What Is Your Diagnosis?

History

A 2-month-old sexually intact female Labrador Retriever was evaluated for persistent watery diarrhea and vomiting. The dog was being treated for whipworm (Trichuris spp) infection, which was detected by the referring veterinarian during routine examination. On physical examination, the dog was mildly dehydrated and thin and had signs of depression. Severe signs of pain were detected during palpation of the abdomen. Ultrasonography of the abdomen was performed (Figure 1).

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

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Diagnostic Imaging Findings and Interpretation

On the transverse ultrasonographic view, a target-like mass with a hypoechoic area delineated by an outer hyperechoic ring (colon), an inner hyperechoic mass (mesenteric fat near the ileum), and a hyperechoic straight line (ileal lumen) can be seen (Figure 2). On the longitudinal ultrasonographic view, the mass is associated with the intestinal tract and is characterized by multiple hyper- and hypoechoic parallel lines. These findings are most compatible with an ileocolic intussusception.

Comments

Intestinal intussusception results from invagination or telescoping of 1 segment of intestine (intussusceptum) into the lumen of an adjacent intestinal segment (intussuscipiens) usually distal or occasionally in a retrograde direction.1,2 In dogs, ileocolic intussusception is most common; however, gastroduodenal, duodenojejunal, jejunojejunal, and ileoileal intussusceptions have been reported in young dogs.1,2 Most intussusceptions are idiopathic in origin, but ingestion of bones, linear foreign bodies, prior abdominal surgery, intestinal parasitism, and intestinal inflammation have been indicated as predisposing factors.1,2 In the dog reported here, whipworms had been detected, which was most likely the predisposing factor for the ileocolic intussusception. In older dogs, a common cause of intussusception is intestinal neoplasia.1 On abdominal palpation, an intussusception will usually be palpated as a firm, tubular structure, often described as sausagelike.2

Ultrasonography is useful for evaluation of small animals that have been vomiting. In particular, ultrasonography may be used to identify findings consistent with pancreatitis and neoplasia. The ultrasonographic findings associated with intussusception are often readily recognized. Detection of an inner intussusceptum or a semilunar hyperechoic center is useful for differentiating an intussusception from other conditions including postpartum involution of the uterus or enteritis caused by a foreign body; even the appearance of healthy intestine can be misdiagnosed as an intussusception.2

Ultrasonography has replaced conventional radiography as the preferred diagnostic method for the diagnosis of intestinal intussusceptions.2 The sensitivity, specificity, and accuracy of ultrasonography for the diagnosis of intussusceptions have been reported to be 100%, 97.8%, and 98.4%, respectively.2

Surgical correction is the preferred treatment for intestinal intussusceptions. Manual reduction, by way of milking the intussusceptum from within the intussuscipiens, is first attempted.3 Recurrence rates are reportedly from 3% to 25%.3 Enteroplication has been commonly used to prevent the recurrence of intussusceptions by creating adhesions between loops of intestine.3 The prognosis is affected mostly by the location of the intussusception, as intussusceptions in the proximal portion of the gastrointestinal tract are more likely to cause electrolyte imbalances mostly because of vomiting.3 Rapid and accurate diagnosis with ultrasonography and surgical treatment of intestinal intussusceptions results in an excellent outcome in most dogs. The dog in this report recovered from surgery without complications. Four months after surgery, the owner reported that the dog was doing well.