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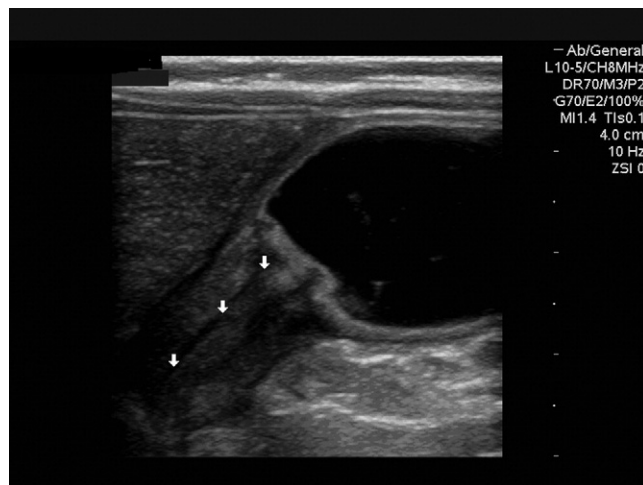
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**Figure 1.** Abdominal radiograph.

[Ann Emerg Med. 2008;52:496.]

A 5-week-old boy presented to the emergency department with a 3-day history of vomiting and weight loss. He was an only child, with an uneventful full-term birth history. Systems review and family history were unremarkable. On examination, the infant was somnolent but when offered a bottle, fed vigorously, promptly vomiting projectile, nonbilious/nonbloody vomitus. His laboratory analysis was significant for a potassium level of 3.6 mEq/L and a chloride level of 95 mEq/L.



**Figure 2.** Ultrasonography of the abdomen. Used with permission of MAJ Vincent Ball, MD, Department of Emergency Medicine, Madigan Army Medical Center, Fort Lewis, WA.

*For the diagnosis and teaching points, see page 511.*

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## IMAGES IN EMERGENCY MEDICINE

(continued from p. 496)

*Infantile hypertrophic pyloric stenosis.* Infantile hypertrophic pyloric stenosis is the most common cause of intestinal obstruction in infancy, with an incidence of 2 to 4 per 1000 live births.<sup>1</sup> Infantile hypertrophic pyloric stenosis occurs as a result of hypertrophy and hyperplasia of the muscular layers of the pylorus, causing a functional gastric outlet obstruction. The cause is unknown. The typical age at presentation ranges from 3 to 12 weeks. It is more common in firstborn white boys and in infants with a family history of infantile hypertrophic pyloric stenosis. The classic presentation involves nonbilious vomiting (classically projectile), with an intact appetite. The emesis may become brown as a result of associated gastritis or Mallory-Weiss tear.<sup>1</sup> The infant will eventually show signs of dehydration and weight loss, with a hypokalemic, hypochloremic metabolic alkalosis, which may evolve into lethargy and shock if not identified and treated. Palpitating an "olive" in the right upper quadrant of the abdomen is pathognomonic. A radiograph showing a dilated stomach in the proper clinical scenario, [Figure 1](#), is suggestive. The preferred imaging study is ultrasonography. The diagnostic findings of pyloric stenosis include a hypoechoic muscle, which is thickened and measures greater than 3 mm, with a length greater than 17 mm<sup>1</sup> ([Figures 1 and 2](#)). Despite the need for surgical management, initial treatment consists of correcting electrolyte abnormalities. Definitive treatment is a pyloromyotomy, although atropine has been shown to be effective if surgery is contraindicated.<sup>2</sup>

Ultrasonographic evaluation by the emergency physician for pyloric stenosis is not the current standard of care in emergency medicine, so formal radiographic ultrasonography was also obtained.

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