FIG 22-6 Hypertrophic pyloric stenosis (HPS). **A,** Enlarged muscular area nearly obliterates the pyloric channel. **B,** Longitudinal surgical division of the muscle down to the submucosa establishes an adequate passageway.

Pyloric stenosis is not a congenital disorder. It is believed that local innervation may be involved in the pathogenesis. In most cases, HPS is an isolated lesion; however, it may be associated with intestinal malrotation, esophageal and duodenal atresia, and anorectal anomalies.

Diagnostic Evaluation

The diagnosis of HPS is often made after the history and physical examination. The olive-like mass is easily palpated when the stomach is empty, the infant is quiet, and the abdominal muscles are relaxed. Vomiting usually occurs 30 to 60 minutes after feeding and becomes projectile as the obstruction progresses. Emesis is nonbilious in the early stages. These infants may become dehydrated and appear malnourished if an early diagnosis is not established.

If the diagnosis is inconclusive from the history and physical signs (Box 22-9), ultrasonography will demonstrate an elongated, sausage-shaped mass with an elongated pyloric channel. If ultrasonography fails to demonstrate a hypertrophied pylorus, ultrasonography will demonstrate an elongated mass surrounding a long pyloric canal. If the condition is not diagnosed early, laboratory findings reflect the metabolic alterations (hypochloremic metabolic alkalosis) created by severe depletion of both fluid and electrolytes from extensive and prolonged vomiting.

Box 22-9

Clinical Manifestations of Hypertrophic Pyloric Stenosis

Projectile vomiting

- May be ejected 3 to 4 feet from the child when in a