

WHAT IS YOUR DIAGNOSIS

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Signalment

A 6-year-old female Golden Retriever

History

The dog had presented severe vomiting approximately 15 minutes after meal. During 7 days period of illness, she has 15% of continuing weight loss.

Clinical Examination

The dog was in pain during abdominal palpation; tubular-shaped mass was found. Severe electrolyte imbalance and severe dehydration were detected without response to symptomatic therapy. The dog had panleukopenia.

Radiographic Examination

Standard radiographic views, ventrodorsal and right lateral, were taken to evaluate upper gastrointestinal tract. Positive contrast gastrography was 4 hours later performed to make a definitive diagnosis of the tubular-shaped mass/ foreign body and for surgical treatment decision.

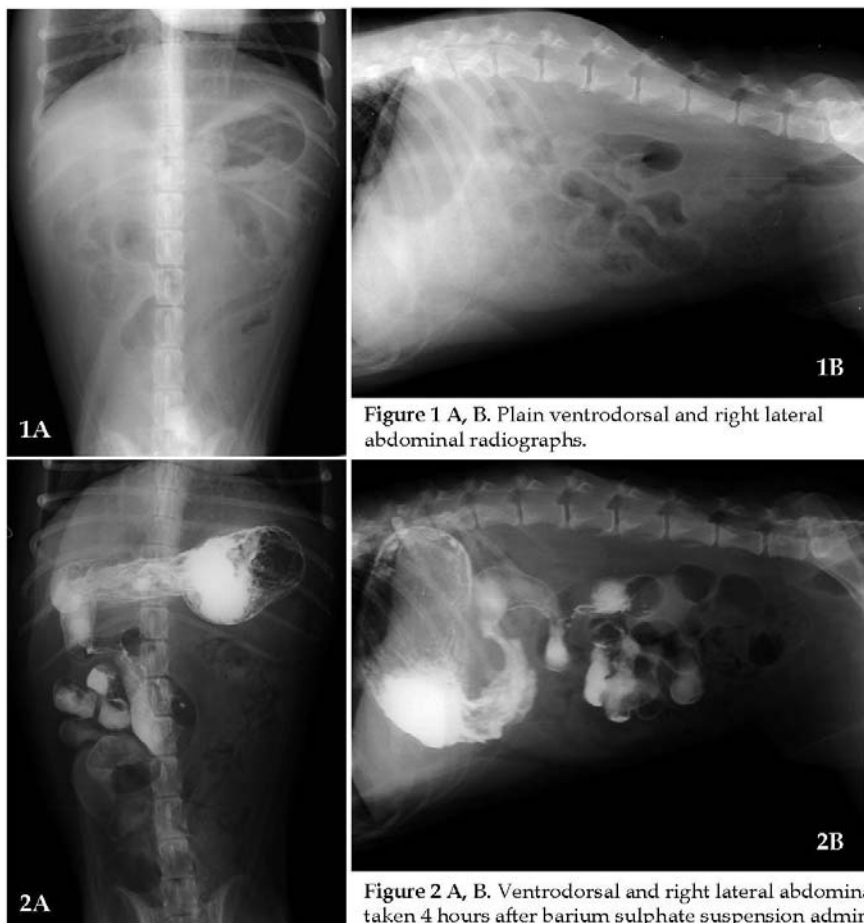


Figure 1 A, B. Plain ventrodorsal and right lateral abdominal radiographs.

Figure 2 A, B. Ventrodorsal and right lateral abdominal radiographs taken 4 hours after barium sulphate suspension administration

Give your diagnosis and turn to the next page.

Radiographic findings

Plain abdominal radiographs (Fig 1A & B) showed moderate amount of gas-filled gastric and small intestinal loops distension. Gastric size and alignment were subjectively normal. Small intestine had crescent-shaped intraluminal gas appearance. Partial loss of bowel serosal margination is possibly caused by peritoneal fluid accumulation. Positive contrast gastrographs (Fig 2A & B) presenting filling defects within the lumen of pyloric antrum, canal and sphincter, together with caudodorsal displacement of the pyloric sphincter were detected. Moderate amount of retained barium sulfate suspension in stomach appeared at 4 hours after the contrast administration (Fig 3A & B). Partial intestinal obstructive sign and distribution of contrast medium in gas-filled bowel loops especially in the duodenum could be observed.

Radiographic diagnosis

Pyloric and small bowel obstruction causing by linear foreign body

Discussion

Radiolucent (nonopaque) gastric foreign bodies are somewhat difficult to detect on the plain radiographs. An easy procedure is to repeat radiographic examination with different patient positions to help with the outline of the foreign body with intraluminal gas. Contrast studies, not only positive contrast gastrography but also pneumogastrography, can be used for foreign body identification. By giving a small amount of barium sulfate suspension or gas, foreign body can be visualized easier than a standard gastrogram that using a large volume of barium sulfate that obscures the foreign body appearance. An appearance of foreign body on a gastrogram varies depending on the type of foreign body presentation. An object with nonabsorbent surface creates a smooth and distinct filling defect within the barium pond. An absorbent foreign body such as cloth may not create an initial filling defect because barium sulfate can permeate into the object. Due to the absorption and retention of barium, this type of foreign body is better visualized after the stomach has been empty. Even though, ultrasonography is a good diagnostic tool, the ability to detect foreign bodies also depends on the presence of gastric contents including gas, fluid and remained food.

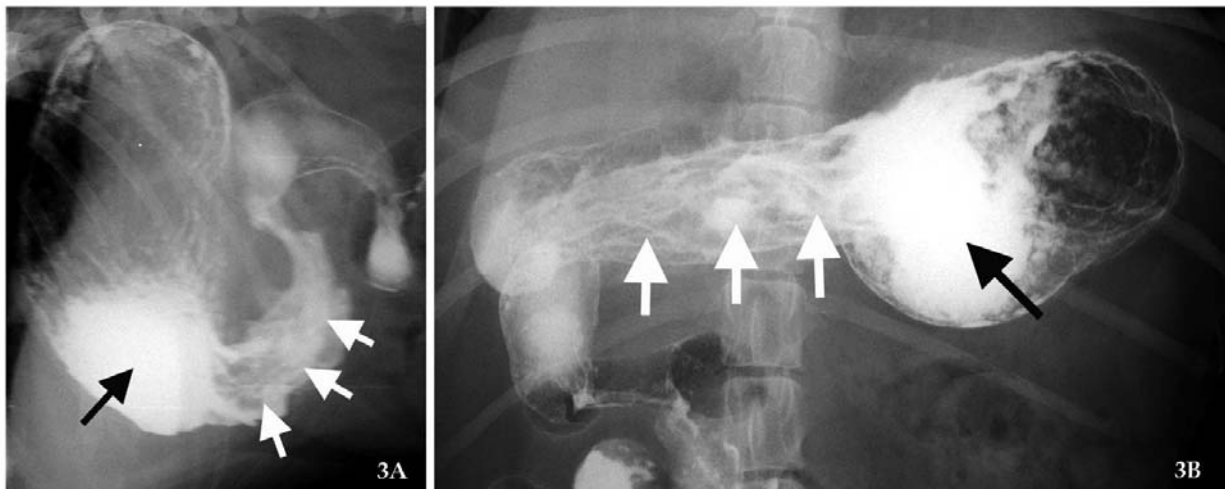


Figure 3A, B Positive contrast gastrographs, ventrodorsal and right lateral views, presenting filling defects within the antrum, canal and sphincter of pylorus (white arrows). Moderate amount of barium sulfate suspension was still retained in the gastric body at 4 hours after barium sulfate administration (black arrows).

References

- Bradley, K. 2005. Practical contrast radiography 2. Gastrointestinal studies. In Practice. 27(5): 412-417.
- Frank, P.M. and Mahaffey, M.B. 2007. The Stomach. In: Textbook of Veterinary Diagnostic Radiology. 5th ed. Elsevier Saunder Comp. Missouri. 750-769.