Gallstones

What is the gallbladder and what does it do?

The gallbladder is a pouch that sits beside the liver and stores bile, a green-yellow fluid produced by the liver. After eating, the gallbladder releases bile into the small intestine where it helps to digest fats.

What are gallstones?

Gallstones are solid clumps of cholesterol crystals or pigment material that form in the gallbladder.

How are gallstones formed?

Some fatty components (such as cholesterol) are not easily dissolved in bile. When there is too much of these bile components, they precipitate and form solid crystals. These clump together forming gallstones -- also known as cholelithiasis.

Are all gallstones the same?

No. There are different types of gallstones, depending on what component of the bile has solidified. Also, the stones can vary in size ranging from tiny, sand-like particles less than one millimeter in diameter to pea-like particles more than four centimeters in diameter.

Almost 90 percent of gallstones are composed of cholesterol. The remainder consist of pigment material (bilirubin). The reason for the formation of pigment stones is not yet fully understood. However, some people with blood disorders such as sickle cell anemia are at risk for developing pigment stones.

Who is at risk for developing gallstones?

Gallstones occur in up to 20 percent of American women and 10 percent of men by the age of 60. Women between the ages of 20 and 60 are three times more likely to develop gallstones than men, and women who have had multiple pregnancies are also more likely to develop gallstones. The risk of gallstones increases with age and with obesity.

What symptoms are associated with gallstones?

Patients with symptomatic gallstones experience severe abdominal pain, and may suffer further complications such as jaundice (yellowing of the skin and eyes), and inflammation of the gallbladder, bile ducts, liver or pancreas. However, about 80 percent of people who have gallstones have no symptoms. These people are said to have so-called "silent" gallstones with no associated pain. Gas and indigestion are not specific symptoms of gallstones or gallbladder disease.

How are gallstones diagnosed?

Gallstones are usually diagnosed by ultrasound. Other procedures, such as x-rays, may also be used. Often silent gallstones are detected incidentally during the investigation of another problem.

How are gallstones treated?

Silent gallstones do not require treatment. Several gallstone therapies are available to people with symptomatic gallstones. There are two surgical methods to remove the gallbladder and its gallstones under general anaesthesia:

"Open" cholecystectomy is the classic surgical treatment for gallstones. This procedure requires an abdominal incision. The patient remains in the hospital for five to seven days to recover.

"Laparoscopic" cholecystectomy is a newer surgical treatment whereby the gallbladder is removed through a small abdominal incision using a lighted tube (called a laparoscope). The

surgeon views the entire procedure on a television monitor. Because there is no cutting through the muscle of the abdominal wall, the recovery period is much shorter
There are two medical therapies to get rid of gallstones, leaving the gallbladder intact: Oral Dissolution of gallstones by means of medication (ursodeoxycholic acid) involves no surgery and is therefore suitable in patients for whom surgery may be risky. The rate of success is variable (40-80 percent) and treatment usually requires at least six to twelve months. Recurrence is common. The best candidates are those with very small cholesterol gallstones and those who have mild symptoms.

Extracorporeal Biliary Lithotripsy is a procedure in which doctors find the gallstones using an ultrasound machine and position the patient so that high-energy shock waves focus on the stones. The waves break the gallstones into fragments, which either pass into the intestine or are dissolved with the help of medication. This treatment is performed in an outpatient setting; however, very few centers have this technique available.

Prevention

Because obesity is a risk factor, people should aim to maintain an ideal body weight. Otherwise there is no specific diet for gallstone disease. Very obese individuals who are attempting drastic weight reduction are at risk for developing gallstones. They should lose weight under medical supervision.

Information Courtesy of
The American College of Gastroenterology