

Keywords: Common gallbladder conditions

Problem: Gallbladder problems range from mild conditions requiring no interventions to disorders demanding immediate treatment. Differentiating between common gallbladder conditions is vital for delivering appropriate and timely care.

Solution: This article overviews symptoms and treatment of 3 common gallbladder conditions.

3 Common Gallbladder Conditions You Should Be Monitoring

Cholecystectomies, or gallbladder removals, are among the most prevalent procedures. Approximately 20 million Americans have gallstones. The National Institute of Health (NIH) estimates that 80% of gallstones are asymptomatic. Of the symptomatic cases, 20% experience complications like cholecystitis, choledocholithiasis and cholangitis. Every year, roughly 300,000 people with gallstones require a cholecystectomy.

Gallbladder problems range from asymptomatic conditions requiring no interventions to disorders demanding immediate treatment. Differentiating between common gallbladder conditions is vital for delivering appropriate and timely care. This article overviews the symptoms and treatments of 3 common gallbladder conditions.

Key Takeaways

- Gallstones can be painless or excruciating. Most asymptomatic gallstones do not require surgical intervention.
- Cholelithiasis is present in 95% of patients with gallbladder infection, or cholelithiasis.
- Biliary colic is the most common indicator of a duct blockage or gallbladder infection.
- Cholecystitis, acute acalculous cholecystitis, choledocholithiasis and acute cholangitis are common gallbladder conditions requiring an emergent response.
- Gallstone attacks frequently resolve organically. Physicians often discharge these patients and recommend them to schedule a cholecystectomy. Recent research suggests that specific demographics may benefit from a more aggressive approach.

Gallstones

Gallstones, or calculi, are hard deposits of bile. Inadequate gallbladder emptying can lead to microscopic gallstone sediment, called biliary sludge. In the Western world, cholesterol stones account for 85% of gallstones. There are three types of gallstones.

1. Cholesterol stones: cholesterol-saturated bile
2. Black pigment stones: calcium (Ca) bilirubinate and inorganic Ca salts
3. Brown pigment stones: soft, greasy gallstones made of bilirubinate and fatty acids

Brown pigment stones result from infection, inflammation or parasitic infestation. Interestingly, gallstones grow 1 to 2 millimeters per year. Consequently, it can take up to 20 years for an individual to experience symptoms. **The most common symptom associated with gallstones is biliary colic.** The following characterize this type of pain:

- Sudden onset
- High intensity
- Persistent increase
- Gradual subsiding
- Located in the right upper quadrant (RUQ) of the abdomen

The quick onset and severe pain send many people rushing to the emergency department (ED). They often feel panicked and desperate for relief. Clinicians need to decipher which common gallbladder conditions merit an emergent response.

Cholelithiasis

Cholelithiasis is the term for gallstone formation. Stasis of biliary sludge can result in sediment accumulation. Sludge typically disappears organically. However, if it persists, gallstones can develop, causing biliary colic. Cholelithiasis can progress to severe complications, such as cholecystitis, biliary tract obstruction, infection and gallstone pancreatitis.

A cholecystectomy is a highly effective surgery for uncomplicated symptomatic cholelithiasis and gallbladder sludge with biliary pain. Approximately 85% of patients who undergo a cholecystectomy experience spontaneous resolution. However, 10% experience localized perforation or other complications. **Asymptomatic cholelithiasis does not require a cholecystectomy unless the following are true:**

- Gallstones greater than 0.3 cm
- Polyps greater than 0.1 cm
- Porcelain gallbladder

Porcelain gallbladder is associated with an increased risk of gallbladder cancer. Clinicians can also diagnose this condition with an ultrasonography.

Cholecystitis

Cholecystitis is an inflammation of the gallbladder wall. This condition is often the result of gallstones obstructing the cystic duct and typically develops over a couple of hours. More than 95% of people with acute cholecystitis have cholelithiasis.

Bile stagnancy activates the release of inflammatory enzymes, causing increased fluid secretions. Damaged mucosa further exacerbates the inflammation. The gallbladder becomes distended and releases prostaglandins. The result is worsening damage, enlargement, inflammation and ischemia. If left unchecked, this vicious, inflammatory cycle can lead to necrosis and perforation.

Like cholelithiasis, biliary colic is typical in cholecystitis. However, **pain often lasts more than six hours, and vomiting is common.** Physicians diagnose cholecystitis based on the presence of cholelithiasis and three of the following symptoms:

- RUQ pain
- Murphy sign
- Leukocytosis
- Fever

Physicians can also utilize abdominal ultrasonography to diagnose gallbladder inflammation. Because of the high possibility of complications, cholecystitis is a medical emergency.

Acute acalculous cholecystitis

Acalculous cholecystitis is a gallbladder infection without stones. This condition accounts for 5 to 10% of acute cholecystitis cholecystectomies. Patients present with a positive ultrasonographic Murphy sign and pericholecystic fluid. Some risk factors associated with acute acalculous cholecystitis include:

- Critical illness
- Circumstances predisposing bile stasis: extended fasting or total parenteral nutrition
- Shock
- Immune deficiency
- Vasculitis

In some situations, physicians identify an infecting organism, such as salmonella or cytomegalovirus. An unexplained fever or abdominal distention may be the only clue. If left untreated, this condition can quickly progress to gallbladder gangrene and perforation, leading to sepsis, shock and peritonitis. *Mortality rates for acute acalculous cholecystitis are approximately 65%.*

Choledocholithiasis

Choledocholithiasis occurs when stones form or accumulate in the common bile duct. Like other gallstones, choledocholithiasis can be asymptomatic or can lead to life-threatening complications. Endoscopic retrograde cholangiopancreatography (ERCP) is the recommended intervention for choledocholithiasis.

In some cases, physicians use laparoscopic cholecystectomy with bile duct exploration. In the United States, ERCP, followed by laparoscopic cholecystectomy, is the typical treatment. **Like other gallstone-related conditions, blockage or infection make choledocholithiasis a medical emergency.**

Acute cholangitis

Cholangitis is inflammation in bile ducts due to bacterial infection. Most cases are the result of bile duct stones. However, in some cases, tumors and other conditions cause cholangitis. Providers should suspect cholangitis in patients who present with Reynold's pentad:

1. Charcot's triad: Fever, jaundice and pain
2. Shock symptoms: Tachycardia and hypotension
3. Altered mental status

Patients with these symptoms have a 50% mortality rate and a high chance of morbidity. **Cholangitis' high risk for perforation and septic shock makes it a medical emergency.**

Can patients afford to postpone a cholecystectomy?

Gallbladder attacks come on quickly and often resolve organically. Consequently, patients are frequently discharged once the pain subsides. Approximately half of patients who go to the ED for gallbladder pain are sent home. They are instructed to manage the pain and schedule a cholecystectomy. However, 20% return to the ED within a month, requiring immediate intervention.

Healthy, young people and older patients with comorbidities are more likely to return and need emergent treatment. Individuals within this demographic may benefit from a more aggressive approach. Scientists are working on a decision tool to help physicians reduce emergent cholecystectomies.

Providing innovative surgical services

The pain stops people in their tracks. It sends many scrambling to the emergency department. Common gallbladder conditions are often excruciatingly painful. However, not all gallstones require an emergent response.

Our knowledgeable surgical team is here to help. **We are committed to *quality surgical services, innovative technology and compassionate care.*** As your partner in care, you gain access to invaluable resources and procedures. Contact us today to learn more or click the "Refer" button.

Resources

“Acute Cholecystitis.” Merck Manual Professional Edition, 2023, Acute Cholecystitis - Hepatic and Biliary Disorders - Merck Manual Professional Edition.

“Choledocholithiasis and Cholangitis.” Merck Manual Professional Edition, 2023, Choledocholithiasis and Cholangitis - Hepatic and Biliary Disorders - Merck Manual Professional Edition.

“Cholelithiasis.” Merck Manual Professional Edition, 2023, Cholelithiasis - Hepatic and Biliary Disorders - Merck Manual Professional Edition.

“The Treatment of Gallstone Disease.” NIH: National Library of Medicine, 2020, The Treatment of Gallstone Disease - PMC.

“Laparoscopic Cholecystectomy.” NIH: National Library of Medicine, 2020, Laparoscopic Cholecystectomy - StatPearls - NCBI Bookshelf.

“A Clinical Decision Tool for Selection of Patients With Symptomatic Cholelithiasis for Cholecystectomy Based on Reduction of Pain and a Pain-Free State Following Surgery.” JAMA Network: JAMA Surgery, 2021, A Clinical Decision Tool for Selection of Patients With Symptomatic Cholelithiasis for Cholecystectomy Based on Reduction of Pain and a Pain-Free State Following Surgery - JAMA Network.

“Emergency Gallbladder Surgery: Do You Need It, Or Can You Afford to Wait?” Mayo Clinic News Network, 2014, Emergency Gallbladder Surgery: Do You Need It, Or Can You Afford to Wait? - Mayo Clinic News Network.