

What Is Your Diagnosis?

In cooperation with

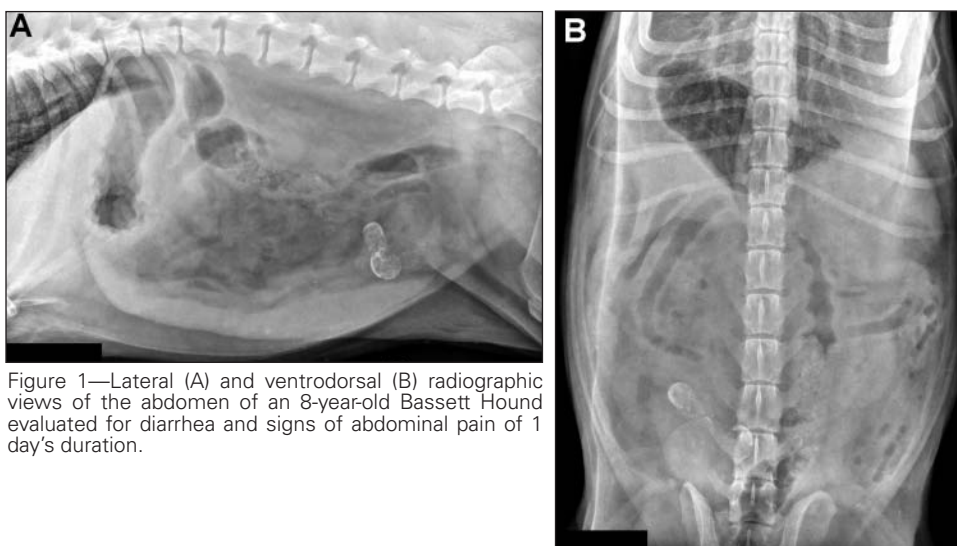


Figure 1—Lateral (A) and ventrodorsal (B) radiographic views of the abdomen of an 8-year-old Bassett Hound evaluated for diarrhea and signs of abdominal pain of 1 day's duration.

History

An 8-year-old spayed female Bassett Hound was evaluated for signs of abdominal pain and diarrhea of 1 day's duration. On physical examination, the dog was bright and alert, with signs of pain elicited on palpation of the mid to caudal portions of the abdomen. The dog was admitted to the hospital for initial diagnostic testing, including abdominal radiography (Figure 1). A CBC revealed a high absolute number of neutrophils (absolute count, 13,200 cells/ μ L; reference range, 3,000 to 11,500 cells/ μ L). Results of plasma biochemical analysis were within reference ranges.

Determine whether additional imaging studies are required, or make your diagnosis from Figure 1—then turn the page →

This report was submitted by Nicole J. Buote, DVM; Janet R. Kovak, DVM, DACVS; Anthony J. Fischetti, DVM, MS, DACVR; and Sebastien Monette, DMV, MVSc, DACVP; from the Animal Medical Center, 510 E 62nd St, New York, NY 10022.
Address correspondence to Dr. Buote.

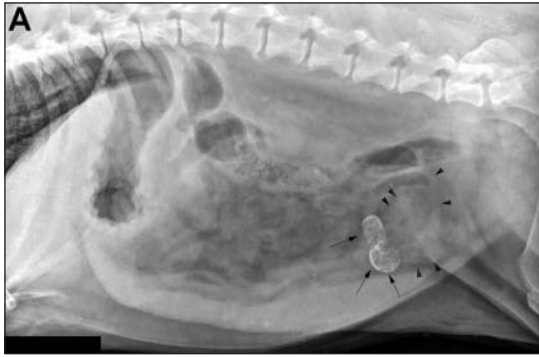


Figure 2—Same radiographic views as in Figure 1. Notice the oblong, opaque soft tissue mass (arrows) with a mineralized opaque rim in the right caudoventral portion of the abdomen. Caudal to the mass, a soft tissue mass has speckled mineralized-opaque foci (arrowheads) and appears to be continuous with a loop of small intestine.

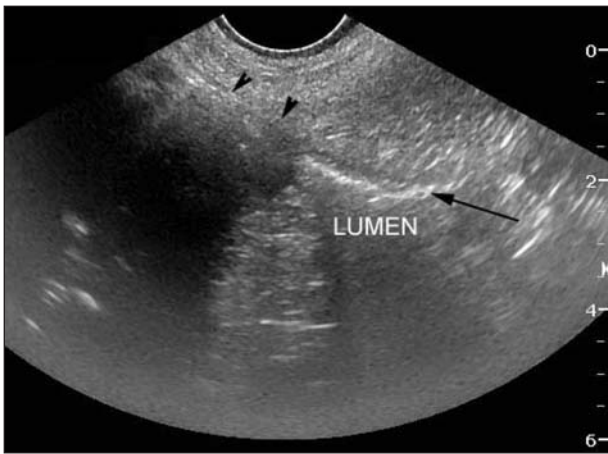


Figure 3—Abdominal ultrasonographic image of the mineralized mass. Notice the distal acoustic shadowing of the large mineralized mass (arrowheads) that is continuous with the intestinal wall (arrow).

Diagnostic Imaging Findings and Interpretation

Abdominal radiography revealed an oblong, mineralized-opaque-rimmed soft tissue mass in the right caudoventral portion of the abdomen. In the area caudal to the mineralized rimmed mass, there are multiple mineralized foci within a soft tissue mass that is continuous with a loop of small intestine (Figure 2). The small intestinal loops are not overtly distended. Differential diagnoses included dystrophic mineralization or ossification of a small intestinal wall neoplasm; an atypical manifestation of nodular fat necrosis with calcification; or a small intestinal foreign body, an abscess, or a granuloma.

Abdominal ultrasonography was performed to further characterize the lesion (Figure 3). An irregularly shaped mass with a distally shadowing hyperechoic surface is associated with a loop of small intestine. The mass displaces, but does not distort or invade, adjacent intestinal wall layers and appears to be connected with the small intestine. Free fluid does not surround the mass, nor does the mass obstruct the lumen. Differential diagnoses from the ultrasonographic findings included dystrophic min-

eralization of an intestinal wall neoplasm, granuloma, or abscess.

Comments

Abdominal exploratory surgery revealed a 6 × 6-cm firm irregularly shaped mass along the antimesenteric border of the distal portion of the jejunum, which appeared to arise from the serosal wall. Adhesions of omentum were freed from the mass, and intestinal resection and anastomosis were performed. The dog recovered from surgery without complication.

Gross and histologic examination of the resected intestine revealed a 5.0 × 4.5 × 3.5-cm impacted intestinal diverticulum located on the antimesenteric aspect. The lumen was filled with abundant intestinal content that was partially mineralized. This diverticulum could have been an acquired change, or possibly a congenital lesion, in which case it could have represented a Meckel's diverticulum.

Although Meckel's diverticulum has been reported more commonly in horses and other livestock, 2 case reports^{1,2} have been reported for dogs. In humans, Meckel's diverticuli are found most commonly on the antimesenteric aspect of the ileum, but only a small percentage induce clinical signs.^{3,4} If present, however, symptoms usually develop secondary to inflammation of the diverticulum, which can mimic appendicitis. The wall of the diverticulum may contain all layers of the ileal wall and may also contain small areas of gastric or pancreatic tissue. If gastric tissue is involved, ulceration and bleeding can develop because of leakage of hydrochloric acid. Other complications include intussusception, incarceration, and perforation.^{3,4}

Clinical signs in the dog in this report were consistent with those seen in humans. However, as in humans, the prevalence of animals with this abnormality that do not develop clinical signs may be higher than currently recognized. Although this is a rare cause for abdominal pain in companion animals, it should be considered with mineralized lesions in this area of the intestinal tract. Prognosis for recovery is excellent if treated appropriately. Excision of the diverticulum should lead to resolution of all clinical signs associated with impaction, obstruction, or peritonitis.

1. Frazier KS, Liggett AL, Styler EL, et al. Multiple persistent vitelline duct cysts in a dog. *Vet Pathol* 1998;35:541–542.
2. Marshall WS, Hayes MJ. An unusual congenital abnormality in the dog. *Vet Rec* 1966;79:483–484.
3. Moore KL, Persaud TVN, eds. Anomalies of the midgut. In: *Essentials of embryology*. 5th ed. Philadelphia: WB Saunders Co, 1998;275–279.
4. Turkington JR, Devlin PB, Dace S, et al. An unusual cause of intermittent abdominal pain (2006: 5b). *Eur Radiol* 2006;16:1862–1864.