Pancreas Surgery

Information for Patients

The Pancreas

The pancreas is the 'sweetbread' organ at the back of the abdomen. It is a flat glandular organ. It has a hormonal (endocrine) component that makes insulin and some other hormones. It also has an exocrine function which is the production of digestive juices that assist in the breakdown of proteins and fat. These juices are excreted through a duct into the duodenum (the first part of the small intestine) where they mix with the food we eat. The bile duct (bringing bile into the gut from the liver) passes through the pancreas on the way to the duodenum.

Tumours of the pancreas can be solid or cystic, and can arise from the exocrine duct cells or the endocrine gland cells. They can be benign or malignant. Rarely, the pancreas is a site for secondaries from cancers elsewhere (particularly melanoma). Most cysts in the pancreas are benign and can be safely watched. Most solid lumps should be removed because of the risk for cancer.

Adenocarcinoma

The most common cancer of the pancreas is 'ductal adenocarcinoma.' This is an aggressive tumour with poor outcomes unless it can be completely removed. Adenocarcinoma of the pancreas is associated with alcohol abuse, smoking and a history of chronic pancreatitis, although many patients will have none of these risk factors. Most patients are in the older age group. Unfortunately, most patients with adenocarcinoma of the pancreas present too late to be removed by surgery. When the tumour is small and has not spread then surgery can usually be performed in otherwise healthy candidates. Even after resection, only around one in five patients will be cured.

Other tumours

Other tumours that affect the pancreas include: cancers of the bile duct, cancers of the duodenum, cancers of the endocrine cells, and mucinous cystic neoplasms. In general, these are removed where possible.

What tests are done?

At a minimum, patients undergoing pancreas surgery will have a CT scan (or sometimes MRI), and blood tests. If the tumour involves the bile duct then it is often necessary to have an ERCP (Endoscopic Retrograde Cholangio Pancreatogram) which is a fibreoptic technique through the mouth like a gastroscopy. Sometimes a gastroscopy and ultrasound are used to identify a lump or to determine operability. It is unusual to require a biopsy prior to surgery.

How is the pancreas resected?

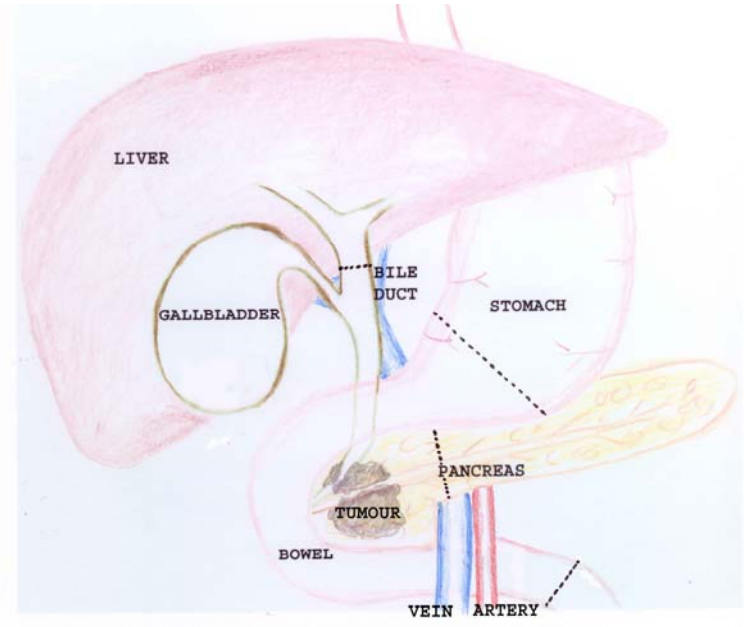
There are two Main operations depending on where the tumour is;

1) ***Distal Pancreatectomy.*** This method means removing the left most portion of the pancreas near the spleen and away from the duodenum. It is usually a straightforward operation technically. It is sometimes possible to preserve the spleen, but often times not. Most patients recover quickly from this surgery and are discharged after a week or so in hospital.

2) ***Pancreatico-duodenectomy (Whipple's Procedure).*** This is the most common operation on the pancreas, since most curable pancreas cancers arise in the head of the pancreas near the duodenum and the bile duct. It is a more complicated operation involving removal of the duodenum, the head of the pancreas, the lower bile duct, and part of the stomach. Following the resection, the bile duct, stomach and pancreatic duct all need to be restored into the bowel.

The remnant pancreatic duct is sewn into the back wall of the stomach. The bowel is brought up and joined to the bile duct and then the stomach. Drains are placed near the pancreas and the bile joins to check for leakage.

After the surgery there is a tube in the nose that stays for around 4 days, the drains stay between 5 and 7 days.



Whipple's procedure: dotted lines represent cut points

The post-operative course

The post operative course is different for each person and differs between distal pancreatectomy and the Whipples procedure.
Most patients are admitted to the High Dependency Unit for the first post operative night. After the Whipples procedure patients are nil by mouth for 4 days at least, most having distal pancreatectomy will eat within two or three days. Patients can expect 6-12 weeks away from work.

What are the potential complications?

The risks of different complications varies between patients. The risks are higher if the patient is older or has significant other illnesses. Most patients have a fairly straightforward course, but some will have serious complications. Only complications of Whipple's procedure are discussed below, as this is the larger of the operations.

Potential complications of Whipple's Procedure include (but not limited to);

- *Pancreatic leak.* If the pancreatic join leaks then very toxic pancreas juice will be free in the abdomen. This can be life threatening, although usually the juice is harmlessly taken away by the drain. It occasionally requires further interventions or even further surgery. It can mean a long time in hospital until the leak heals.
- *Bile leak.* Leakage from the bile join is less common, and less severe than pancreas leak, but may require persistence of the drain for days or weeks.
- *Gastroparesis.* This is 'lazy stomach' where the stomach may not pass food on to the gut for sometimes weeks after a Whipple's procedure. This can be a very frustrating complication and around 10% will suffer it.
- *Intra-abdominal collection.* Fluid may accumulate in the abdomen that can become infected and occasionally needs to be drained.
- *Bleeding.* Some patients will bleed during the surgery enough to require a transfusion, but it is unusual to see post-operative bleeding.
- *Respiratory problems.* Most patients have some initial shortness of breath because of wound pain. Gentle chest physiotherapy is helpful.
- *Diabetes.* A small number of patients develop diabetes following pancreas resection.
- *Wound infection.*
- *Clots.*
- *Allergic reaction.*
- *Heart trouble.*

FAQs

Will I need chemotherapy afterwards?

That will determined by a medical oncologist (cancer specialist). Chemotherapy is often recommended.

Will I need radiotherapy afterwards?

Not usually, however, it will be recommended if the tumour is close to the resection margins.

Will I be able to eat normally afterwards?

Yes, once the stomach has settled down you should eat normally. Many patients will require supplements of pancreatic juices.

What are the chances of cure?

This depends on a number of factors and can often only be truly estimated after the resection and pathology examination of the tumour.

Will I need further check ups into the future?

Yes, it is generally advisable to have regular blood tests and scans for at least five years after a resection so that, if tumour is to recur, it can be diagnosed early.

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