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"BENIGN OR INCIDENTAL LIVER LESIONS"

LUMPS IN THE LIVER THAT ARE NOT CANCER

THIS INFORMATION REFLECTS THE PERSONAL PRACTICE OF DR KELLEE SLATER ONLY AND DOES NOT SUBSTITUTE FOR DISCUSSION WITH YOUR SURGEON

LUMPS IN THE LIVER

Lumps in the liver are usually found when you have having an ultrasound or CT for another reason. Hearing someone say that there is something in the liver can be scary. Lots of people automatically equate this to cancer. This, however, is rarely the case. Non-cancerous or benign liver lumps are very common, so most of the time there is nothing to worry about at all. The most important thing is that you are checked out by a doctor that is very familiar with looking at lumps in the liver. This is usually done by a liver surgeon (hepatobiliary surgeon) and x-ray doctor (radiologist) working together.

DOCTOR WORDS MADE SIMPLE

Doctors use a lot of words that you may not be familiar with. Here are a few of them explained.

Lesion/Lump/Mass: these terms are used to describe a mass of tissue anywhere in the body that is not normally there. They look different to the surrounding tissue and this word is used when we don't know what something is. i.e. it may or may not be cancer - we are not sure yet.

Tumour or neoplasm: similar to lesion, the word tumour is used to describe both cancerous and non-cancerous lumps.

Cyst: a cyst is a sac filled with fluid. A cyst is usually not cancer, but there are some cysts that require treatment.

Benign: means that the lump will grow in a local area only. It may become very large but it will not spread to other parts of the body. A benign lump is rarely fatal, but may need to be removed if it causes harmful compression of nearby organs. Benign lumps tend to push rather than grow into surrounding tissues.

Cancer/ carcinoma/ malignant: these words describe an abnormal growth of cells that are able to both grow larger in the local area and have the capability to spread (metastasize) to other parts of the body. Without treatment cancer is likely to be fatal.

Hamartoma: This is a growth of tissue due a malformation of a blood vessel. It is not a cancer, tumour or neoplasm, but can look like one. It is not harmful. An example of a hamartoma is a port wine birthmark on the skin.

WHAT TYPES OF BENIGN LUMPS ARE THERE?

There are five major types of benign liver lumps. There may be one lump or more. It is possible to have a combination of different types of liver lesions present in the same person.

Cysts

A cyst is a name for a round fluid filled sac. There are several types of cysts that can occur in the liver.

1. Simple cysts: these are exceptionally common – about 1/10 people may have one cyst or dozens. They are generally not harmful. Very rarely, they may grow to a very large size and contain a litre or more of watery fluid. Even more rarely, they may become infected. They very rarely burst, but they may bleed internally if they are very large
2. Hydatid cysts: these are uncommon cysts that are caused by a sheep parasite that is normally passed to humans by dogs. People at risk of having a hydatid cyst have usually grown up in a farming environment. The presence of a Hydatid cyst can be checked on a blood test and have a very characteristic appearance on a scan.
3. Mucous filled cyst: these are reasonably rare cysts that contain thick mucous. They are usually surgically removed because there is a risk of them developing cancer.
4. Polycystic liver disease: this is a genetic disorder that may also be associated with cysts in the pancreas or kidney and kidney failure. The liver develops thousands of cysts that may grow to a massive size.

Haemangioma

Sometimes called cavernous haemangiomas, these are the most common non-cancerous growths that occur in the liver. Up to 10% of people will have one. They are more common in women and may grow a little in pregnancy. This does not appear to be harmful.

Haemangiomas can be single or multiple, big or small. They grow in some people, but they never rupture, burst, bleed or become cancerous. Occasionally, haemangiomas can become very large (giant) and patients may present with symptoms of fullness or “feel pregnant”. When they are very large, haemangiomas will compress the surrounding liver tissue. They never affect how the liver functions.

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Focal Nodular Hyperplasia (FNH for short)

FNHs are also very common (1/100 people) non-cancerous growths in the liver. Again, they are more common in women. There can be one or many. They are hamartomas or birthmarks. They rarely grow. We used to remove these quite frequently because scans could not tell the difference between these lumps and more dangerous ones. Now, with MRI, FNHs are rarely removed. The oral contraceptive pill does not play a role in these lesions, but they occasionally go away after menopause.

Adenoma

These are the ones we really want to know about as they can cause some issues. Fortunately, they are the rarest type of liver lump. They occur in about 1 in 3 million people and are almost always in women. 30% of women with adenoma have more than one. There seems to be a strong link to oestrogen, so the oral contraceptive pill and pregnancy are risk factors for growing an adenoma. Sometimes adenomas go away after stopping the oral contraceptive pill.

Obesity also seems to play a role in the development of adenomas. Fat plays a role in oestrogen production and increases the risk of adenomas.

Focal Fat

Many Australians carry too much weight and fat does not just accumulate in our thighs, it collects in the liver too. In some people it is distributed unevenly throughout the liver and these pools of fat can look like a tumour. Too much fat in the liver can be really bad and lead to cirrhosis (permanent liver damage).

DO LUMPS IN THE LIVER CAUSE PAIN OR SYMPTOMS?

Generally, you will be completely unaware there is a lump in your liver until it is found on a scan you are having for another reason. They do not cause pain. There are no pain nerves in the liver, so benign lesions are rarely painful. The only exception to this is if a liver lump has bled. This is uncommon and the pain is usually sudden and severe, causing you to seek medical help.

Sometimes, benign liver lesion can be very big. If they are attached to the edge of the liver, they can hang and move around like the pendulum of a bell. You may feel a mobile lump in your abdomen or there may be a constant feeling of fullness, not unlike being pregnant. If the lesion is large and rests on the stomach you may feel full quite soon after eating.

WHAT TYPE OF LUMP DO I HAVE AND WHY TO WE NEED TO KNOW?

It is important to discover what type of lump you have in your liver because if it is a simple cyst, haemangioma or FNH, there is nothing to worry about. Adenomas however need to be watched into the future and may need treatment. Fatty liver also needs to be addressed with weight loss before permanent damage is done. Hydatid and mucinous cysts usually need treatment with surgery.

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WHAT IS THE BEST TEST TO HAVE DONE TO MAKE A DIAGNOSIS?

Most patients will have had an ultrasound or CT scan before they come to see the specialist liver surgeon. A CT scan done without dye or contrast is not useful to diagnose liver lesions. Ultrasound and CT with contrast are good at saying something is there, but the best test we have at the moment is a scan called an MRI. This must be done with a special dye called Primovist injected into your veins with precise timing. This should be done with an xray company specialising in liver lesions. In private, this test will cost approximately $600 out of pocket.

An MRI is a scan where your whole body passes into a tight tunnel. Many people find it claustrophobic. It is also very noisy. The MRI staff are very good at putting your mind at ease.

WHAT DOES MY MRI REPORT MEAN?

An MRI can tell the difference between the types of benign liver lesions with reasonable accuracy. Occasionally, however, the MRI cannot say absolutely what the lump is. This is where the expertise of the surgeon and the radiologist really comes in to play. We may decide to watch the lump closely with another scan in a couple of months. We might decide to do a biopsy or it may be that surgery is required. This is quite uncommon.

MRI can be very difficult to interpret if the patient has a fatty liver. We may choose to follow things a little more closely if this is the case.

HOW OFTEN TO I NEED A SCAN?

Generally if you have a obvious cyst, haemangioma or FNH you will not need ongoing scans to monitor. These lumps are not harmful. If there is some doubt about the diagnosis between FNH and adenoma, you will have a follow up scan 4-6 months later to monitor the lump and assess any growth. There are no fixed rules for this.

DO I NEED A BIOPSY?

A biopsy is usually done in the xray department with a thin needle passed through the skin into the lump. Some cells are drawn out and examined under the microscope. Because MRI scans are so good, a biopsy is rarely required. Biopsy carries a risk of bleeding and may not always get enough cells to make a firm diagnosis. Occasionally, when MRI cannot be sure what a liver lump is, we will order a biopsy. This decision needs to made carefully by an experienced liver surgeon.

DO LUMPS IN THE LIVER BURST OR RUPTURE?

Haemangiomas, cysts and FNHs do not rupture. They are also not at anymore risk of rupturing during an accident or fall than the rest of your liver. Cysts may bleed, but this is rarely life threatening.

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Adenomas, however, carry some risk of spontaneous rupture and bleeding. The risk of rupture seems to increase during pregnancy, whilst on the oral contraceptive pill and when the adenoma is more than 5 centimetres in size. A ruptured adenoma can be life threatening but very treatable if dealt with quickly. The symptoms of a ruptured adenoma are very severe pain in the right side of the abdomen or shoulder that does not go away.

CAN MY LUMP "TURN CANCEROUS"?

Haemangiomas, simple cysts and FNHs never turn into cancer and provided the diagnosis has been made correctly, you do not need to worry about this.

What happens to adenomas is controversial. Very occasionally certain types of adenomas may transform into cancer. This is the exception. But adenomas that are not removed need to be followed up with scans periodically for a long time.

The diagnosis of adenoma in a man is very rare. If a scan suggests a man has an adenoma, this should be treated with suspicion of it being a cancer and surgery should be considered.

Mucinous cysts occasionally will become cancerous.

IS IT OK TO TAKE THE PILL, HAVE A BABY OR TAKE HRT WHEN I HAVE A BENIGN LIVER LESION?

If you have a simple cyst, haemangioma or FNH, you may continue to take the pill if you wish. There is no link between these lumps and hormones. You many have as many pregnancies as you wish and these lumps are in no danger.

Adenomas, however, are more difficult. When an adenoma is discovered you will be asked to stop the oral contraceptive pill. If needed you can see a gynaecologist or your GP for alternative contraception. The Mirena® and progesterone based pills are good alternatives.

Adenomas are at risk of rapid growth and rupture during pregnancy. This can be life threatening to mother and baby as the diagnosis is often delayed. If you are planning on getting pregnant, we will discuss this at length. In general, if there is a small adenoma present, there is no reason to avoid pregnancy but you will need to be monitored closely for growth of the lump during and after delivery. The fact that you know an adenoma is present means you can seek help during pregnancy early and know that if you get pain, the adenoma needs to be looked at for rupture. If the adenoma is >5cm there may be a case to remove it with surgery prior to pregnancy. If you have an adenoma removed with surgery, you are also at risk to develop a new one during pregnancy or if you resume the oral contraceptive pill.

WHY CAN FAT IN MY LIVER BE BAD?

At certain times of life like pregnancy and illness, fat in the liver is normal. As Australians are becoming more obese, fat accumulating in the liver is quickly turning into a severe

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problem that in some patients leads to cirrhosis. Cirrhosis is severe scarring in the liver that leads to malfunction of the liver and cancer. It is not just alcoholics who get cirrhosis. Overweight patients get it too. This is difficult for people to understand, as there are usually no signs of liver disease until the cirrhosis is quite bad. Fatty liver disease is more common if you are overweight, diabetic, have high cholesterol or drink alcohol. There also seem to be genetic factors involved.

The problem is as simple to fix as loosing weight – not so simple I realise, however, weight loss will cure fatty liver disease in many people, if it is not too advanced. Adenomas seem to be associated with being overweight and certainly adenomas tend to shrink or disappear with weight loss.

WHAT TREATMENT WILL I NEED?

Simple cyst

The vast majority of simple cysts need no treatment and no follow up. Massive cysts that are causing symptoms of fullness can be treated. Sometimes, fluid can be sucked out of the cyst with a fine needle to see if it helps the symptoms. The cyst will always refill, but it is a good test to see if surgery will help. The two main surgical procedures offered are:

1. Keyhole deroofing of the cyst: the front wall of the cyst is removed. Parts of the cyst wall will still be there, but this is less risky than removing the whole cyst. The problem with doing this, is the cyst has a high chance of reforming.
2. Removal of the section of the liver containing the cyst: this is major liver surgery and the decision to do this is not easy. Liver surgery is performed when there are things about the cyst that suggest it may not be simple i.e. nodules in the wall of the cyst or a complex appearance of the cyst on a scan.

Hydatid cysts

Hydatid cysts often require removal with major liver surgery after a course of special antibiotics to partially kill the parasite before surgery.

Mucinous cysts

Mucinous cysts usually require major liver surgery.

Polycystic livers

Patients with polycystic liver disease can be very difficult to treat. The cysts may grow to a massive size, making the patient very uncomfortable. Polycystic liver disease, however, never causes liver failure. If most of the cysts are confined to one side of the liver, removing that section of the liver may sometimes help the symptoms. Very severe polycystic liver disease may need a liver transplant. This is uncommon.

Haemangioma

When the diagnosis of haemangioma is confirmed, no treatment is required. You do not need to have follow up scans. Very rarely, we surgically remove haemangiomas if they

become extremely large and cause symptoms. Occasionally, haemangiomas may clot causing pain and this may be a reason to remove them.

Focal Nodular Hyperplasia

FNHs also do not need any treatment unless they are causing symptoms. They also do not need long term follow up with scans.

Adenoma

The treatment of an adenoma is not so straight forward. If you are taking the oral contraceptive pill, you will be asked to stop it. In many women, most adenomas will shrink or even go away several months after stopping the pill. After a period of time – usually three to four months, you will have another scan. If the adenoma has grown or is still larger than 5cm after this time off hormones, it may be that you will be considered for surgery to remove this lump. This is a big undertaking usually requiring major liver surgery.

It may also be possible to block the blood supply to the adenoma (embolisation) and make it smaller or burn it with a hot needle (radiofrequency ablation).

If you present with a ruptured adenoma, you may require major liver surgery or it may be possible to cut off the blood supply to the adenoma by passing a long tube via a blood vessel in the groin.

If you are a male with an adenoma you will usually be scheduled for surgery because of the significant risk of cancer.

ABOUT YOUR SURGEON

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2006 – Present	Staff Surgeon Hepatopancreatic-Biliary-Liver Transplant Princess Alexandra Hospital and Greenslopes Private Hospital Brisbane, Queensland
2004 – 2006	Hepatobiliary and Liver Transplant Fellowship Princess Alexandra Hospital Brisbane, Queensland
2002 – 2004	Liver and Kidney Transplant Fellowship University of Colorado Hospital Denver, Colorado, United States of America
2002	Fellow of the Royal Australian College of Surgeons (FRACS) General Surgery
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