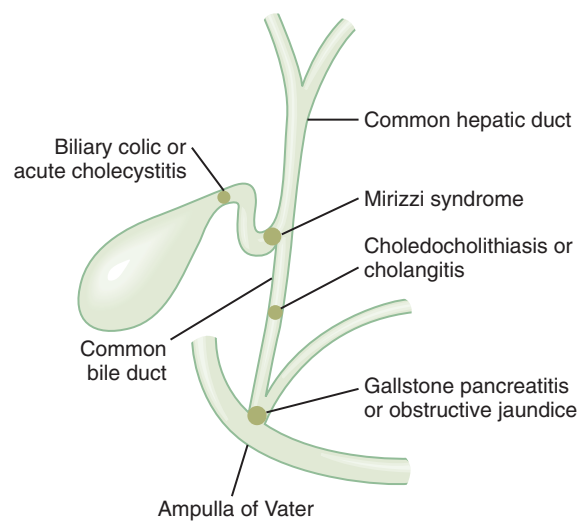
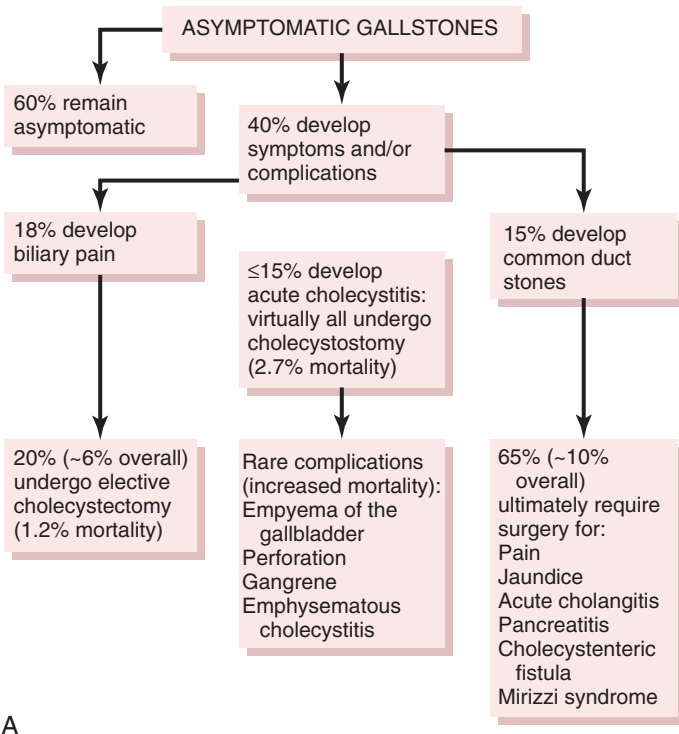


TABLE 44-1 RISK FACTORS FOR CHOLELITHIASIS

PRIMARY	
Age	Pregnancy
Obesity	Diabetes mellitus
Female sex	Low socioeconomic status
Rapid weight loss	Sedentary lifestyle
Ethnic background (e.g., Native American)	Total parenteral nutrition
	Hemolysis
	Cirrhosis
	Crohn's disease
SECONDARY	Biliary parasites (e.g., <i>Clonorchis sinensis</i>)
Drugs: oral contraceptives, ceftriaxone, octreotide, thiazide diuretics	Terminal ileum resection

TABLE 44-2 DIFFERENTIAL DIAGNOSIS OF CHOLELITHIASIS

Peptic ulcer disease	Nephrolithiasis
Gastroesophageal reflux disease	Pyelonephritis
Nonulcer dyspepsia	Perinephric abscess
Irritable bowel syndrome	Pneumonia
Sphincter of Oddi dysfunction	Angina pectoris
Hepatitis and perihepatitis (Fitz-Hugh–Curtis syndrome)	Pancreatitis
Hepatic abscess	Ruptured ectopic pregnancy
	Appendicitis



A

B

FIGURE 44-2 Natural history of asymptomatic gallstones. **A**, The clinical syndromes associated with gallstones are shown, and the numbers represent the approximate percentage of adults who develop one or more of these symptoms or complications over a 15- to 20-year period. Over this period, about 30% of individuals with gallstones undergo surgery. (The risk for developing complications of gallstones varies considerably among series. The figures shown represent those derived from more recent studies.) **B**, Clinical manifestations of symptomatic gallstones. Locations of blockages associated with various conditions are indicated.

cystic duct, common hepatic duct, common bile duct, or ampulla of Vater (see Figs. 44-1 and 44-2). Symptoms arise from contraction of the gallbladder during transient obstruction of the cystic duct by gallstones, and persistent obstruction of the cystic duct leads to superimposed inflammation or infection of the gallbladder (i.e., acute cholecystitis). Obstruction of the distal common bile duct may result in abdominal pain, cholangitis (infection of the biliary tract), or pancreatitis (resulting from pancreatic duct obstruction). The presence of a large stone in the cystic duct can cause common bile duct obstruction and is referred to as *Mirizzi syndrome*. Common conditions to consider in the differential diagnosis of gallstone disease are listed in Table 44-2.

Asymptomatic Gallstones

Most gallstones are clinically “silent,” and they are often uncovered as an incidental finding during abdominal ultrasound

performed for another reason. The risk of developing symptoms is low, averaging 2% to 3% per year, 10% at 5 years, and 1% to 2% per year with major complications. Expectant management is an appropriate choice for the general population. Prophylactic cholecystectomy should be considered in those groups who are at increased risk for the development of complications, including (1) patients with diabetes, who have a greater morbidity and mortality from acute cholecystitis; (2) patients with a calcified (porcelain) gallbladder, large gallbladder polyps, or large stones (>3 cm), which are associated with an increased risk for gallbladder carcinoma; (3) patients with sickle cell anemia, in whom hepatic crises may be difficult to differentiate from acute cholecystitis; (4) children with gallstones, because they frequently develop symptomatic disease; and (5) Native Americans, who are predisposed to gallbladder cancer in the setting of gallstones.