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In the United States, it is estimated that over 4 million people have gallstones, and the great majority of these are asymptomatic. Approximately 500,000 cholecystectomies (removal of the gallbladder) are performed annually. Factors that are associated with the probability of gallstones include female gender, obesity, advancing age, and family history of gallstones.

Pathophysiology

The major component of most gallstones is cholesterol. A small minority of stones can be made of other materials. Gallbladder dysfunction of unknown cause leads to crystallization of cholesterol particles within the gallbladder bile. These crystals precipitate out and coalesce into stones. Symptoms develop when a gallstone enters the cystic, or gallbladder duct, or the common bile duct, leading to obstruction and causing cramping right upper quadrant abdominal pain that can radiate to the back and/or to the right shoulder and is associated with nausea and vomiting. As a result of the obstruction, the gallbladder can become inflamed. This is called cholecystitis. When this happens, the acute symptoms of pain, nausea and vomiting are usually associated with chills and fever.

Symptoms alone are not adequate to diagnose gallstones, however. Fatty food intolerance, belching, bloating, fullness and nausea may occur with gallstones but are equally as likely to occur with peptic ulcer disease, gastroesophageal reflux disease or irritable bowel syndrome.

Diagnosis

Ultrasonography of the gallbladder is the procedure of choice to diagnose gallstones. It has an accuracy of 95-98%.

Treatment

Asymptomatic gallstones. Gallstones that are asymptomatic are frequently discovered while a person is being evaluated for other problems. In this situation, most people opt not to have their gallstones treated given that definitive therapy is surgical.

Symptomatic gallstones. Even if attacks are mild and self-limited, cholecystectomy is indicated because of the increased risk of choledocholithiasis, or stones becoming stuck in the bile duct, with the resultant possibility of ascending cholangitis, or infection of the gallbladder.

Laparoscopic cholecystectomy, or scope-assisted removal of the gallbladder, is the procedure of choice. It is quite safe, and, in young healthy people, is frequently done as an outpatient. In today's world, open surgical removal of the gallbladder is done in less than 5% of cases.

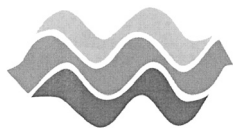
In people who are of an increased surgical risk due to other medical problems, cholesterol gallstones can be dissolved by giving bile acids orally for months to years. However, once treatment is completed, the gallstones can recur. When stones are being dissolved, there is always a risk that a stone might slip into the bile duct and lead to obstruction.

Removal of the gallbladder does not result in nutritional deficiencies, and dietary restrictions are not needed. The risk of developing diarrhea or dyspepsia following cholecystectomy is minimal and usually self-limited. When these problems do occur, they can generally be easily managed medically.

Gallstones remain a very common problem but in today's world, it is much less consequential to the patient than it once was.

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