

Use of computed tomography for diagnosis of pylorogastric intussusception in a 7 year old male dog: case report

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INTRODUCTION

Intussusception is defined as a prolapse of a part of the digestive tract into the lumen of an immediately adjoining part and has been reported in both humans and animals. In dogs and cats intussusception most commonly occurs at the ileoceocolic junction where invagination is usually in the normal direction of peristalsis. Occasionally invaginations occur in the reverse direction (orad direction) within the small intestine and in other parts of the alimentary tract (i.e. gastro-oesophageal, pylorogastric or duodenogastric intussusceptions).^{1,2,3,4,5,6}

OBJECTIVES

Pylorogastric intussusception is rare with very few reports in the veterinary literature. The use of computed tomography (CT) for diagnosis of pylorogastric intussusception has not been described. The aim of this report is to present the imaging features including CT findings of pylorogastric intussusception in a dog.

METHODS

A seven-year-old male neutered Dalmatian was presented for acute onset of haematemesis with coagulopathy. Initially, an underlying primary coagulopathy (e.g. rodenticide intoxication) was suspected. Abdominal ultrasonography and radiography, and pre- and post-contrast CT examination were performed.

RESULTS

Radiography and ultrasonography showed a distorted semi-lunar-shaped gastric lumen. Ultrasonography further showed closely apposed and thickened stomach walls, and a pylorus-like structure present in the left cranial abdomen. Pylorogastric intussusception was suspected. However, patient size and conformation hindered complete ultrasonographic evaluation of the stomach. A CT examination was therefore performed with a dual slice CT scanner (GE HiSpeed Dual) in order to confirm diagnosis, and screen for gastric wall necrosis or underlying causes (e.g. gastric mass). Pre- and post-contrast series (venous contrast phase) were obtained with 5 mm slice thickness and a helical scanning protocol. CT confirmed pylorogastric intussusception. The inverted gastric wall (intussusceptum) showed marked, diffuse thickening. It had a layered appearance with a hypoattenuating centre, suggestive of wall oedema. However, contrast enhancement was present, suggesting viability of the wall. The most proximal portion of the duodenum was also thickened. There was also mild lymphadenomegaly adjacent to the displaced duodenum.

The coagulopathy was assumed to be consumptive. Surgery was performed following a plasma transfusion confirming presence of pylorogastric intussusception. Mild lymphadenopathy was also found. The intussusception was reduced and an incisional gastropexy was performed between the pylorus and right body wall. Biopsies were collected from the duodenum and jejunum. Histopathology of duodenal and jejunal biopsies revealed mild, chronic lymphocytic-plasmatic to eosinophilic inflammation and we hypothesised chronic enteropathy may have contributed to pylorogastric intussusception in this case.

STATEMENT

Although rare, pylorogastric intussusception should be considered as a differential diagnosis in patients with haematemesis and coagulopathy, and CT examination may aid accurate diagnosis. This is the first report presenting CT findings of this condition.

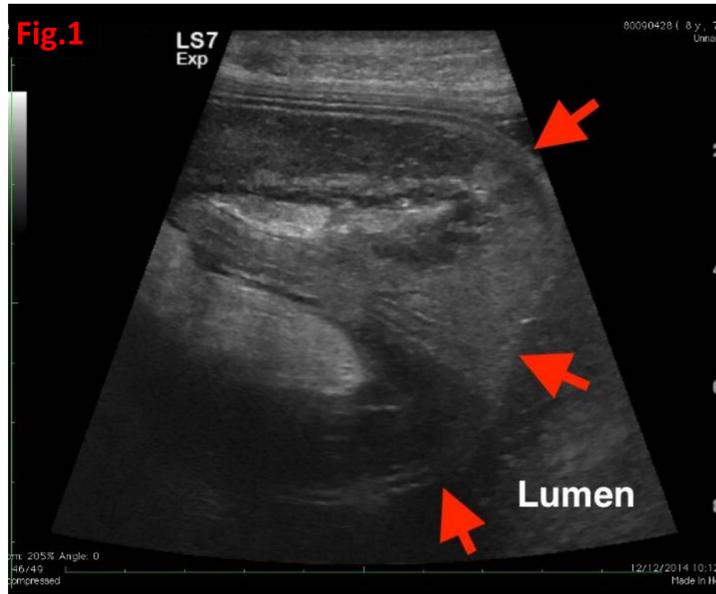


Figure 1. Ultrasonographic image from a transverse ventral abdominal approach. The inverted pylorus (intussusceptum, red arrows) is identified projecting into the stomach lumen. The wall of the intussusceptum is markedly thickened.

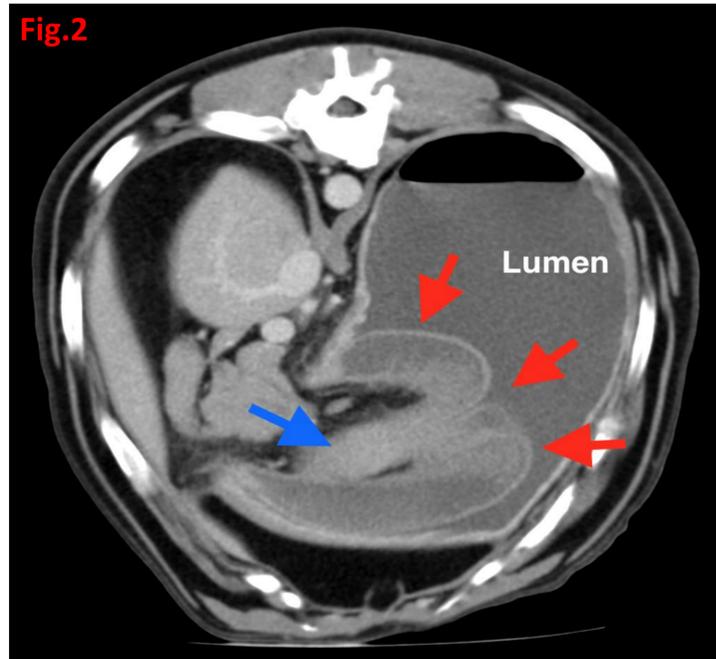


Figure 2. CT image in venous contrast phase, showing a transverse oblique reconstruction optimised for demonstrating the pylorogastric intussusception. The inverted walls of the intussusceptum (red arrows) are markedly thickened and project into the stomach lumen. Although contrast enhancement is present, the thickened walls have a layered appearance, suggestive of wall oedema. The duodenum (blue arrow) is also thickened.

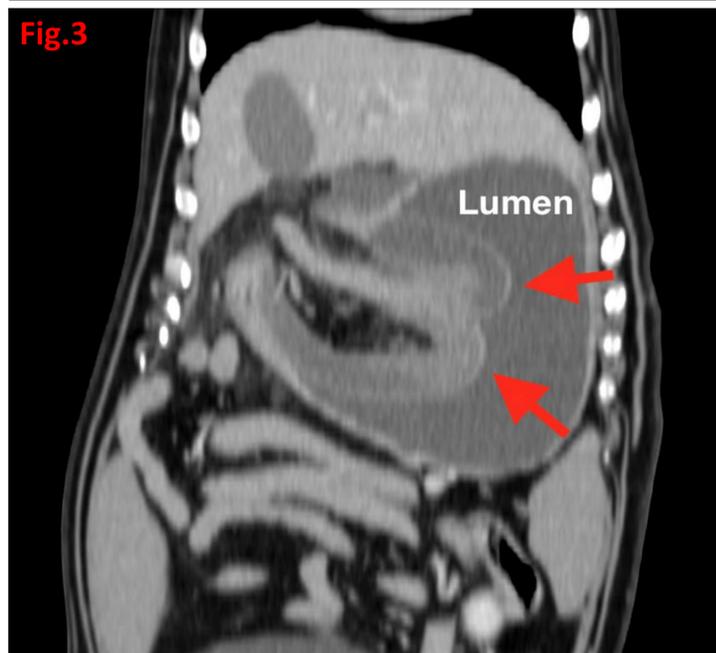


Figure 3. CT image in venous contrast phase and dorsal planar reconstruction with the intussusceptum highlighted by red arrows.

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