

What's Your Radiographic Diagnosis?

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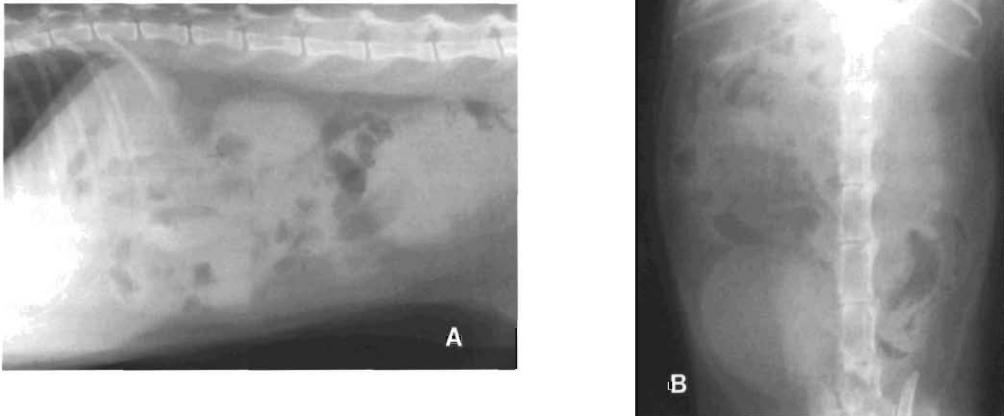


Fig. 1: Lateral (A) and ventrodorsal (B) views of the abdomen.

Signalment

A 4 year old, neutered male Domestic Shorthaired cat.

Presentation

Vomited a trichobezoar (hairball) and food 2 nights ago. Repeated episodes of vomiting yesterday. Vomitus consisted of a clear to yellow fluid. The cat is strictly an indoor pet, plus access to the garage. FeLV negative. Four months overdue for annual vaccinations.

Physical Exam

The cat is depressed. Mucous membranes are pink. CRT = 2 sec. No pain on abdominal palpation. Auscultation of the heart and lungs is normal.

Survey abdominal radiographs were obtained (Fig. 1). An upper g.i. series was also performed (Fig. 2).

Radiographic Findings

Survey - Multiple abnormally enlarged small intestinal loops are present. Normal feline small intestinal loop total diameter is approximately equal to two times the width of an eleventh rib. The gas within the distended small bowel loops also exhibits an abnormal dot-dash pattern. Normal small intestinal gas patterns are curvilinear to tubular. The amount of gas normally found within the small bowel of cats is reported to be minimal.¹

Upper G.I. series - A 50% w/v concentration of a barium sulfate suspension was administered via an orogastric tube at a dose of 5 ml/lb. An accordion-like pleating of the small intestinal loops is present. A thin, linear radiolucent filling defect can be seen within the center of the duodenum on the VD view.

Radiographic Diagnosis

Linear (string) foreign body. No radiographic indication of secondary peritonitis is currently seen.

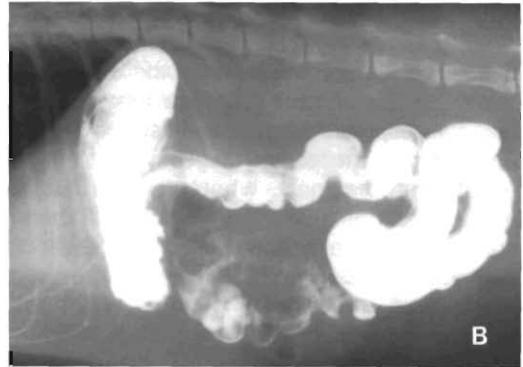


Fig. 2: Ventrodorsal (A) and lateral (B) views obtained 30 minutes post-contrast administration.

Discussion

Linear foreign bodies often become anchored at some site proximal to the small intestines such as the base of the tongue or pylorus.^{2,3} A careful inspection of the oral cavity is required if a linear foreign body is suspected.

The fixed foreign body is generally radiolucent. The affected bowel loops may contain multiple, small irregular pockets of air interspersed with fluid on survey films. The classic appearance of a linear foreign body is often best observed with an upper g.i. series. The barium contrast agent will reveal plication or accordion pleating of the mobile small intestine as it becomes "bunched" around the static linear object.^{2,4} Radiographic signs of complete mechanical obstruction will not usually be seen because the lumen of the intestines remains partially patent.

Linear foreign bodies will ultimately cause multiple tiny lacerations of the bowel wall due to intestinal hyperperistalsis around the fixed linear object.³⁻⁵ The bowel perforations allow leakage of intestinal contents into the peritoneal space and subsequent peritonitis, which is seen as a loss of normal serosal detail on radiographs. Treatment consists of surgical removal of the linear foreign body and open peritoneal lavage if required.

References

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