

people typically experienced in years past. If patient requires surgery plus chemotherapy then the timing of chemotherapy may be prior to surgery (neoadjuvant) or after the surgery (adjuvant). Some patients may require both neoadjuvant plus adjuvant chemotherapy.

Radiotherapy for Pancreatic Cancer:

Radiation therapy in pancreatic therapy may be used combination with chemotherapy and surgery to eliminate tumors that are contained within the pancreas and any remaining cancer cells after surgery.

To shrink locally advanced tumors so that surgery can be performed safely

To relieve pain and other symptoms of metastatic disease

Palliative care in Pancreatic Surgery :

Palliative care is an option for patients who are in advanced stages of pancreatic cancer, who are deemed inoperable. In these patients aim of the treatment would be to get relief from the distressing symptoms. For example palliative stenting to relieve the obstructive jaundice, which will provide a pathway for bile and relieve the patient of itching symptoms and cholangitis

FAQ'S:

1) Can pancreatic cancers be prevented?

Ans: You may not be able to prevent the pancreatic cancer, but you can lower the risk rates by practicing healthy diet, physical exercise, maintaining proper weight, avoiding smoking and alcohol

2) What causes pancreatic cancer?

Ans: Currently, it isn't known what causes pancreatic cancer, however, we do know that cancer occurs when cells develop mutations in their DNA. These mutations cause the cells to grow rapidly and uncontrollably, eventually forming a tumor

3) What is the life expectancy of a person post Whipple's procedure?

Ans: Life expectancy after a Whipple's procedure depends on the final histopathology report .

In operable Periapillary cancer in node positive disease 5 yr survival is 40% and in node negative disease 5 year survival is 60%.

In cancers involving head and uncinate process of pancreas the survival rate is less compared to periapillary cancers.

5 year survival in a operable node positive pancreatic head and uncinate cancer is 20% and in node negative disease its 40%

Some patients may require adjuvant chemotherapy and

radiotherapy which prolong their survival rate

4) Is there a screening test for pancreatic cancer?

Ans: Despite of being one of the leading cause of cancer deaths around the world there is no reliable screening test for pancreatic cancer

5) Is there a relationship between diabetes and pancreatic cancer?

Ans: There is no association between type1 diabetes and pancreatic cancer, but there is mounting evidence regarding association between type 2 diabetes and pancreatic cancer

6) What are the side effects of radiotherapy and chemotherapy?

Ans: Radiation therapy may cause patients to become very tired as treatment continues. In addition, when patients receive radiation therapy, the skin in the treated area may sometimes become red, dry, and tender. Radiation therapy to the abdomen may cause nausea, vomiting, diarrhea, or other problems with digestion. For most patients, the side effects of radiation therapy go away when treatment is over.

The side effects of chemotherapy depend on the drugs and the doses the patient receives as well as how the drugs are administered. As with other types of treatment, side effects vary from patient to patient.

Patients who undergo chemotherapy may also be more likely to get infections, bruise or bleed easily, and may have less energy. Other side effects such as poor appetite, nausea and vomiting, diarrhea, or mouth sores.

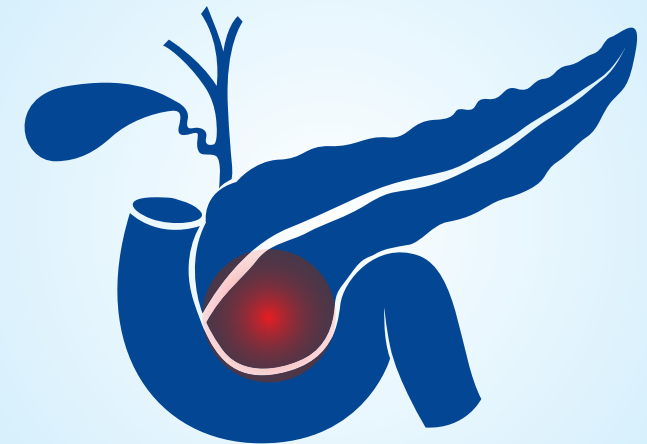
Usually, these side effects go away gradually during the recovery periods between treatments or after treatment is over.

7) What is the mortality and morbidity rate after Whipple's procedure?

Ans: Mortality and morbidity rates of Whipple's procedure are least when it is done in a high volume centre and by a experienced surgeon. Whipple's procedure has mortality rate of 1-3% and morbidity rate of 10-30% in most of the centres around the world. In our centre, the mortality rate is 1% and morbidity rate of 15-20%.

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A Patient's Guide To PANCREATIC CANCER



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Pancreatic Cancer:

Pancreatic cancer is a disease in which cancerous cells arise in the tissues of pancreas. Pancreatic cancer is one of the leading cause of cancer deaths in the world and it's incidence is on the rise in developing countries like India. Incidence of pancreatic cancer in India is 0.5-2.4 per 100000 men and it is 0.2-1.8 per 100000 women

Signs and Symptoms:

Pain in the upper abdomen and back
Loss of appetite and weight
Yellowish discolouration of eye and skin(jaundice)
Itching
Fatigue
Nausea and vomiting
Changes in bowel habits

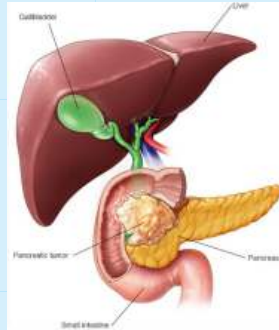
Risk Factors:

Smoking
Alcohol
Chronic pancreatitis
Obesity
Old age (>65 yrs)
Family history of pancreatic cancer

Diagnosing Pancreatic Cancer:

Your doctor might order set of investigations which will include blood test and radiological imaging. If a doctor suspects that a person has pancreatic cancer, he or she will first ask about the person's medical history, family history, and examine the person to look for signs of the disease. An appropriate and timely diagnosis is very important. If possible, tests should be done at a center that has experience with the disease. The tests listed below may be used to diagnose pancreatic cancer.

A) Physical examination: Your doctor will examine your eyes and skin to look for signs of jaundice. Your doctor will also examine your abdomen to look for changes caused by the cancer.



B) Blood tests: Complete blood count, liver function test, renal function test, coagulation profile, CA19-9 (Tumor marker)

C) Radiological imaging: CT scan, MRI scan, PET-CT, Ultrasound of the abdomen, ERCP.

In case of severely jaundiced patient, doctor might refer you to medical gastroenterologist for a ERCP and stenting to decompress the bile duct

prior to the surgery. Plastic or metal stents will be placed in your bile duct to relieve the obstructive jaundice.

D) Biopsy: Biopsy is not mandatory to diagnose the pancreatic cancer.

Most of the times diagnosis is confirmed by imaging tests. However, a small subset of patients with pancreatic cancer may present without jaundice. In these patients biopsy is required to confirm the diagnosis.

E) Other tests: 2 D echo, ECG, Chest X ray

Management of Pancreatic Cancers:

Treatment options available for pancreatic cancer

A) Surgery

B) Chemotherapy

C) Radiotherapy

D) Combination of the above treatments

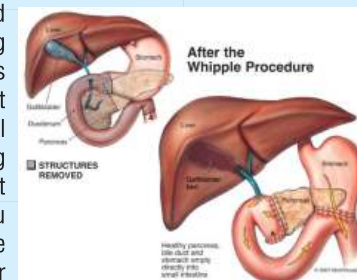
Surgery for Pancreatic Tumours:

Surgery for a pancreatic cancers depends on the location of the tumour

Surgery for pancreatic head cancer: If the cancer is located in the head of pancreas then the patient will require a Whipple's procedure (pancreaticoduodenectomy)

What is a Whipple's procedure ?

Whipple's procedure is a technically very demanding surgery where the surgeon will remove the head of the pancreas, duodenum, gall bladder, common bile duct and regional lymph nodes. Following the removal surgeon reconnects the remaining pancreas, bile duct and stomach with the small intestine (jejunum). Thus providing pathway for food and bile. Post surgery patient may be kept in icu for 24 hrs- 48 hrs. Patient will be on tube feeds for 2-3days, after



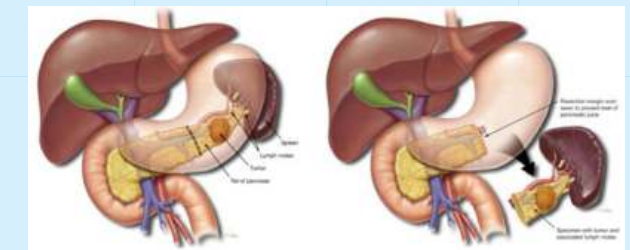
which he or she will be slowly started on oral feeds. Recovery period is usually between 6-10 days after surgery.

Surgery for pancreatic cancer of the body and tail :

For the tumours located in the body and tail of the pancreas requires distal pancreatectomy. Where in surgeon removes the body and tail of the pancreas. Some patients may require splenectomy (removal of spleen) as well. We routinely perform this surgery by robotic or laparoscopic technique.



Distal Pancreatectomy and Splenectomy:



Whipple's procedure and distal pancreatectomy is associated with complications. Complications include bleeding, infection, collection inside the abdomen, nausea and vomiting, which might increase the hospital stay and expense. Complication rates have come down with better understanding of the disease and improved technical skills. Complication are fewer when its done by a experienced surgeon and in a high volume centre

Patients who require splenectomy along with distal pancreatectomy will have to receive pneumococcal, H influenza and meningococcal vaccine to prevent post splenectomy infections.

Chemotherapy for Pancreatic Tumours:

Chemotherapy has been shown to extend life for people with pancreatic cancer. It is often combined with surgery or radiation therapy for tumors confined within the pancreas. It is used as the first treatment for borderline resectable tumors as an attempt to downstage them for surgery. It is used for patients with pancreatic tumors that have spread from the pancreas to other parts of the body. Your surgeon will refer you to a medical oncologist who will carefully tailor your treatment to make sure it's as effective as possible while also helping maintain your quality of life. Recent improvements in chemotherapy drugs, along with advances in supportive care, have reduced many of the side effects that