

Gallstones

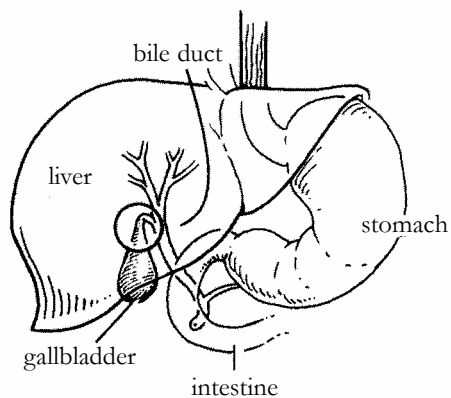
To understand the nature of gallstones, let's first look at the anatomy of the gallbladder and bile ducts. The gallbladder is a pear-shaped organ that sits under the liver in the right upper abdomen. The liver produces bile, a yellow liquid needed by the intestine to help digest the fat and oils we eat. Ducts, or tubes, carry bile from the liver to the gallbladder and on to the intestine. Bile is stored in the gallbladder, which contracts periodically to force the bile into the intestine.

How Do Gallstones Form?

Bile is composed of a variety of chemicals, including cholesterol, salts and certain pigments. The gallbladder absorbs water from the bile, causing it to thicken. In some people, tiny crystals form from the cholesterol and pigments. These crystals grow gradually until one, or even hundreds, of gallstones develop. About 80 percent of gallstones are comprised of cholesterol, while the remainder are composed of pigments, salts and other chemicals. The process whereby stones are formed is gradually becoming known to scientists. It is possible that in the future gallstones can be prevented.

Who Develops Gallstones?

It is well documented that in the Western world middle-aged, white females are most likely to develop



gallstones. However, by age 60, almost 30 percent of all men and women have gallstones. Asian and African people have a low incidence of gallstones, while certain American Indian tribes have almost a 100 percent incidence in females by middle age. Therefore, hereditary, age and diet are probably all important factors in developing gallstones. Practically anyone, at any age and under certain conditions, can develop stones.

Symptoms

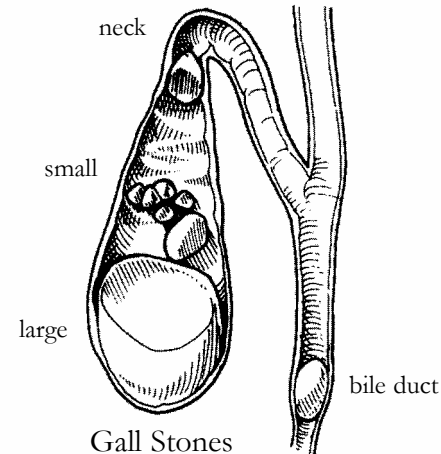
Many patients with gallstones never experience symptoms. However, as many as one-half of all gallstone patients experience one of the following:

Colic—Colic pain occurs after the meal when the gallbladder contracts. During this process, gallstones can lodge in the outlet neck of the gallbladder or even in the main bile duct to the intestine. This situation causes intermittent, often severe pain, which is experienced in the middle or right side of the upper abdomen, or even in the right shoulder and, indeed, under the breast bone. Colic attacks last from a few minutes to several hours.

Gallbladder Inflammation—Occasionally, the stones irritate the gallbladder to such an extent that active and acute inflammation results. This condition produces steady, dull and usually severe pain in the upper right abdomen. Often, the abdomen is tender, and fever is present. The patient knows there is a problem that needs medical attention.

Yellow Jaundice—When a gallstone becomes permanently lodged in the main bile duct, the bile flow is blocked and cannot reach the intestine. Bile, therefore, backs up in the liver and spills into the blood. The skin turns yellow, the urine dark and, perhaps, the stool white, since it is bile that colors the stool brown.

Other Symptoms—Gallstones are frequently blamed for causing indigestion, nausea and intolerance to fatty foods. However, it has been found that persons without gallstones experience these symptoms as frequently as those with stones. The physician cannot be certain that gallstones are causing these symptoms.



Diagnosis

The physician, and even the patient, may suspect the presence of gallstones simply from the patient's medical history. A sound wave test (ultrasound or sonography) provides a simple, quick method of diagnosis. The gallbladder x-ray is also very accurate in diagnosis. In this test, the patient takes an iodine dye by mouth and, on the next day when the dye is concentrated in the gallbladder, has x-rays taken. At times more extensive testing is needed.

Treatment

It is recommended that patients with colic pain avoid large meals and, especially, fatty foods, either animal or vegetable. These may cause colic pain to return. If the patient is overweight, significant weight loss is recommended as a long-term guideline. However, effective treatment usually involves one of the following choices:

- 1. Watchful waiting**—Because many patients with gallstones never develop symptoms, watchful waiting may be indicated. In fact it is now recommended that patients without symptoms need no treatment at all.

2. Laparoscopic surgery—This technique has rapidly become the treatment of choice for many gallstone patients. A tiny incision is made through the navel. A microvideo tube is then inserted through it. The tube is similar to that used for tubal ligation in females. Three other needle-like instruments are inserted through the upper abdomen. These are used to pick up and dissect free the gallbladder which, together with stones, is teased out of the small laparoscope incision. With this technique, patients usually can go home the same or next day.

3. General surgery—In the past general surgery was the treatment of choice for symptomatic gallstones. Laparoscopic surgery is now possible in most patients. With general surgery there is a 3-6 inch incision in the right upper abdomen and a 3-6 day hospital stay. Still, there are instances where this type of surgery is necessary. The body can function quite well without a gallbladder although diarrhea is at times a troublesome problem.

4. Gallstone dissolving—Drugs are now available that dissolve cholesterol gallstones. This treatment, however, is not appropriate for every patient. For example, the gallbladder must be able to concentrate the medicine inside it. In addition, the stones should be free floating and not too large. Complete dissolving of gallstones can take from six months to two years, with maintenance treatment sometimes required afterward.

5. Shock wave therapy (lithotripsy)—This technique can be successful in shattering a few larger stones. Powerful shock waves fragment the stones into small pieces over a period of 30-40 minutes. These fragments then can drain out of the gallbladder or be dissolved by drugs.

Together, the patient and physician must choose the appropriate course of treatment. For each patient, the physician assesses the gallbladder symptoms, the patient's age and other medical and non-medical factors. In consultation with the patient, the physician recommends a plan of action.

In Summary...

Gallstones are a common disorder and often cause no symptoms. They can, however, cause severe pain and serious problems which, when discovered, require a well-developed plan of action. The goal should be to avoid emergency complications and surgery. Depending on the patient's condition, treatment usually involves either dissolving the stones, surgery, laparoscopic surgery, lithotripsy, or merely waiting. By consulting with the physician, the right treatment choice can be made.

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