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Gallstones (page 1 of 4)

What are gallstones?

Gall is an old-fashioned word for what we now call bile. Usually bile is a liquid but gallstones are small solid lumps that can form in bile, giving rise to a variety of symptoms.

Bile is made in the liver but the body stores it in a small bag just under the liver called the gall bladder. When we eat, the gall bladder empties the bile along a tube (called the bile duct) that leads to the intestines. Once there, the bile mixes with the food that we have eaten to help with digestion.

Why do gallstones form?

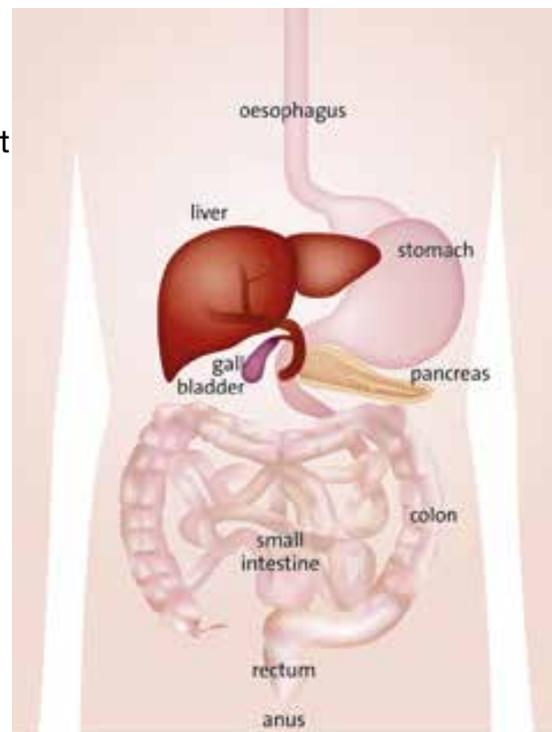
Gallstones start as tiny crystals, which grow to resemble gravel, eventually looking like stones. Sometimes, there is just a single stone; often there are several and it is not unknown for the gallbladder to contain dozens of small stones.

Bile is a mixture of different chemicals. When the bile can no longer hold these chemicals in a liquid solution, gallstones start to form. Gallstones most frequently contain cholesterol.

Cholesterol is a fatty substance in our diet that can cause disease in arteries. Cholesterol may be bad for arteries but the liver finds it very useful. Bile contains lots of cholesterol and indeed it is an important way for the body to clear itself of any excess. Bile may contain so much cholesterol that when it is stored in the gall bladder the cholesterol may separate out as little crystals, which may lump together to form a gallstone.

Who gets gallstones?

Gallstones are very common, but most people who have them do not know. By the age of 60 nearly a quarter of women (and a rather smaller number of men) will have developed some gallstones. Gallstones are commoner in women, especially those who have had children and who are overweight. Nowadays the ages at which gallstones may give symptoms has changed. In recent years, doctors have seen gallstones in much younger women,



and sometimes even teenagers, possibly as a result of changes in our diet over the last two generations.

Do they always cause symptoms?

Although gallstones may give rise to a number of symptoms, they can often be detected in someone having x-rays or ultrasound scans for a completely different reason and without any symptoms of gall stones.

What symptoms may gallstones cause?

It is not always clear why gallstones should cause problems for one person yet another can be quite unaware of their presence. Gallstones usually only give rise to symptoms if they move from the gall bladder into one of the tubes (known as bile ducts) that lead from the gall bladder to the intestine. If they get stuck in the narrow neck of the gall bladder this can cause pain which can be quite severe. This type of pain is called biliary colic. Alternatively, the stones may cause inflammation in the wall of the gall bladder (known as cholecystitis).

If a stone gets into the main duct leading from the liver into the intestine it can give rise not only to pain from biliary colic but it may block the flow of bile from the liver altogether which causes jaundice (see below). By far the commonest symptom caused by gallstones is biliary colic.

What is biliary colic?

Biliary colic is a pain that is felt in the top of the stomach, either in the middle or just under the ribs on the right hand side. It is usually a continuous pain but may come in waves. It is usually rather more severe than 'indigestion' and it is not uncommon for patients to feel so uncomfortable that they may seek medical advice. The pain usually lasts for a few hours and then goes away.

Occasionally patients may feel sick or may vomit. The pain often follows a meal and may be noticed most often in the evenings – but one of the most irritating features of biliary colic is that it may occur at any time.

What is jaundice?

Jaundice (sometimes called yellow jaundice) is caused because the body is unable to get rid of bilirubin, which is a yellow chemical that occurs normally in the body. Bilirubin comes from red blood cells that have reached the end of their natural life, and it is one of the body's waste products that the liver has to deal with. The liver gets rid of bilirubin by mixing it with bile. So, if a gallstone blocks the main duct leading from the liver into the intestine, bilirubin can't get out of the body and a yellow colour can be seen in the eyes and the skin. Some of the pigment does escape in the urine making it look a very dark colour.

What might make my doctor suspect that I have gallstones?

Your doctor might suspect gallstones if you have been getting pains anywhere round the top of your abdomen, particularly if these have been lasting for only a short time and coming occasionally. If you develop jaundice as well, your doctor would feel that it was very probable

you had gallstones. You would be examined to see if there was any soreness in the top of your abdomen, and look at the whites of your eyes to see if there is any sign of jaundice.

What tests might I have?

Your doctor would probably arrange for you to have some blood tests to look for signs of inflammation or jaundice. The best test for gallstones is an ultrasound scan. A little probe is moved over the upper abdomen in the region of the liver and gall bladder, and pictures of the organs are displayed on a screen. It is usually very easy to spot gallstones.

Sometimes when gallstones are deep in the abdomen or hidden behind gas in the intestine the ultrasound scan does not give a clear result and other tests may be needed.

How are gallstones treated?

- * if they are not causing any symptoms, it may not be necessary to have any treatment at all. Even if you have a single attack of pain from gallstones, there may be no further trouble for many years, if ever. This usually means that a single stone has travelled all the way out of the gall bladder, down the bile duct, into the intestine and been passed
- * gallstones are softer than kidney stones, so cannot be got rid of by fragmentation in the same way that kidney stones (which are hard and brittle) can. This means that gallstones have to be physically removed. This is usually done in one of two ways.
 - * if the gallstones are all contained in the gall bladder, the simplest method is to have a small operation to remove the gall bladder and the stones within it. Nowadays, these operations can often be done by keyhole surgery, which means that patients recover from the operation within just a day or two, a huge improvement from the much larger operations that used to be necessary for gallstones in the past
 - * the other way of dealing with gallstones is by endoscopy, which is used for stones that have found their way into the common bile duct and caused a blockage there. Such stones can often be treated with ERCP (see below)
 - * occasionally doctors might recommend other sorts of treatment. Taking bile acids by mouth has largely gone out of vogue because treatment was lengthy, success rates were modest and recurrence of gallstones was frequent. In a very small number of patients, gallstones can be broken up by using shock waves. For most people, surgery is currently the best option for treating gallstones.

What if I don't want surgery?

If you have had episodes of pain thought by your doctor to be due to gallstones, it is likely that you will be offered surgery unless you are so unfit that an operation would be too risky. If you do not like the idea of surgery, you might choose to wait and see. It is likely you will continue to have bouts of pain but most people with gallstones do not develop other complications. A small number of people become jaundiced but this can usually be treated as described earlier. Rarely, a gallstone can block the pancreas. This leads to a potentially serious complication called acute pancreatitis. If you choose not to have surgery, do be aware of the small risk that you are running.

What is ERCP?

ERCP (as it is usually known) means Endoscopic Retrograde Cholangio-Pancreatography, which is a complicated way of describing a method in which gallstones may be removed with an endoscope so that surgery is unnecessary. A flexible endoscope is passed through the mouth, down to the stomach to reach the opening of the bile duct into the intestine.

A tiny tube is then passed through the endoscope and inserted into the lower end of the bile duct. Dye is squirted through this tube so that an x-ray picture of the duct can be taken. The dye is squirted backwards (retrograde) up the duct and produces a picture of the bile duct (a cholangiogram) and also, if required, a picture of the pancreatic duct (pancreatogram), hence ERCP.

If the cholangiogram confirms the presence of a stone in the duct this can either be removed or more often the bottom end of the duct can be enlarged so that the stone can pass out naturally. It is also possible to put little drainage tubes (stents) past the stones so that the bile can then, flow freely again.

These and similar techniques have the big advantage that an operation can be avoided, which is particularly useful in older or frailer patients.

Can people manage without a gall bladder?

Yes. If there is no gall bladder, bile just drips continuously into the intestine. There is no problem with digestion and most people do not have any after-effects from losing their gall bladder. A minority of people may still have symptoms and may have to alter their diets slightly.

What research is needed?

We need to know why gallstones have become more common in recent years. Although keyhole surgery has been a huge advance, like all surgical procedures, there can be complications. It would be helpful to find a non-surgical method of treating gall stones.

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