Pancreatic Cancer

Pancreatic cancer is a highly aggressive and often difficult-to-diagnose cancer, with the pancreas being a vital organ responsible for producing digestive enzymes and hormones like insulin. Most cases of pancreatic cancer are diagnosed at advanced stages, which is why the prognosis is often poor. However, early detection and a multidisciplinary approach to management can improve outcomes.

Symptoms of Pancreatic Cancer

Common Symptoms:

- Abdominal pain
- Jaundice
- Unexplained weight loss
- Loss of appetite
- Nausea and vomiting
- Fatty stools (steatorrhea): Malabsorption of fats can lead to greasy, foul-smelling stools that float.
- New-onset diabetes
- Pruritus (itching)

Signs of Advanced Disease:

- Ascites
- Liver enlargement or splenomegaly
- Deep vein thrombosis (DVT)

Investigation and Diagnosis of Pancreatic Cancer

Initial Evaluation

- History and physical examination:
- Blood Tests:
- CA 19-9: A tumor marker
- Liver function tests:
- Complete blood count (CBC)
- Abdominal ultrasound: Often used as a first-line imaging test, especially to detect jaundice and biliary duct obstruction. However, it is not very sensitive for detecting small pancreatic tumors.

Radiographic Image

- CT scan (contrast-enhanced)**:**
- MRI/MRCP (Magnetic Resonance Cholangiopancreatography)**:**
- Endoscopic ultrasound (EUS)**:**
- Endoscopic retrograde cholangiopancreatography (ERCP)**:** Biopsy**:**
- Fine-needle aspiration (FNA)**:** Core biopsy**:** Staging of Pancreatic Cancer

Management of Pancreatic Cancer

The treatment for pancreatic cancer depends on the stage of the cancer, the location of the tumor, and the patient's overall health.

Surgical Treatment: Advanced Robotic/Laparoscopic Technique

- **Robotic/Laparoscopic Whipple procedure (pancreaticoduodenectomy)**
- **Robotic/Laparoscopic Distal pancreatectomy**
- ***Robotic/Laparoscopic Total pancreatectomy***

Chemotherapy

Radiation Therapy

Palliative Care

Advantages of Robotic pancreatic cancer surgery

1. Smaller Incisions & Less Trauma

Robotic surgery uses small keyhole incisions rather than a large open cut.

- Less damage to muscles and tissues
- Reduced postoperative pain
- Lower risk of wound infections

2. Greater Precision and Dexterity

The robotic system provides surgeons with:

- High-definition 3D magnified vision
- Wristed instruments that mimic the human hand with greater rotation
- Tremor filtration for extremely delicate movements

3. Reduced Blood Loss

Better visualization and instrument control often lead to:

- Fewer intraoperative injuries
- Lower need for transfusions

4. Shorter Hospital Stay

- Hospital stays are often shorter compared with open surgery
- Faster return to normal activities

5. Lower Risk of Certain Complications

- Reduced wound complications
- Fewer pulmonary complications
- Lower surgical site infection rates

6. Better Lymph Node Retrieval in Some Cases

Robotic systems may allow more meticulous lymph node dissection, which is important for accurate cancer staging and potentially better outcomes.

7. Improved Surgeon Ergonomics

While this doesn't directly affect the patient, improved ergonomics can contribute to:

- Better surgeon endurance during long pancreatic operations
- Potentially improved surgical performance