and moderate lymphoplasmacytic infiltrate in mucosa and submucosa of stomach; D-Diffuse severe sinusoidal congestion in hepatic parenchyma; E-Multifocal areas of haemorrhages in renal cortex; F-Severe haemorrhages and distended alveoli in lung parenchyma. (H. & E; 200X)

areas of tubular necrosis and haemorrhages in the parenchyma (Fig. 2E). Alveoli were distended and diffuse haemorrhages were present in the lung parenchyma (Fig. 2F).

Intussusception is recognised as common cause of bowel obstruction. It is classified into various types according to location in the alimentary tract such as gastroesophageal, pylorogastric, enteroenteric, enterocolic and colocolic intussusceptions have been reported in small animal (Applewhite *et al.*, 2002). In the present case, the death of dog resulted due to endotoxic shock indicated by diffuse haemorrhages in all visceral organs (Patsikas *et al.*, 2003) and presence of histiocytic infiltrates in locations other than the colon need further systemic evaluation in order to determine the real extent of this disease.

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