Berwick Colorectal & Surgical Specialists

BILIARY STRICTURES

What are biliary strictures?

Narrowing of the lining of the bile duct.

Anatomy and pathology

The bile duct is in the right upper quadrant of the abdomen. Bile is transported from the liver through these tubes to the bowel to aid digestion. Obstruction of bile flow may occur when there is a narrowing of the lining of the bile duct. Possibilities for the narrowing include malignant (cancer) and benign causes.

Malignant biliary obstruction from a bile duct cancer is called a cholangiocarcinoma. These cancers are classified according to the level of the obstruction:

- In the liver tissue (intrahepatic)
- Immediately as the bile duct leaves the liver (hilar)
- At the bottom end of the bile duct where the bile drains into the bowel (distal)

What are the signs and symptoms of a biliary stricture?

Patients or their relatives may notice their skin or eyes are yellow (jaundice). This is common and typically occurs in the absence of pain. In addition, patients describe dark urine, pale stools, a constant itch or easy bruising related to the jaundice. Patients may also notice loss of weight. Other symptoms include vague abdominal discomfort, nausea, feeling full easily or the absence of appetite.

Rarely, the obstruction may be discovered by abnormal blood tests or imaging incidentally.

What tests are required?

In addition to tests evaluating your kidney function and blood count, you will need to have liver function tests and tumour markers. Tumour markers are blood tests that are helpful if significantly abnormal but require interpretation in context. Unfortunately, if normal they are unhelpful and non-diagnostic. Additional blood tests may be requested to assist in ruling out benign causes such as inflammatory conditions.

If a malignancy is suspected your surgeon will stage the disease and arrange a CT of your chest, abdomen, and pelvis. An MRI will also be arranged to assist with planning of any potential intervention.

Occasionally, additional interventions are required if the diagnosis remains elusive or biopsies are required for confirmation. These procedures can be performed endoscopically (camera in the mouth), radiologically (tubes performed by a doctor through the skin using a scan) or laparoscopically (keyhole). An additional reason to perform invasive procedures are to drain the bile duct by placing a stent to dilate the narrowing. This procedure can be performed conventionally either endoscopically (ERCP) or radiologically (PTC). There is also an important emerging role for other endoscopic techniques (EUS).

Finally, if the ratio of tumour to remnant liver volume suboptimal for liver surgery, there are techniques designed to increase the remnant volume of liver. These are performed by radiologists in select centres.

What are the options of management?

Depends on whether the pathology is benign or malignant. If benign, typically surgery is avoided, and the condition managed with medications or occasionally by ERCP.

In there is a concern for malignancy, your surgeon will present your case in a multi-disciplinary meeting for further discussion. A multi-disciplinary meeting is a meeting of multiple experts from different specialties who review potential malignancies and formulate a decision that is both patient-centred and evidence-based. In the meeting the patients are discussed and, in their absence, imaging and biopsies (if applicable) are reviewed. A consensus is reached, and the plan communicated to the patient by the treating doctor and the patient's general practitioner. Treatments recommended are either with curative or palliative intent (symptom management). The treatment intent depends on patient factors (age, medical

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problems) and disease factors (stage of disease, liver function)

Curative treatment is surgical often in combination with systemic treatment (chemotherapy). Surgery is usually by an open approach and occasionally laparoscopic (keyhole). The open approach is a large incision which extends in the midline for 20-30 cm and for an additional 20-30cm from an incision made at right angles to the former. Surgery involves removing the cancer and usually the lymph nodes (glands) surrounding the liver together, aiming to achieve a cancer-free margin of normal surrounding tissue. Surgery may involve removing part of your liver (hepatectomy)/bile duct or pancreas (Whipples procedure). Chemotherapy may also be required depending on the final pathology review after surgery (stage of the disease).

There is a limited role for liver transplantation for select patients with a small localised hilar malignancy which is unresectable. These patients are referred to a liver transplant service for discussion and further management as appropriate.

Palliative treatment is directed at controlling symptoms. The bile tube is stented for those who remain jaundiced, and the patient referred to an Oncologist for consideration of palliative chemotherapy together with a referral to palliative care doctors and nurses. Occasionally radiotherapy may also be useful to assist with symptoms management.

Finally, there also remains a possibility despite multiple investigations that the diagnosis remains uncertain, and a treatment pathway chosen, nevertheless.

What are the possible complications?

This is a major procedure with significant risk. Complications include

- Bile leak
- Major bleeding
- Liver failure (if liver is removed)
- Infection
- Pancreatic leak (Whipples performed)
- Chyle leak (leak of lymphatic fluid)
- Delayed gastric emptying (Whipples performed)
- Incisional hernias
- Death

What to expect following your procedure?

All procedures require an overnight admission. You will wake from anaesthesia with dressings placed over dissolvable sutures. It is normal to experience pain from the procedure which is easily managed with painkillers. Occasionally, a drain is placed which is removed within 2 days if there is no bile present. You will be admitted to the intensive care for close monitoring. You will be encouraged to ambulate after surgery and will be discharged from hospital if you are tolerating a diet, your pain is controlled with painkillers, you are ambulating independently and in the absence of any complications.

Gentle exercises are encouraged. Avoid heavy lifting for 2-4 weeks. You may drive if you are able to put your foot on the brake in an emergency or have ceased taking any painkillers. Usually this occurs after 2 weeks.

Post-operative follow-up usually occurs in four weeks and will be arranged on discharge with your surgeon. Your surgeon will discuss and review the pathology specimen in the multi-disciplinary meeting. If chemotherapy is required, a referral will be made to the Oncologists and an appointment made. You will then undergo surveillance with blood tests after your surgery at regular intervals designed to detect if the cancer returns.