Pancreatic cancer

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Cancer of the exocrine pancreas is a highly lethal malignancy. It is the fourth leading cause of cancer-related death in the United States and second only to colorectal cancer as a cause of digestive cancer-related death.

Surgical resection is the only potentially curative treatment. Unfortunately, because of the late presentation, only 15 to 20 percent of patients are candidates for pancreatectomy.

The commonly used term "pancreatic cancer" usually refers to a ductal adenocarcinoma of the pancreas (including its subtypes), which represents approximately 85 percent of all pancreatic neoplasms.

Of the several subtypes of ductal adenocarcinoma, most have a similar poor long-term prognosis, with the exception of colloid carcinomas, which have a better prognosis, and adenosquamous cancers, which have a worse prognosis than other subtypes.

More than 95 percent of malignant neoplasms of the pancreas arise from the exocrine elements. Neoplasms arising from the endocrine pancreas (ie, pancreatic neuroendocrine [islet cell] tumors) comprise no more than 5 percent of pancreatic neoplasms

Pathology

Benign

The most common benign pancreatic neoplasm is serous cystadenoma. These tumors are reliably cured with surgical removal alone.

Malignant

Ductal adenocarcinoma and its subtypes – 85 to 90 percent

- IPMN with an associated invasive carcinoma – 2 to 3 percent

- MCN with an associated invasive carcinoma – 1 percent

- Solid pseudopapillary neoplasm – <1 percent

Acinar cell carcinoma – <1 percent

- Pancreatoblastoma – <1 percent

- Serous cystadenocarcinoma – <1 percent

Pancreatic Neuroendocrine Tumors

Benign (Majority)

Insulinoma

Malignant (Majority)

Gastrinoma

Glucagonoma

Somatostatinoma

VIPoma

PPoma

Nonfunctional islet cell

The most common presenting symptoms in patients with exocrine pancreatic cancer are pain, jaundice, and weight loss.

The most common symptoms:

Asthenia

Weight loss

Anorexia

Abdominal pain

Epigastric pain

Dark urine

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The most common signs:

Jaundice

Hepatomegaly

RUQ mass

Cachexia

Courvoisier’s sign

Mass

ascites

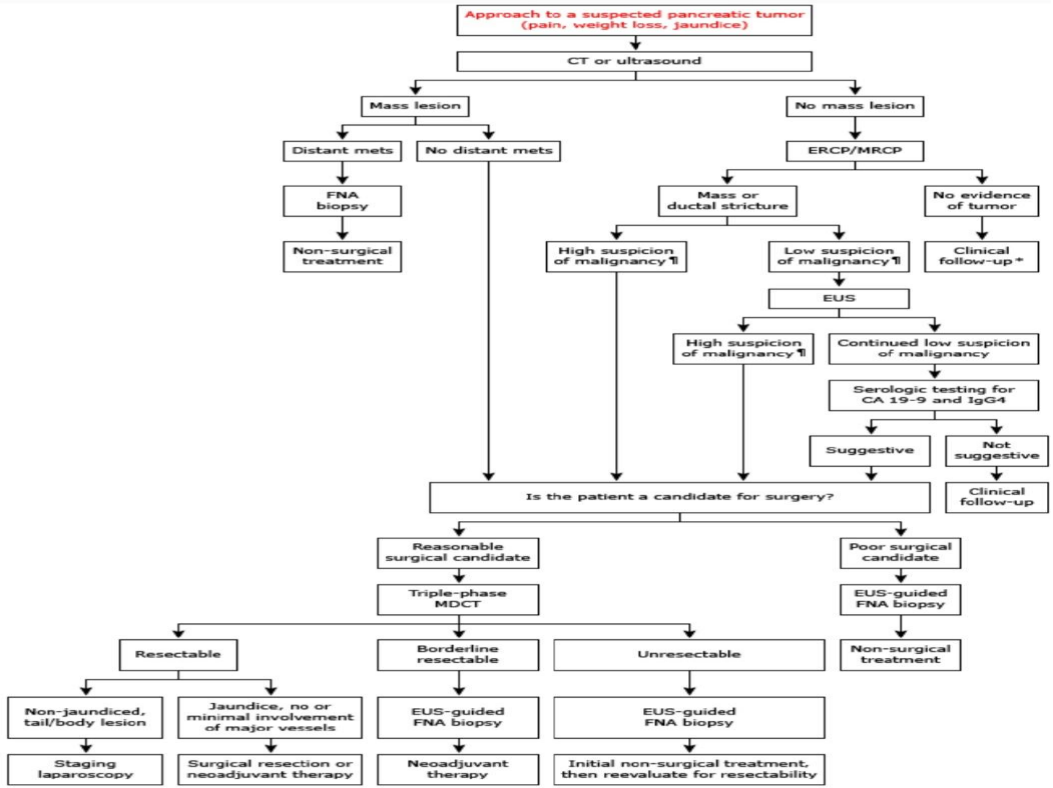
Others:

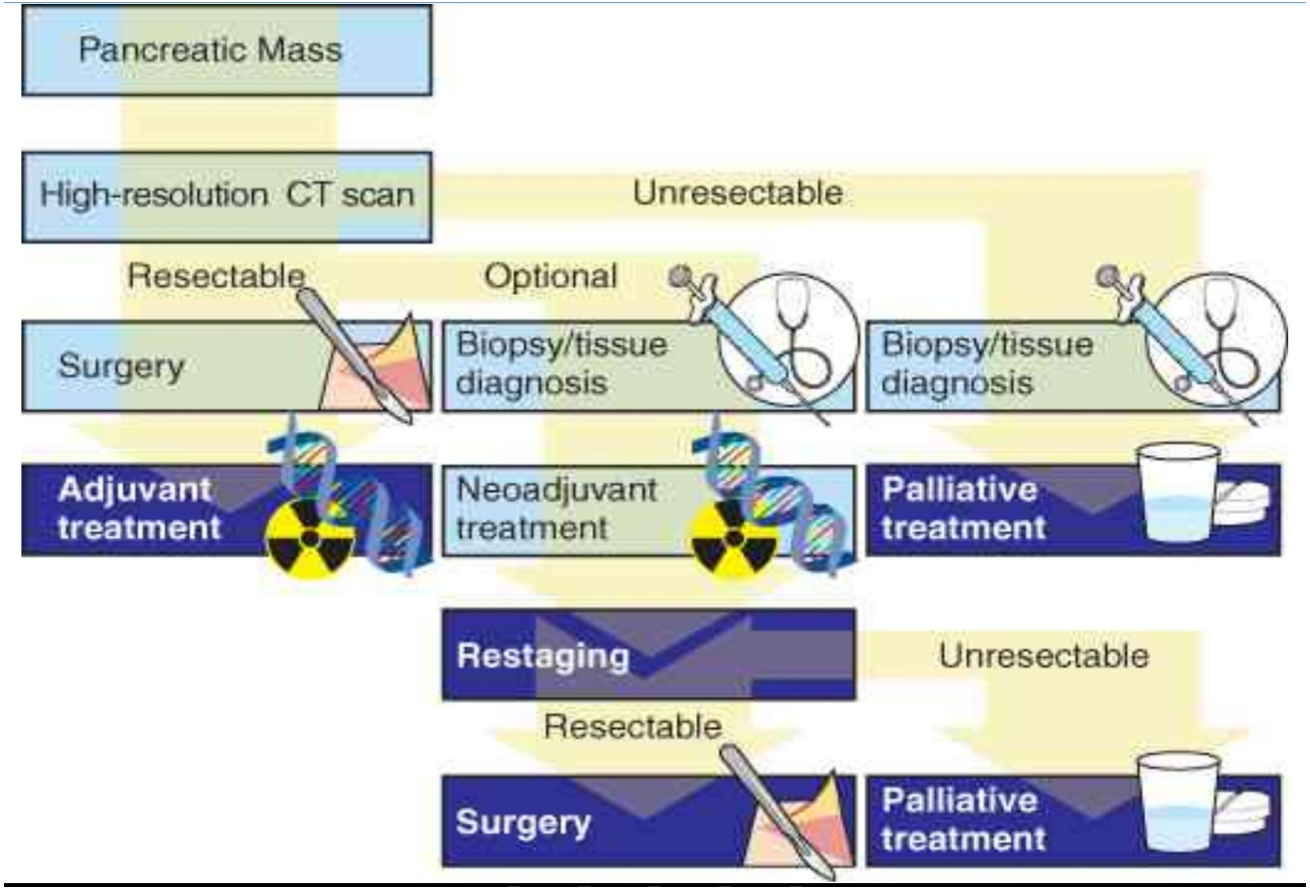
recent onset of diabetes mellitus

Unexplained superficial thrombophlebitis, which may be migratory (classic Trousseau's syndrome) [13], is sometimes present and reflects the hypercoagulable state that frequently accompanies pancreatic cancer.

Skin manifestations occur as paraneoplastic phenomena in some patients. As an example, both cicatricial and bullous pemphigoid are described, even as a first sign of disease

DIAGNOSTIC APPROACH:




Pancreatic Mass
High-resolution CT scan
Unresectable
Resectable
Optional
Surgery
Biopsy/tissue diagnosis
Biopsy/tissue diagnosis
Adjuvant treatment
Neoadjuvant treatment
Palliative treatment
Restaging
Unresectable
Resectable
Surgery
Palliative treatment

Assessing resectability

following characteristics as indicating unresectability:

Head of pancreas/uncinate lesions:

Solid tumor contact with the SMA >180 degrees

•Solid tumor contact with the celiac axis >180 degrees

•Solid tumor contact with the first jejunal SMA branch

•Unreconstructable SMV or portal vein due to tumor involvement or occlusion (can be due to tumor or bland thrombus)

•Contact with the most proximal draining jejunal branch into the SMV

Body and tail lesions:

•Solid tumor contact of >180 degrees with the SMA or celiac axis

•Solid tumor contact with the celiac axis and aortic involvement

•Unreconstructable SMV or portal vein due to tumor involvement or occlusion (can be due to tumor or bland thrombus)

For all sites:

- Distant metastases

- Metastases to lymph nodes beyond the field of resection

borderline resectable pancreatic cancer

For tumors of the head or uncinate process:

•Solid tumor contact with the SMV or portal vein of >180 degrees with contour irregularity of the vein or thrombosis of the vein, but with suitable vessel proximal and distal to the site of involvement, allowing for safe and complete resection and vein reconstruction.

•Solid tumor contact with the inferior vena cava.

•Solid tumor contact with the common hepatic artery without extension to the celiac axis or hepatic artery bifurcation, allowing for safe and complete resection and reconstruction.

Solid tumor contact with the SMA ≤180 degrees.

•Solid tumor contact with variable anatomy (eg, accessory right hepatic artery, replaced right hepatic artery, replaced common hepatic artery, and the origin of replaced or accessory artery), and the presence and degree of tumor contact should be noted if present, as it may affect surgical planning.

For tumors of the body/tail:

•Solid tumor contact with the celiac axis of ≤180 degrees.

•Solid tumor contact with the celiac axis >180 degrees without involvement of the aorta and with an intact and uninvolved gastroduodenal artery, thereby permitting a modified Appleby procedure (although some members of the consensus committee preferred this criterion to be in the unresectable category).

Contraindications

Absolute contraindications to resection include the presence of metastases in the liver, peritoneum, omentum, or any extra-abdominal site

Other

encasement (more than one-half of the vessel circumference) or occlusion/thrombus of the superior mesenteric artery

unreconstructable SMV or SMV-portal vein confluence occlusion; or direct involvement of the inferior vena cava, aorta, or celiac axis,