

IMAGING GI OBSTRUCTIONS

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As winter finally gives way to spring, we typically begin seeing more patients referred for intractable vomiting. 'Scout' Collins, a 6 year-old neuter male Golden Retriever was one such patient. He was episodically inappetent for a week, would always accept treats, but also intermittently vomit. During the last 24 hours he progressed to vomiting water. On presentation, he was BAR, his gums were slightly tacky, and the abdomen felt normal with no discomfort nor obvious masses. His blood work was normal. The referring veterinarian obtained radiographs and referred Scout for an abdominal ultrasound.

The lateral radiograph has several hallmarks of a small bowel obstruction. Multiple dilated small intestinal loops are filled with both fluid and gas. The stomach is slightly dilated, which is unusual for a vomiting patient. But the clincher is the foreign body seen on this lateral view. More on that later.

During an abdominal ultrasound, you systematically examine every organ system and in Scout's case, everything was normal except for the intestines. The stomach and small intestinal loops were fluid distended (Image 1).

A small amount of peritoneal fluid was present, raising the possibility of perforation or local inflammation from the suspected week-long obstruction. The foreign body (Image 2)



appeared as a crescent-shaped intraluminal hyperechoic object surrounded by luminal fluid and casting a deep acoustic shadow. Bowel distal to this object was normal. Furthermore, the luminal object did not move with intestinal peristalsis. Scout had surgery later that day and a short piece of corncob was removed from the small intestines; his recovery from surgery was quick and uneventful. Reviewing the lateral radiograph, the corncob is located on the lower right edge of the view, between the ventral abdominal wall and a gas-dilated intestinal loop in the caudal abdomen. The unique radiographic appearance of corncobs comes from air trapped in the concavities of the missing kernels.



Mechanical GI obstructions are challenging to diagnose on radiographs because the abnormalities vary greatly with the location and duration of obstruction and the characteristics of the offending foreign body.

Generally, radiopaque foreign bodies causing complete obstruction are easier to identify than non-opaque objects or those causing only partial obstruction.

If an offending FB is not visible on radiographs and findings of obstruction are inconclusive, you have several options: 1) obtain the opposite lateral view (sometimes the FB and obstruction are more apparent on the opposite view); 2) obtain additional views in 12-24 hours when findings of obstruction may be more apparent; 3) perform an abdominal US study; or 4) perform a barium UGI study. Barium UGI studies are time and labor intensive, barium aspiration may occur if the patient vomits and the study is often difficult to interpret. An US exam in the hands of an experienced person can identify the location and number of FBs, degree of obstruction and identify complications, e.g., pancreatitis, perforating peritonitis, or unexpected abdominal masses.

