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Images in Anesthesiology: Pyloric Stenosis

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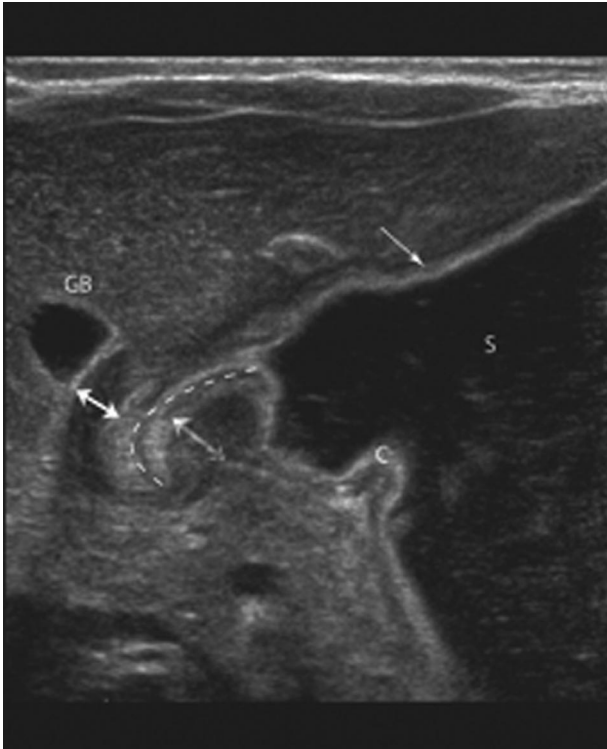


Fig. 1. The *single arrow* indicates the lining of the stomach; the *double white* and *off-white arrows* indicate the anterior and posterior walls of the pylorus; and the *dotted lines* goes along the length of the pylorus. Note how the stomach is filled with air although there is little air after pylorus. C = contraction in the stomach; GB = gall bladder; S = stomach.

IN pyloric stenosis, which usually occurs during the first 1–3 months of life, the circular muscle of the pylorus hypertrophies, the gastric outlet constricts and then it is obstructed. This leads to nonbilious, projectile vomiting, which usually occurs after feeding. Because of repeated episodes of vomiting, both hydrochloric acid and fluids are lost, which leads to hypochloremic metabolic alkalosis.

Often a pyloric mass can be palpated in the epigastrium or right upper quadrant, beneath the liver edge. As a complement to physical examination, ultrasound is the method of choice for both diagnosis and exclusion of diagnosis because the pylorus is directly visualized (fig. 1). Indeed, ultrasound has almost become a substitute for physical examination and it may also be responsible for earlier diagnosis.¹ Compared with a fluoroscopic examination, ultrasound does not expose the patient to ionizing radiation, and oral contrast that can be aspirated is not required.

Pyloromyotomy is the treatment of pyloric stenosis. The operation should never be treated as an emergency. Although electrolyte status should be checked preoperatively and should be treated before surgery, the percentage of these patients presenting with abnormal electrolytes is decreasing. As it is apparent from the ultrasound, the child should be treated as if the patient has a full stomach. Indeed, in one study, gastric fluid measured after induction of anesthesia averaged almost 5 ml/kg and 85% had volumes more than 1.25 ml/kg.² Many use that study to recommend orogastric suctioning before rapid sequence induction of general anesthesia. Although in the past some have recommended that tracheal intubation should be performed while awake, complications are similar to that of the rapid sequence induction used.³

References

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