ileocecal valve. Meckel diverticulum is often referred to by the "rule of twos" because it occurs in 2% of the population, has a 2 : 1 male to female ratio, is located within 2 feet of the ileocecal valve, is commonly 2 cm in diameter and 2 inches in length, contains two types of ectopic tissue (pancreatic and gastric), and is more common before the age of 2 (Pepper, Stanfill, and Pearl, 2012).

Pathophysiology

Bleeding, obstruction, or inflammation causes the symptomatic complications of Meckel diverticulum. Bleeding, which is the most common problem in children, is caused by peptic ulceration or perforation because of the unbuffered acidic secretion. Several mechanisms may cause obstruction such as intussusception or entanglement of the small intestine (Pepper, Stanfill, and Pearl, 2012).

Diagnostic Evaluation

Diagnosis is usually based on the history, physical examination, and radiographic studies. Meckel diverticulum is often a diagnostic challenge. A technetium-99 pertechnetate scan (Meckel scan) is the most effective diagnostic testing, especially for a bleeding diverticulum, with sensitivity ranging from 65% to 85% (Pepper, Stanfill, and Pearl, 2012). CT, magnetic resonance imaging (MRI), and mesenteric angiography may be used to investigate complications of Meckel diverticulum but each test has associated risks, such as the use of contrast for CT scans, exposure to radiation for MRI scans, and the blood loss for tagged red blood cells with mesenteric angiography (Pepper, Stanfill, and Pearl, 2012). Laboratory studies such as a CBC and a basic metabolic panel are usually part of the general workup to rule out any bleeding disorder and to evaluate for dehydration.

The most common clinical presentation in children includes painless rectal bleeding, abdominal pain, or signs of intestinal obstruction (Box 22-4). Bleeding, which may be mild or profuse, often appears as bright red or "currant jelly-like" stools; bleeding may be significant enough to cause hypotension.

Box 22-4