Patient information

Laparoscopic Bile Diversion Procedure

General Surgery – Aintree Hospital

What is the surgery for?

Patients, known to have severe bile gastritis causing significant symptoms of abdominal pain and nausea and not responding to life-style changes or medical treatment, can be considered for this complex surgery following specialist assessment for suitability. Please review this document along with the leaflet for Bile Gastritis.

Bile reflux or Bile Gastritis:

Bile gastritis is a stomach inflammation that starts when bile produced by the liver leaks into the stomach. Over time, the bile erodes the stomach lining and can even reach the esophagus, leading to heartburn.

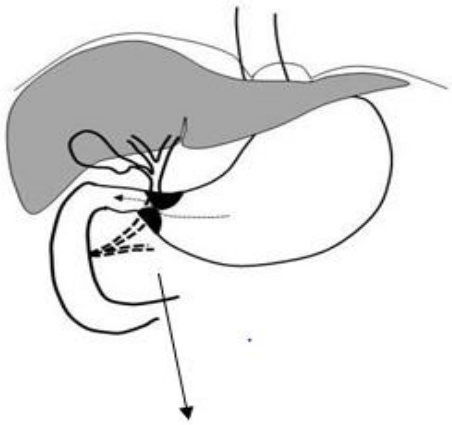
Bile gastritis is rare, but people who have had their gallbladder removed or have had stomach or weight-loss surgery are at risk for it.

This is because the procedures can disrupt how the body stores bile, making it more likely the fluid will surface in places that it doesn't belong.

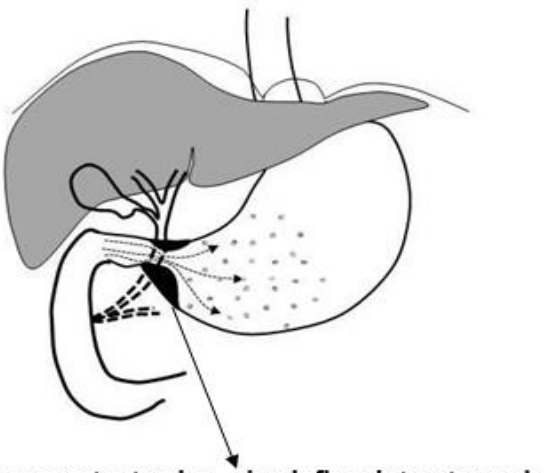
Facts about bile gastritis

Bile is a greenish yellow fluid produced by the liver to break down fat, remove toxic materials, and aid in digestion. After produced from liver some of it is stored in the gallbladder and released when you eat food containing fat.

In healthy adults, the fluid moves from liver and gall bladder through one of two tubes (called the bile duct) to the top part of the small bowel (called duodenum). In the small bowel the bile is essential for digestion of fatty contents of the food eaten (butter, cheese, oils etc).



Normal valve – flow out of stomach



Incompetent valve – back-flow into stomach causing inflammation of lining

But bile in the small intestine can wash back into the stomach, a condition called reflux. Bile can eat away at the stomach's mucous lining, causing redness and irritation, a condition commonly called gastritis. Over time, this can cause severe pain and constant nausea.

The cause of bile gastritis is often a damaged or incompetent pyloric valve, the ring between the stomach and small bowel. The valve is meant to open intermittently so that food from stomach moves to the small intestine gradually. When the valve stays open too much, then bile from bowel can leak back (reflux) into the stomach and causes pain.

What are the Symptoms and Signs of Gastritis in general?

1. Many people with gastritis experience no symptoms at all. The diagnosis is made during endoscopic (camera) examination of stomach for other causes/symptoms.
2. Nausea (often constant), along with abdominal pain are hallmark or typical symptoms of bile gastritis in most patients.
3. Abdominal pain may be dull, vague, burning, aching, gnawing, sore, or sharp. Pain is usually located in the upper central portion of the abdomen, but it may occur anywhere from the upper left portion of the abdomen around to the back.
4. Other signs and symptoms may include:

- Vomiting (if present, may be clear, green or yellow, blood-streaked, or completely bloody, depending on the severity of the stomach inflammation).
- Belching (if present, usually does not relieve the pain much).
- Bloating.
- Feeling full after small amount of food.

How is Bile Gastritis Diagnosed?

The diagnosis of Bile Gastritis is not always easy from symptoms. Only endoscopy (camera examination) of stomach with biopsies may give clues to the diagnosis.

Endoscopy - to check for stomach lining inflammation and mucous erosion. This may also show that the lower sphincter (pylorus) of stomach is constantly open suggesting incompetence. This incompetence allows bile from bowel to come back into the stomach and burn the stomach lining. Often there is bile in stomach or seen to actively come into stomach during the endoscopy.

Stomach biopsy – from lower stomach suggests chemical or reflux gastritis.

How is Bile Gastritis Treated

Please refer to leaflet titled ‘Bile Gastritis’ for details on non-surgical treatment.

1.Coping Strategies for Symptoms of Bile Gastritis (Life style changes)

- Please discuss special diets and relevance to your symptoms with the specialist.
- Keeping a Food/Symptoms Diary.

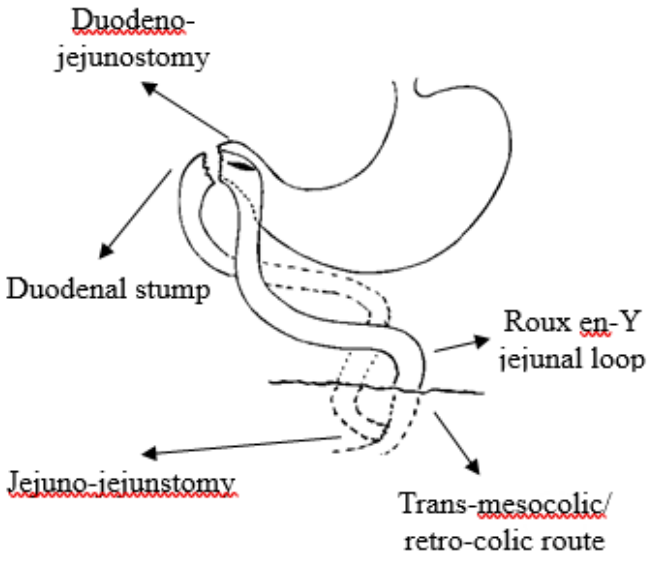
2.Symptomatic and Medical Treatment

See ‘Bile Gastritis’ leaflet for details on advice and medications.

3. Surgical Treamtment:

Generally, surgery is not recommended for this condition. This is because the surgery proposed to divert bile away from stomach is complicated and may not necessarily help. This surgery (bile diversion surgery) may be considered as a last resort for management of bile gastritis.

Your specialist is best placed to advise you on appropriate treatment. If the decision is made to perform surgery – following are the details, which are best understood when discussed with the specialist performing the surgery.



This procedure is done laparoscopically. The procedure will be explained in details by your consultant. Terms used in the picture are medical but please ask the consultant for explanation if you are interested in the technical details.

Why is laparoscopic or 'key-hole' surgery better?

Laparoscopic surgery has many advantages over traditional surgery. Less pain, less scarring and early recovery time are two of the most significant advantages of this procedure. Hospital stays are reduced and total recovery time is cut in half. The risk of infection is also lower because of the smaller incisions.

Laparoscopic surgery usually requires only a shorter hospital stay instead as compared to traditional open surgery.

How long will I have to stay in hospital? When can I resume normal activities?

This particular laparoscopic surgery often requires a hospital stay of about three-five days. You should be able to return to normal activities between one and two weeks, compared with four to six weeks for traditional surgery.

Can I eat and drink before surgery?

You will need to fast avoiding all food and drink for up to six hours before the procedure, as it will be done under general anaesthetic. Your standard medications for the heart or blood pressure can be taken with a few sips of water at your usual time or early morning, unless advised during pre-operative assessment.

If you are on **aspirin** or **clopidogrel** (blood thinning medications), you will need to stop as per doctor's advice given at time of discussion of procedure in the clinic, anaesthetic assessment or pre-operative checkup (usually seven days at least).

If you are on **warfarin** (blood thinning medication) or any other special/new type of blood thinner, this will definitely be stopped, at least four days before procedure. An alternative may or may not be used depending on your underlying problem for which warfarin is being used.

What complications can occur?

The healthcare team will try and make your operation as safe as possible. However, some complications can happen, some of these can be serious and can even cause death. You should ask your doctor if there is anything you don't understand. Your doctor may be able to tell you if your risk of complications is higher or lower for you. Generally the consultant will discuss the issues around common complications only. There are uncommon and/or serious complications that you may wish to know about and you can ask questions about these and get details if you so wish. If you are worried about any particular complication-s, that you know about or have read about (elsewhere or as mentioned in this leaflet), please ask the consultant/surgeon who will be performing your operation.

The complications fall into three categories:

1. Complications from anaesthesia.
2. General complications of any operation.
3. Specific complications for this operation.

1 Complications from anaesthesia

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

2 General complications of any operation

- **Pain –** It is normal to have pain after surgery. The healthcare team will try and reduce your pain by giving you medication to control it. It is important you take your medication as advised so that you can move about and cough freely. After a laparoscopy, it is common to feel bloated and to have pain in your shoulders because a small amount of gas may be left under your diaphragm. Your body will usually absorb the gas naturally over the next 24 hours, which will ease the symptoms. You may also notice that you have a slightly sore throat. This is due to the 'breathing' tube which is placed in your throat during surgery and should subside in a day or two.
- **Bleeding –** During or after surgery. This occasionally requires blood transfusions or further surgery.
- **Infection in the surgical wound –** This may require treatment with antibiotics or occasionally further surgery.
- **Developing a hernia in the scar –** If you have open surgery, the deep muscle layers may fail to heal causing an incisional hernia. This appears as a bulge or rupture and is it causes problems may require a further operation.
- **Blood clots –** In the legs (deep vein thrombosis). This can occasionally move through the bloodstream to the lungs causing a pulmonary embolism (PE), making it difficult for you to breathe. The nurses will encourage you to mobilise soon after surgery and may give you injections to reduce the risk of blood clots.

3 Specific complications for this operation

A. Laparoscopic complications

- **Damage to internal organs –** When placing instruments into the abdomen (risk 1 in 1,000). The risk is higher in people who have previously had surgery to the abdomen. If an injury does happen, you may require open surgery, which involves a much larger cut. About one in three of these injuries is not obvious until after surgery, so if you have been in pain which does not improve each day after surgery, you should let your doctor know.
- **Developing a hernia near one of the cuts used to insert the ports –** (Risk 2 in 10,000). Your surgeon will try and reduce this risk by using small ports (less than 10mm in diameter) where possible or, if they need to use larger ports, using deeper stitching techniques to close the cuts.
- **Surgical emphysema –** (Crackling sensation in the skin due to trapped gas), which settles quickly and is not serious.

B. Bile Diversion Procedure complications

Anastomotic leak or leak from the joins – It is possible that the joins that are required to alter the course of bile away from stomach ('bile diversion') can leak, causing sepsis or severe infection. This is very rare.

- But if it happens, treatment depends on severity of this complication. If it is minimal, it is treated with antibiotics, rest to the bowel (no eating or drinking for a few days) with intravenous support given to provide hydration and nutrition (water and food support - as you may not be able to drink water or eat food). If the leakage is serious, then along with antibiotics and support mentioned above, you may need re-operation.
- **Injury to organs –** It is possible, but extremely rare for injury to occur to the oesophagus, stomach, spleen, liver or bowel, which are in the field of surgery.
- **Diarrhoea –** This can sometimes happen as there is going to be re-arrangement of bowel loops inside along with bile diversion.
- **Internal hernia –** This is an uncommon but know complication.

Some expected side effects of the operation which should improve over a period of few weeks to a few months.

- **Bloating of Stomach –** Inflammation of the new join can result in narrowing with a feeling of bloating, trapped wind and in severe cases – vomiting.

Should I worry about death?

Routine or elective (planned non-emergency) surgery in general has usually low risk of death as compared to emergency surgery. Risk of death is dependent on how complex the operation is, what your co-existing medical conditions are (for example – diabetes, heart or breathing problems, kidney problems) and if you develop any complications after surgery. In general, risk of death after general anaesthetic is 1 in 100,000.This operation is an unusual one. Based on risks documented in other similar procedures, the likely risk is between 1/100-200.

Please discuss with consultant or your doctor if you worry about this.

How soon will I recover?

In hospital

Following your operation you will be transferred to the recovery area and then to the ward. You will have an X-ray test (you drink some dye and X-rays are taken to seen how the new join is working) after 48 hours. If the join is okay and your blood tests are showing good recovery – you will be allowed to eat and drink (with advice regarding this).

You should be able to go home after 72 hours (third day after surgery).

What do I get at time of discharge?

1. Discharge information leaflet.

2. Medications (called TTOs).

3. E-discharge copy (electronic discharge statement that your GP gets).

4. Leave certificate for work (if applicable).

If you do not get the above documents/ prescription, please discuss with your discharge nurse/ward nurse/doctor on ward.

At home

- **Returning to normal daily activities –** After a week or so you should be able to resume most of your normal daily activities. It is normal to feel tiered after surgery, so take some rest, two to three times a day and try and get a good night sleep. You should avoid heavy lifting and vigorous exercise for at least two weeks.

- **Driving –** You should not drive for at least one week. Before driving you should ensure that you can perform a full emergency stop, have the strength and capability to control the car, and be able to respond quickly to any situation that may occur. Please be aware that driving whilst unfit may invalidate your insurance.

- **Returning to work –** You can return to work as soon as you feel well enough. This will depend on how you are feeling and the type of work you do. Typically you will need between two and three weeks off work.

- **Eating –** Patients are counselled before the operation about lifestyle and dietary adjustments that are needed for about six weeks (variable period) following surgery. They are advised to eat smaller amounts of food at each meal, to chew their food well, and avoid chewing gum and drinking carbonated drinks. You should start with mainly liquid or blenderised diet for four weeks. You will be given a leaflet with dietary advice at discharge to help you.

- **Bowels –** You may find it takes three or four days to have normal movement. If you have not had a bowel movement in three days following surgery, a mild laxative should help. Your local chemist should be able to advise you. Alternatively, you may experience some diarrhoea following surgery. This should settle within three to four weeks. If the diarrhoea is bothersome your local chemist can advise on over- the-counter remedies. Remember to drink plenty of fluids so that you don’t get dehydrated.

When do I need to seek advice?

- If you have a discharge of blood or pus from your wounds.

- If you develop a temperature above 38.5C.

- Vomiting that continues for more than three days after surgery.

- Inability to have a bowel movement after four days.

- Persistent pain not relieved with your prescribed painkillers.
- Persistent abdominal distension (bloating of your stomach).
- Increasing pain or swelling around your wounds.
- Chest pain and shortness of breath.
- Crackling sensation under the skin, especially in the neck area.

What do I do if there are problems after surgery?

Please read this leaflet carefully regarding side-effects and risks of surgery.

Check with your doctor before discharge from hospital after surgery.

Standard procedure to follow would be to contact the consultant's secretary and ask for advice in working hours. The secretary may be able to contact the registrar or the consultant for advice that may be passed on to you.

If no team member is available to deal with your query or if you have any problems out of hours, it is best to check with your GP or attend the Accident & Emergency Department at Aintree Hospital for a clinical review and advice.

How soon and for long do I have to be followed up after surgery?

The specialist will see you between two-six weeks after surgery and thereafter there will be periodic follow-up for a few years at least to assess the impact of this complex surgery on your quality of life. You may need further life-style and medical advice in addition to surgery.

What is the success rate for this surgery/procedure?

This is a recent procedure designed to help significantly affected patients suffering from severe intractable symptoms of bile gastritis with very poor quality of life. So far, in the specialist's opinion (who designed this leaflet), the results are very encouraging.

Most patients report prompt relief of symptoms following surgery, although it is

expected that complete relief may take a while or not be possible.
Please discuss results of surgery and the realistic expected outcome in your case with your specialist doing this procedure.

Bile gastritis is an annoying condition and may need long term dietary and lifestyle changes to help cope with the symptoms along with this surgical treatment.

Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further information
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