

What Is Your Diagnosis?



Figure 1—Ultrasonogram of the abdomen of a 2-day-old filly with diarrhea since birth and acute signs of abdominal pain.

History

A 2-day-old Quarter Horse filly was evaluated because of signs of acute abdominal pain. The filly had diarrhea since birth and had signs of pain several hours before evaluation. On physical examination, heart rate was 110 beats/min, rectal temperature was 39.5 C (103.1 F), and dehydration was estimated to be 5%. The filly's mucous membranes were injected, and capillary refill time was prolonged. Analysis of fluid obtained by means of abdominocentesis revealed neutrophilic inflammation (total nucleated cell count, 94,000 cells/ μ l). The size of the filly prohibited palpation per rectum. Ultrasonography of the abdomen was performed (Fig 1).

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

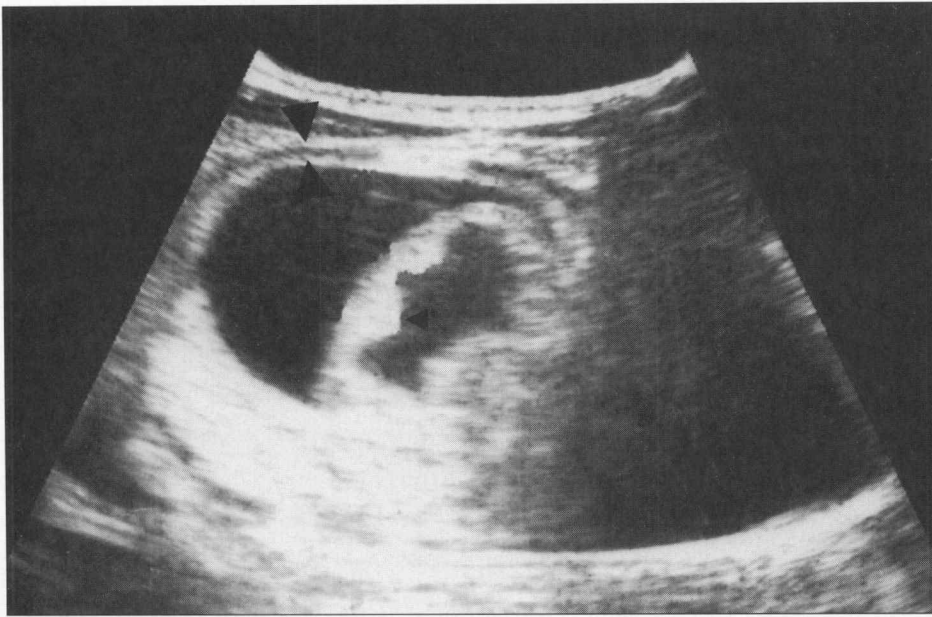


Figure 2—Same ultrasonogram as in Figure 1. Notice the 2 concentric hyperechoic rings, which represent the intussusceptum (small arrowheads) and intussusciens (large arrowheads).

Diagnosis

Ultrasonographic diagnosis—Small-intestinal intussusception was diagnosed on the basis of seeing 2 concentric hyperechoic rings separated by hypoechoic fluid in multiple cross-sectional views.

Comments

An intussusception develops when 1 segment of intestine telescopes an adjacent segment. The inner segment (intussusceptum) is usually located orad to the outer segment (intussusciens) of intestine.

Intussusception has been reported to develop in several locations in horses, including jejunojejunal, jejunoileal, ileocecal, cecocolic, and cecocolic portions of the intestine. Small-intestinal (ie, jejunojejunal and jejunoileal) intussusceptions are the most common in foals; ileocecal and cecocolic intussusceptions are more common in adult horses.^{1,2}

The mechanism of intussusception is not known; however, it appears that anything causing a segmental alteration of intestinal motility could cause intussusception. Diarrhea (as in this filly), enteritis, dietary changes, heavy parasite damage or burden, anthelmintic treatment, previous small-intestinal surgery, and mesenteric arteritis have been implicated as causes of intussusception.^{2,3}

Diagnosis of intussusception is usually made during exploratory celiotomy for signs of acute abdominal pain. In adult horses, diagnosis can be made before surgery by means of palpation per rectum. A firm, cylindrical (sausage-like), apparently painful section of intestine or multiple loops of dilated small intestine can sometimes be palpated.¹ Palpation per rectum may not be possible because of the horse's size (as in this case).

Abdominal ultrasonography can sometimes aid in

preoperative diagnosis. Intussusception can be identified on ultrasonographic images as concentric hyperechoic rings (bull's-eye).^{4,5} Negative findings on ultrasonographic examination do not eliminate the possibility of intussusception because of limitations inherent to the method. Ultrasound waves cannot pass through air; therefore, the presence of gas-filled loops of intestine can interfere with diagnosis. In addition, the depth to which ultrasound waves can penetrate is limited, and the large size of horses makes complete examination of the abdomen difficult.

Treatment of choice for intussusception is reduction to assess intestinal viability, resection of nonviable tissue, and anastomosis of remaining intestine.¹ If reduction of intussusception is not possible, resection and anastomosis can be performed without reduction. Prognosis after correction of intussusception depends on its location, magnitude, and duration prior to surgical intervention.⁵

1. Mueller E, Baxter GM. Small intestinal diseases of horses: diagnosis and surgical intervention. *Vet Med (Praha)* 1992;87:1030-1036.

2. Hackett RP. Ileocecal intussusception. In: White NA, Moore JN, eds. *Current practice of equine surgery*. Philadelphia: JB Lippincott Co, 1990;328-331.

3. Reymond RD. The mechanism of intussusception: a theoretical analysis of the phenomenon. *Br J Radiol* 1972;45:1-7.

4. Bernard WV, Reef VB, Reimer JM, et al. Ultrasonographic diagnosis of small-intestinal intussusception in three foals. *J Am Vet Med Assoc* 1989;194:395-397.

5. Doran R, Allen D, Orsini JA. Small intestine. In: Auer JA, ed. *Equine surgery*. Philadelphia: WB Saunders Co, 1992;360-378.

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