SMART Topic

Is This Pancreatic Cancer Operable? CT/MRI Staging and Resectability for Beginners

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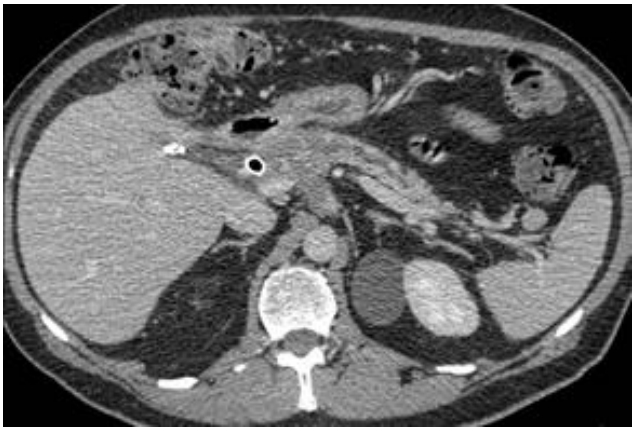
1. Overview

Pancreatic ductal adenocarcinoma (PDAC) is the sixth leading cause of cancer related death worldwide.[1] The primary treatment options for PDAC include surgical resection, chemotherapy and radiotherapy, with surgical resection of early stage PDAC providing substantial survival benefit. Abdominal imaging, especially CT and MRI with pancreas-specific protocols, is essential in determining presence or absence of local and distant metastases and invasion of major vasculature.[2] Here, we show how CT/MRI is reviewed by radiologists to evaluate the characteristics of primary pancreatic tumors such as tumor location, size, appearance and vascular involvement, Other imaging techniques, such as other imaging modalities like PET-CT may be used to rule out distant metastases and overall disease burden. This beginner-friendly review explains how the role of CT/MRI helps in the staging and management of pancreatic ductal adenocarcinoma PDAC and other pancreatic masses.

Title Figure



2. Staging Pancreatic Ductal Adenocarcinoma

Use of Pancreas Protocol to evaluate the pancreas

After a pancreatic mass is suspected from a screening abdominal CT, MRI, ultrasound or abdominal X-ray, or from worrisome clinical findings such as unexplained epigastric abdominal pain, with or without radiation to the back, unexplained weight loss, bloating, steatorrhea, new onset diabetes or pancreatitis, then a "Pancreatic Protocol" CT/MRI scan should be considered.[3] The general approach to evaluate CT of the Pancreas was previously described.[4] If a lesion that is suspicious of a tumor or PDAC is identified, then a diagnosis must be made by transabdominal needle biopsy, endoscopic ultrasound (EUS) biopsy, or biopsy of a potentially metastatic lesion. At the same time, a systematic review of CT/MRI is needed for multi-disciplinary tumor board evaluation of the patient's condition and suitability for surgical resection (before or after neo-adjuvant chemotherapy). A stage specific treatment plan is designed based on the tumor board recommendations.

Staging criteria

The AJCC (American Joint Committee on Cancer) 8th edition TNM staging (Figure 1) describes tumor staging including tumor size (T), as well as lymph nodal metastases (N) and distant metastases (M).[5] This provides prognostic information only without any guidance on management decision. From the treatment/management point a PDAC is categorized into resectable, borderline resectable, locally advanced, and metastatic disease categories. The National

Abbreviations: AP, acute pancreatitis; CEL, carboxyl ester lipase; CECT, contrast enhanced CT; CF, cystic fibrosis; CP, chronic pancreatitis; CT, computed tomography; DM, diabetes mellitus; EPI, pancreatic exocrine insufficiency; EUS, endoscopic ultrasound; IPMN, intraductal papillary mucinous neoplasm; IV, intravenous; PCCT, photon counting CT; PDAC, pancreatic ductal adenocarcinoma; SMA, superior mesenteric artery; SMV, superior mesenteric vein; GFR, Glomerular filtration rate; DWI, diffusion-weighted imaging.

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Figure 1. The AJCC (American Joint Committee on Cancer) 8th edition TNM staging of the pancreatic adenocarcinoma

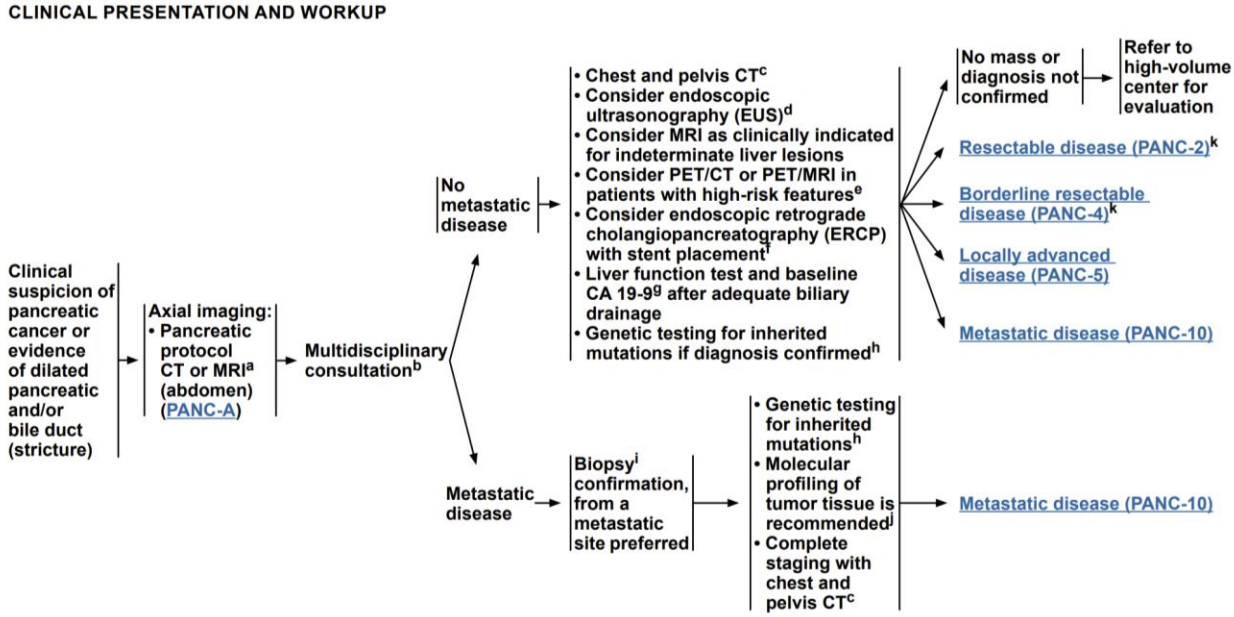
TNM category	Stage	Modified stage (by Shi *et al.*)
AJCC 8th edition		
T1, Maximum tumor diameter ≤2 cm	Stage IA, T1 N0 M0	Stage IA, T1 N0 M0
T2, Maximum tumor diameter >2 cm, but ≤4 cm	Stage IB, T2 N0 M0	Stage IB, T2 N0 M0, T1 N1 M0
T3, Maximum tumor diameter >4 cm	Stage IIA, T3 N0 M0	Stage IIA, T3 N0 M0, T2 N1 M0, T1 N2 M0
T4, Tumor involves the CA or the SMA (unresectable primary tumor)	Stage IIB, T1-3 N1 M0	Stage IIB, T3 N1 M0, T2 N2 M0
N0, No regional LN metastasis	Stage III, T_{any} N2 M0, T4 N_{any} M0	Stage IIIA, T3 N2 M0
N1, Metastasis in 1–3 regional LNs	–	Stage IIIB, T4 N_{any} M0
N2, Metastasis in ≥4 regional LNs	Stage IV, T_{any} N_{any} M1	Stage IV, T_{any} N_{any} M1
M0, No distant metastasis		
M1, Distant metastasis		

Comprehensive Cancer Network (NCCN) guidelines, is one of the most used systems, to provide recommendations on the management and the determination of resectability for PDAC (Figure 2). Patients diagnosed with resectable disease may undergo primary surgical resection or surgical resection after neoadjuvant chemotherapy depending, in large part, on imaging findings. Those presenting with more advanced stages of disease are managed with standard chemotherapy and/or radiation therapy. Those presenting with more advanced stages of disease are managed with chemotherapy and/or radiation therapy.[2] or referred to a cancer center conducting clinical trials.

Primary pancreatic tumor stage and vascular involvement to assess resectability

The primary goal of pancreatic imaging is to determine the tumor stage and vascular involvement as key determinants of to assess resectability. CT is widely available and is the preferred initial modality for evaluation of pancreatic mass because of the speed, high spatial resolution and spectrum of information obtained, both local and distant to the pancreas. Other modalities are complementary, and multiple approaches are typically used.

Figure 2. NCCN (The National Comprehensive Cancer Network) guidelines for the evaluation and management of PDAC version 2.2025



3. Imaging Technique and Protocol

A pancreatic mass protocol CT uses a series of images synchronized with rapid injection of contrast to highlight phases of blood flow through the pancreas and surrounding structures. The CT protocol used in our institution is detailed in Table 1. Pancreas protocol includes a multiphasic of thin axial slices (views from feet toward head) followed by multiplanar reconstruction (e.g. coronal [frontal view], sagittal [looking from the side] and oblique views [tilted for targeted views]).

Table 1.

CT PANCREATIC MASS PROTOCOL		
Oral contrast	16 oz water just before the exam	
Intravenous contrast	75-150 ml of Isovue injected 300 at the rate 3-5 ml per sec according to GFR and weight	
Acquisition phases	Non-Contrast /Before the injection of Intravenous contrast.	Extending from Diaphragm through bottom of liver. Useful for the detection of calcifications. Slice thickness 2.5 mm
	Arterial phase/Pancreatic parenchymal (35-50 s after the intravenous contrast injection)	Diaphragm through Iliac crest Axia series Slice thickness 2.5 mm Coronal and sagittal reformations.
	Portal venous phase (70-80 s after the intravenous contrast injection)	Extending from chest through Iliac crest Axial series Slice thickness 2.5 mm Coronal and sagittal reformations.

CT Features of a pancreatic mass

Pancreatic ductal adenocarcinoma (PDAC) is commonly characterized by a dense fibroblastic stroma and therefore typically presents as a hypoattenuating mass (i.e. darker appearing because it enhancses less than surrounding tissue) relative to normal pancreatic parenchyma during the pancreatic phase. Less commonly PDAC can be iso-attenuating or hyperattenuating to pancreatic parenchyma. A particular challenge in diagnosis of a pancreatic mass on CT is identifying small iso attenuating tumors. Although challenging to visualize on CT scan, they are generally associated with a good prognosis and survival.[4]

Important findings when reviewing a CT include accurate measures of size and anatomical location of the tumor relative to surrounding structures such as ducts, blood vessels and other organs. Pancreatic ductal adenocarcinoma usually causes narrowing and obstruction of the main pancreatic duct with upstream ductal dilatation and surrounding parenchymal atrophy. In addition to implications for resection, this finding suggests major reduction in the flow of pancreatic juice resulting in exocrine pancreatic insufficiency (EPI) and maldigestions. This problem is managed by the clinician with assessment of the patient's nutritional status, including malnutrition, steatorrhea and unintentional weight loss. Treatment includes pancreatic enzyme replacement therapy (PERT) rather than attempting to stent or bypass the pancreatic duct. Tumors located in the head of the pancreas cause biliary ductal dilatation in addition to pancreatic ductal dilatation, referred to as double duct sign. These indirect signs are helpful in the detection of small iso attenuating pancreatic ductal adenocarcinomas. Such tumors can also be better evaluated with MRI or EUS. Assessment of Vascular involvement is a key element when reporting a pancreatic mass protocol CT or MR. As noted above, Imaging criteria for assessing resectability in

Figure 3. Resectability criteria from NCCN guidelines version 2.2025

CRITERIA DEFINING RESECTABILITY STATUS AT DIAGNOSIS[a]

• Decisions about resectability status should be made in consensus at multidisciplinary meetings/discussions.

Resectability Status	Arterial	Venous
Resectable	• No arterial tumor contact (celiac axis [CA], superior mesenteric artery [SMA], or common hepatic artery [CHA]).	• No tumor contact with the superior mesenteric vein (SMV) or portal vein (PV) or ≤180° contact without vein contour irregularity.
Borderline Resectable[b]	Pancreatic head/uncinate process: • Solid tumor contact with CHA without extension to CA or hepatic artery bifurcation allowing for safe and complete resection and reconstruction. • Solid tumor contact with the SMA of ≤180°. • Solid tumor contact with variant arterial anatomy (eg, accessory right hepatic artery, replaced right hepatic artery, replaced CHA, 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. Pancreatic body/tail: • Solid tumor contact with the CA of ≤180°.	• Solid tumor contact with the SMV or PV of >180°, contact of ≤180° 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 (IVC).
Locally Advanced[b,c,d]	Head/uncinate process: • Solid tumor contact >180° with the SMA or CA. Pancreatic body/tail: • Solid tumor contact of >180° with the SMA or CA. • Solid tumor contact with the CA and aortic involvement.	• Not currently amenable to resection and primary reconstruction due to complete occlusion of SMV/PV

PDAC are given in the NCCN guidelines version 2.2025. Overall, Treadwell JR et all reported that CT has a sensitivity of 89% and specificity of 90% in correctly diagnosing PDAC, reflecting a good, but imperfect method.[6]

Table 2.

MRI PANCREATIC MASS PROTOCOL	
WITHOUT CONTRAST	3 plane Localizer, Coronal T2 SSFSE through the pancreas and liver, axial T2 SSFSE, axial T2 FRFSE FS, 3D coronal MRCP, axial DWI, thick slab MRCP, coronal and axial T1 FSPGR FS
WITH CONTRAST	Axial dynamic post contrast (arterial, portal venous and delayed) delayed axial and coronal LAVA post contrast (2.5 minutes, 5 minutes post injection)
SSFSE- Single shot fast spin echo, **FRFSE FS**- Fast Recover Fast spin echo, Fat Suppressed, **MRCP**-Magnetic Resonance Cholangiopancreatography, **DWI**- Diffusion Weighted Imaging, **FSPGR**- Fast Spoiled Gradient echo	

MRI features of PDAC

MRI lacks ionizing radiation and plays a key role in evaluation of pancreatic masses, especially for detecting small tumors (< 2 cm) and those appear iso-attenuating to the pancreas on CT. Magnetic resonance cholangiopancreatography provides excellent ductal visualization, especially when performed during intravenous secretin infusion to stimulate pancreatic and biliary duct flow. MRCP is superior to CT for subtle strictures or for pre-cancerous side-branch intraductal papillary mucinous neoplasms (IPMNs.) Furthermore, multi-sequence techniques (T1, T2, DWI, contrast) help differentiate solid vs. cystic, malignant vs. benign/inflammatory masses. However, MRI has inherent limitations like patient claustrophobia, prolonged scan times, motion artifacts, lower spatial resolution than CT and more limited availability.

A typical MRI protocol used for evaluating pancreatic masses is described in Table 2. The protocol also includes MRCP which is a very sensitive and non-invasive way of assessing biliary ducts and pancreatic ducts. Pancreatic ductal obstruction due to pancreatic mass is well delineated on MRCP. Typically, pancreatic head mass causes distal CBD narrowing which is readily detected and characterized on an MRCP. PDAC typically appears hypointense on fat-suppressed T1-weighted and hypointense to isointense on post-contrast T1-weighted MR images. It also shows restricted diffusion on diffusion-weighted imaging (DWI) due to reduced extracellular space and increased cellularity and fibrosis making it highly sensitive for malignancy. IV contrast with gadolinium can distinguish PDAC (hypovascular) from hyper-vascular neuroendocrine tumors (NET) and autoimmune pancreatitis that shows delayed enhancement of capsule/rind around pancreas. The combination of MR sequences provides high accuracy for characterization of a pancreatic mass and is complementary to CT – especially for small or iso-attenuating lesions. Once a lesion is identified and the characteristics are suggestive of pancreatic neoplasia, this information serves as a roadmap for biopsies using EUS or CT-guided tissue sampling.

4. Case Studies of CT and MRI in Evaluating Pancreatic Masses

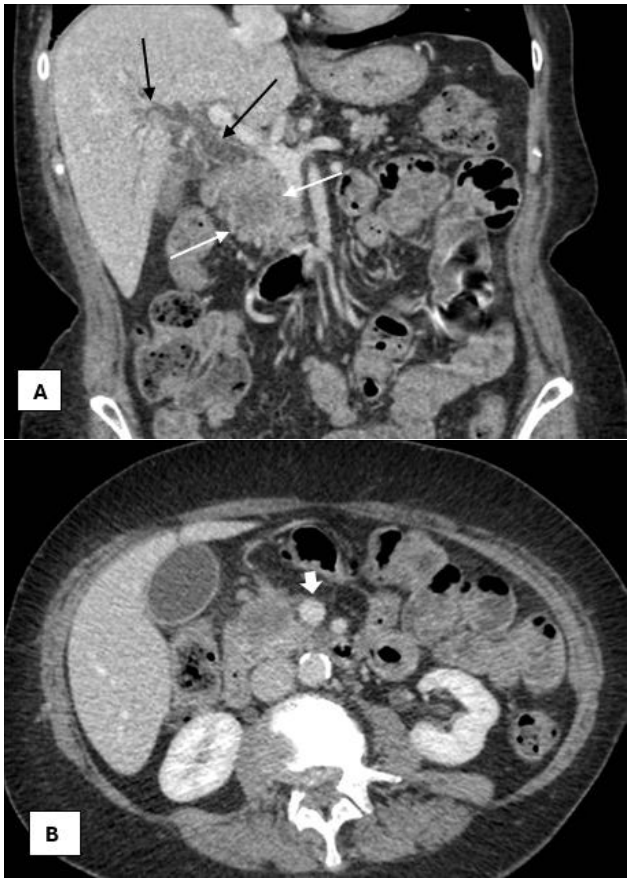


Figure 4. Resectable pancreatic ductal adenocarcinoma

Patient presented with unintentional weight loss and jaundice.

A. 2.8 x 2.2 Ill-defined hypo enhancing pancreatic head/uncinate mass defined by the white arrows. Black arrows show dilated intra and extra hepatic biliary ductal dilatation
B. Peritumoral infiltration of the proximal SMV (white arrow)

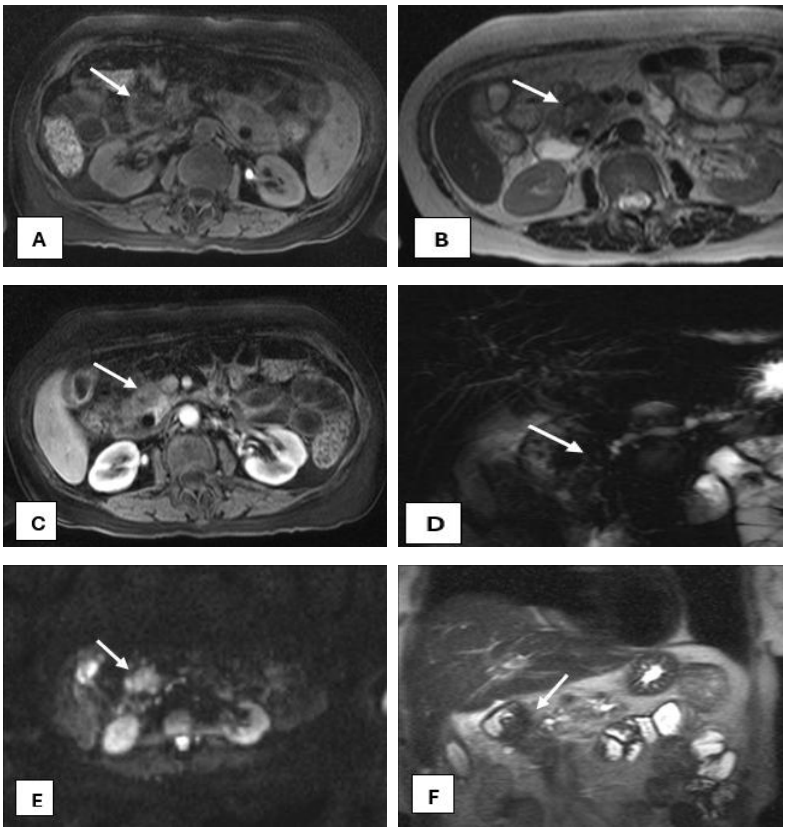
The patient subsequently underwent Whipple's surgery as definitive treatment of resectable pancreatic carcinoma.

Figure 5. Patient presented with epigastric pain for a 1 month period

MRI Abdomen with without contrast using pancreatic mass protocol reveals 2.6 x 3.4 cm ill-defined hypo enhancing pancreatic head/uncinate mass. Representative images of MRI sequences included reveal:

A. Axial T1 FSPGR FS-T1 hypointense mass.
B. Axial T2 SSFSE- Mildly T2 hyperintense signal of the mass.
C. Axial LAVA post contrast-Arterial or pancreatic parenchymal phase-The mass appears hypo enhancing/darker to the pancreatic parenchyma.
D. 3D coronal MRCP slice demonstrates irregular upstream ductal dilatation with narrowing /obstruction at the site of the mass in the pancreatic head.
E. Axial DWI-shows mass with diffusion restriction.
F. Coronal T2 SSFSE through the pancreas and liver shows the mass infiltrates the gastric antrum.

In view of biliary obstruction, the patient has initially undergone biliary sphincterotomy with placement of transpapillary covered metal stent and Neoadjuvant chemotherapy is offered due to unresectability of the tumor. The mass remained stable. Attempted Whipple's surgery has been aborted due to common/proper hepatic arterial involvement. The patient management is further continued with Capecitabine and Radiotherapy.



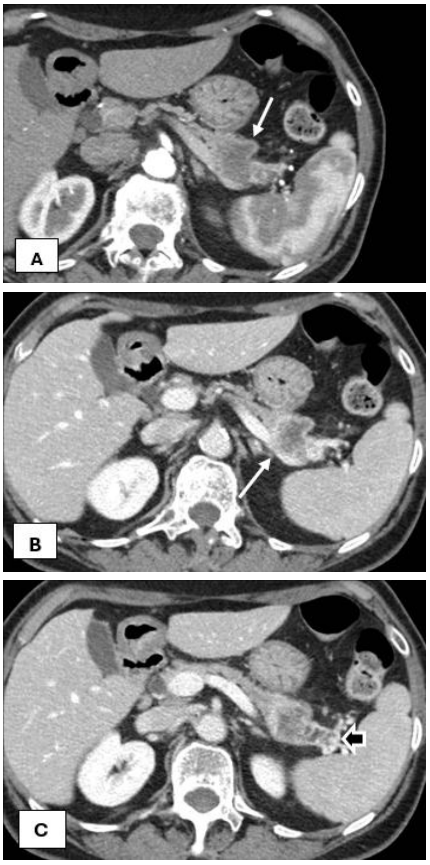


Figure 6: Resectable distal body/tail pancreatic mass.

75-year-old presented to ER with abdominal pain and altered mental status. CT AP revealed a pancreatic tail mass which is later evaluated with a dedicated Pancreatic mass protocol CT.

A. White arrow shows a 2.7 cm Heterogeneously enhancing mass in the distal pancreatic body /tail of the pancreas on this pancreatic mass protocol CT.
B. The mass broadly abuts the splenic vein with local mass effect resulting in narrowing, as pointed by the white arrow.
C. There is dilatation of the distal pancreatic duct pointed by the black thick arrow.

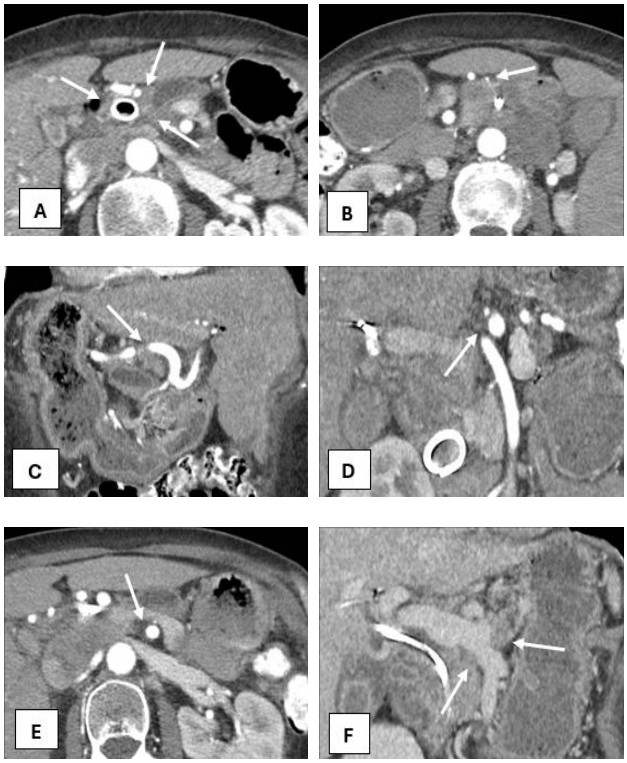
The patient underwent laparoscopic RAMPS (Radical Antegrade Modular Pancreatico Splenectomy) as the definite treatment followed by postoperative Chemotherapy and Radiotherapy

Figure 7: Borderline resectable tumor

Patient presented to emergency room for concerns of fatigue and unintentional weight loss over 6 months with jaundice. Initial US evaluation revealed a dilated CBD. Hence patient was further referred to MRCP which revealed severe intra/extra hepatic biliary ductal dilatation, distended gall bladder and an irregularly marginated pancreatic head mass. Subsequent evaluation is done with a pancreatic mass protocol CT, who representative images are shown above.

A. Hypo enhancing mass in the superior aspect of the pancreatic head measures 3.5 x 1.6 cm. There are upstream pancreatic ductal dilatation and pancreatic atrophy with upstream pancreatic duct measuring 0.8 cm. (White arrows).
B. Tumor encases the gastroduodenal artery. (White arrow).
C. Tumor abuts the inferior margin of the proper hepatic artery.
D. Juxta tumoral stranding abuts the superior mesenteric artery with less than 90-degree angle of contact. (White arrow).
E. Celiac artery is uninvolved by tumor. (White arrow).
F. Tumor encases the distal superior mesenteric vein at the confluence. (White arrow).

Patient underwent Whipple's surgery after neo adjuvant chemotherapy



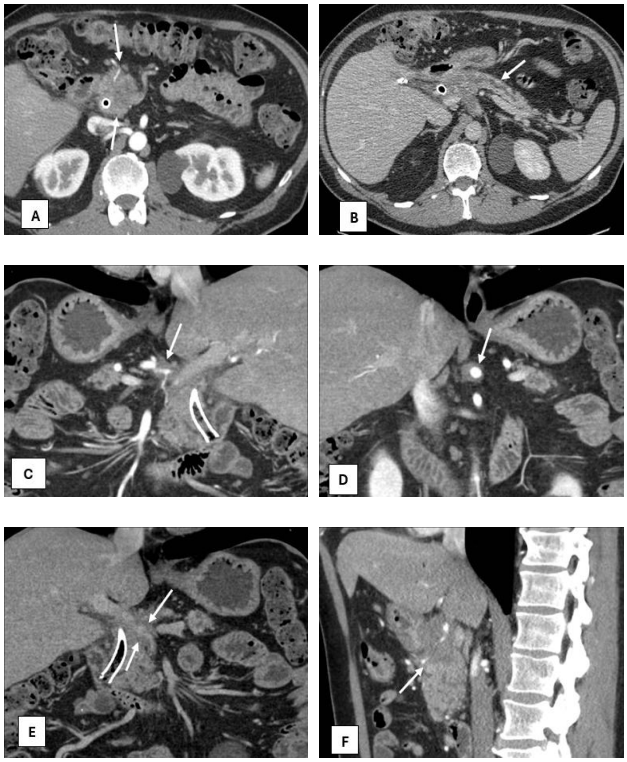


Figure 8: Locally advanced pancreatic cancer

A. 5.7 x 4.7 x 3.3 cm Hypo enhancing mass is seen in the neck of the pancreas. (White arrows).
B. Pancreatic Duct is obstructed proximally and mildly dilated distally measuring up to 5.3 mm in diameter. No intrahepatic biliary ductal dilatation. Extrahepatic biliary duct stent in place. Low volume pneumobilia. Prior cholecystectomy. (White arrow).
C. (and D) Solid tumor contact of >180 degrees of the common hepatic artery. (White arrows).
E. Solid tumor contact of 180 degrees or less with contour irregularity of the main portal vein. (White arrow).
F. Focal infiltration of the gastric antrum. (White arrow).

5. Structured report template used in PDAC staging

Using a structured template for reporting Pancreatic mass Protocol CT scan helps in accurate inclusion of all the findings to determine resectability of the tumor. Figure 9 describes the structured reporting template used at our organization adopted from the Recommendations of the Society of Abdominal Radiology Disease Focused panel.

Figure 9.

Morphologic evaluation of the pancreatic mass:

Attenuation: Heterogeneously**//**Homogeneously, hypoattenuating**//**isoattenuating**//**hyperattenuating
Size and Margins: Well-marginated**//**Somewhat poorly marginated**//**Poorly marginated mass measuring _____
Location: Head**//**uncinate process**//**neck**//**body**//**tail of the pancreas
Pancreatic duct: Obstructed with upstream dilation**//**Pancreatic duct is not obstructed
Biliary tree: Distal common duct is obstructed with upstream intra, and extrahepatic biliary dilation**//**Distal common duct is obstructed with dilation of extrahepatic common duct but no significant intrahepatic biliary dilation**//**No biliary obstruction**//**dilation
Peripancreatic infiltration: Present**//**Absent
Invasion of adjacent structures: Present**//**Absent

Arterial evaluation:

Superior mesenteric artery (SMA): Clear fat plane between the mass and the artery**//**Degree of solid soft tissue contact < 180 degrees**//**Degree of solid soft tissue contact > 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact < 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact > 180 degrees**//**Focal vessel narrowing or contour irregularity.
Extension to jejunal branch(es) of SMA: Present**//**Absent.
Celiac axis: Clear fat plane between the mass and the artery**//**Degree of solid soft tissue contact < 180 degrees**//**Degree of solid soft tissue contact > 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact < 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact > 180 degrees**//**Focal vessel narrowing or contour irregularity
Common hepatic artery: Clear fat plane between the mass and the artery**//**Degree of solid soft tissue contact < 180 degrees**//**Degree of solid soft tissue contact > 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact < 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact > 180 degrees**//**Focal vessel narrowing or contour irregularity. Extension to celiac axis absent
Extension to RHA or LHA: Present**//**Absent
Gastroduodenal artery: Clear fat plane between the mass and the artery**//**Degree of solid soft tissue contact < 180 degrees**//**Degree of solid soft tissue contact > 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact < 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact > 180 degrees**//**Focal vessel narrowing or contour irregularity
Contiguous extension of GDA abutment to common hepatic artery: Present**//**Absent.
Arterial anatomy: Conventional**//**Aberrant anatomy (Describe the variant anatomy)
Variant vessel contact: Clear fat plane between the mass and the artery**//**Degree of solid soft tissue contact < 180 degrees**//**Degree of solid soft tissue contact > 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact < 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact > 180 degrees**//**Focal vessel narrowing or contour irregularity

Venous evaluation:

Main portal vein: Clear fat plane between the mass and the vein**//**Degree of solid soft tissue contact < 180 degrees**//**Degree of solid soft tissue contact > 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact < 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact > 180 degrees**//**Focal vessel narrowing or contour irregularity**//**Complete occlusion
Superior mesenteric vein: Clear fat plane between the mass and the vein**//**Degree of solid soft tissue contact < 180 degrees**//**Degree of solid soft tissue contact > 180 degrees**//**Degree of increased hazy attenuation**//**stranding contact < 180

degrees//Degree of increased hazy attenuation//stranding contact > 180 degrees//Focal vessel narrowing or contour irregularity//Complete occlusion

Involvement of the first jejunal vein: Present//Absent

Splenic vein: Clear fat plane between the mass and the vein//Degree of solid soft tissue contact < 180 degrees//Degree of solid soft tissue contact > 180 degrees//Degree of increased hazy attenuation//stranding contact < 180 degrees//Degree of increased hazy attenuation//stranding contact > 180 degrees//Focal vessel narrowing or contour irregularity//Complete occlusion

Thrombus within vein: Present//Absent

Venous collaterals: Present//Absent

Extra pancreatic evaluation:

Liver lesions: Present//Absent

Peritoneal/omental nodules: Present//Absent

Ascites: Present//Absent

Suspicious lymph nodes: Present//Absent

Other extra pancreatic findings:

IMPRESSION:

- Tumor:
- Vascular contact:
- Findings suspicious for metastasis:
- Other findings:

Liver, peritoneal, pulmonary metastases evaluation and Lymph nodal staging

The next step in the management of pancreatic ductal adenocarcinoma after assessing resectability, is assessing spread of pancreatic cancer to regional lymph nodes and other sites of the body. Liver is the most common site of metastases from a primary pancreatic mass. The pancreatic mass protocol CT includes the chest and pelvis in the portal venous phase. This helps to assess loco-regional lymphadenopathy and presence or absence metastases to lungs, liver and other sites in the abdomen like peritoneum and omentum.

6. Use of CT / MRI in a PDAC Surveillance Program for Individuals at High Risk

Several hereditary/familial syndromes and genetic mutations are associated with increased incidence of pancreatic cancer. Examples include Peutz Jeghers syndrome, Lynch syndrome, Hereditary Pancreatitis and Familial atypical multiple mole melanoma syndrome.[7] Genetic testing for germline mutations should also be offered to individuals and family members based on initial risk assessment including through clinical evaluation, age at the time of diagnosis and pancreatic cancer in the family members. The American college of Gastroenterology provided guidelines for screening for a pancreatic mass in individuals of hereditary pancreatic syndrome and Peutz Jeghers syndrome.[8] The guidelines recommend MRI and EUS as screening modalities. In hereditary pancreatic cancer the screening should begin at the age of 50 years or 10 years younger than the earliest age of pancreatic cancer in the family, with annual pancreatic mass protocol MRI or an endoscopic ultrasound. In patients with Peutz Jeghers syndrome guidelines give a conditional recommendation of surveillance starting from the age of 35. The guidelines also recommend referral to more experienced centers for any pancreatic cysts detected on screening of the high-risk individuals.

7. Future directions

Emerging serum tumor markers in Pancreatic Cancer

Serum biomarkers are specific substances whose values become increased in certain tumors or cancers and are helpful in the diagnosis, treatment response assessment and sometimes early cancer detection. For pancreatic adenocarcinoma Ca19-9 is a well-known serum biomarker. Several new emerging biomarkers like miRNAs, MUC1, L1CAM and GATA6 for pancreatic adenocarcinoma are described recently. Dimitros et al. suggest that these newer biomarkers increase in the accuracy of the diagnosis and help to individualize the treatment plan.[9]

Role of Artificial intelligence in detection of Pancreatic cancer

Another emerging approach for the early detection of PDAC is the use of artificial intelligence, including machine

learning and deep learning models. Cao et al. demonstrated a deep learning model called "PANDA" using non-contrast CT, which may serve as a promising tool for large-scale pancreatic cancer screening in selected populations.[10]

8. Conclusion

Pancreas protocol CT is the modality of choice in diagnosis and staging of PDAC per the NCCN guidelines. Pancreas protocol MRI/MRCP can provide complementary information to CT and is superior to CT for pancreatic ductal assessment and detection of small isodense pancreatic masses. Lack of ionization radiation makes MRI the ideal choice when screening for PDAC. Structured reporting template is recommended for radiology reports to ensure consistent and comprehensive assessment of PDAC.

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