

Gallstones and Biliary Colic

Biliary colic is the pain caused by gallstones.

The **gallbladder** is a pouch the size of a lime that sits under the liver and stores bile. **Bile** is a dark green liquid composed of water, bile salts, and cholesterol that helps with digestion of food and absorption of fat and fat-soluble nutrients and vitamins. The liver continuously makes bile, which is then stored in the gallbladder and released when a meal is ingested. Sometimes, the cholesterol in bile can deposit and form thick crystals (**sludge**) or stones (**gallstones**). Being older than 40 years, female, rapidly losing or gaining weight, at increased weight, or pregnant are some of the risk factors for gallstones. One in 5 people have gallstones, but only one-third of patients with gallstones will ever have pain from them. Among all patients with gallstones, only 1% to 3% each year have complications.

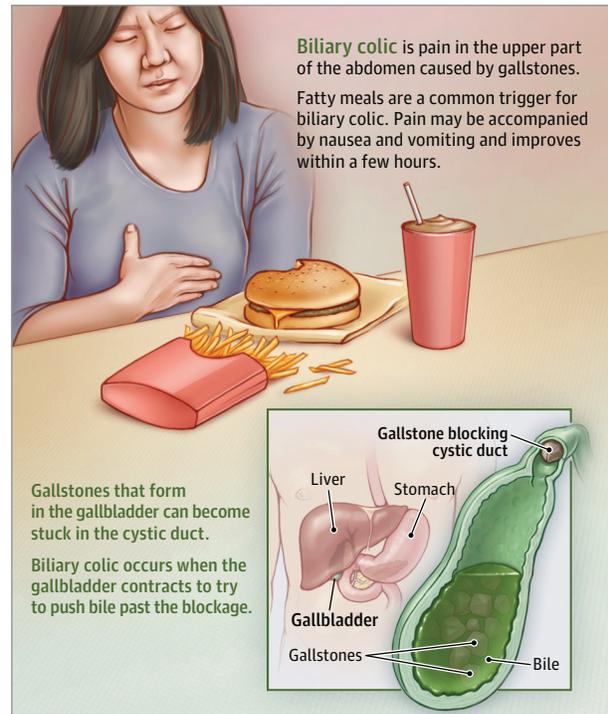
Symptoms and Diagnosis

When a meal is ingested, the gallbladder squeezes the bile into the small bowel to help digest fat. In this process, gallstones can get stuck in the thin duct (**cystic duct**) that connects the gallbladder to the main bile duct (**common bile duct**). As the gallbladder contracts to push the bile across the blockage, it can cause pain, nausea, and vomiting. This is a continuous pain felt mostly in the upper part of the abdomen, the back, or the right shoulder. If the stone is completely stuck and cannot be pushed into the small intestine, it can lead to gallbladder infection (**cholecystitis**), obstruction of the bile flow from the common bile duct (**choledocholithiasis**), or inflammation of the pancreas (**gallstone pancreatitis**). The type of complication depends on where exactly the stone is impacted.

The diagnosis is made by performing a physical examination, blood tests, and an ultrasound of the abdomen. Sometimes a radio-nuclide scan (called **HIDA scan**) may be necessary.

Treatment

Because most people with gallstones never have symptoms, there is no need for preventive interventions. Treatment is recommended for patients with symptoms of biliary colic or one of the above described complications. Although a medication called ursodiol may prevent the formation of new stones, it does not work well for treating existing stones. The only definitive treatment for gallstones is surgical removal of the entire gallbladder, also known as **cholecystectomy**. Extracting the individual stones while leaving the gallbladder in place does not work because the body will continue to make more stones. Since the gallbladder has no other function other than to store bile, removing it does not have any serious



consequences—the liver will continue to produce just as much bile as before surgery. Some patients may develop mild diarrhea that usually improves with time.

Warning Signs

Biliary colic appears within a couple of hours after eating a meal and improves within a few hours. Pain that is severe; accompanied by vomiting, fever, jaundice, or darkening of the urine; or does not go away after a few hours or after pain medications should prompt urgent medical evaluation.

FOR MORE INFORMATION

Mayo Clinic

www.mayoclinic.org/diseases-conditions/gallstones/symptoms-causes/syc-20354214

Authors: Ioana Baiu, MD, MPH; Mary T. Hawn, MD, MPH

Conflict of Interest Disclosures: The authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

Source: Festi D, Reggiani ML, Attili AF, et al. Natural history of gallstone disease: expectant management or active treatment? results from a population-based cohort study. *J Gastroenterol Hepatol.* 2010;25(4):719-724.

The JAMA Patient Page is a public service of *JAMA*. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your personal medical condition, *JAMA* suggests that you consult your physician. This page may be photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, call 312/464-0776.