Radiology Elective Presentation

Patricia Valda Toro

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Case

60 y.o male w/ episodes of loose and lighter color stool as well as a 7 lb weight loss over the last few months.
Pancreatic Ductal Adenocarcinoma
Pancreatic Ductal Adenocarcinoma

• Makes up the vast majority (~90%) of all pancreatic neoplasms.
• Majority of cases occur in males after 60 years old.
• **Risk Factors**: smoking, obesity, protein/fat-rich diet, family history.
• **Clinical Presentation**: courvoisier’s gallbladder, new onset of diabetes, lipase hypersecretion syndrome.

• Most tumors are not resectable at diagnosis.
• Recurrence after resection of stage I and II very likely; doubling of survival from 5% to 10% in operated patients at 5 years.
• At 12 months following the diagnosis, almost a quarter of the patients will have died.
Pancreatic Ductal Adenocarcinoma

• Common location
  • Head of the pancreas (75%).
  • Body (15%) and tail (10%).

• Pancreatic head carcinoma are usually > 3 cm. Tumors in the body and tail are usually larger at diagnosis because present late with symptoms. These tumors are usually irresectable.

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Ultrasound

• Non-specific findings
• Hypoechoic mass
• Double duct sign may be seen
  • simultaneous dilatation of the common bile and pancreatic ducts.
• US can determine the level of obstruction in most cases (sensitivity >90%).

Schrope, B. Surgical and Interventional Ultrasound
CT

• Poorly defined masses with extensive surrounding desmoplastic reaction.

• Enhance poorly compared to adjacent normal pancreatic tissue and thus appear hypodense on arterial phase scans in 75-90% of cases.

• Double duct sign may be seen.

Hypoattenuating 2.7 x 2.5cm mass at the pancreatic head
The common bile duct measures up to 1.3 cm.

Mean diameter of normal common duct is 4 mm. > 7 mm symptoms due to gallstones, pancreatitis, tumor.
Tumor spread

• CT correlates well with surgical findings in predicting unresectability.

• The most important feature to assess locally is the relationship of the tumor to surrounding vessels (SMA).

• If the tumor surrounds a vessel by more than 180 degrees, then it is deemed T4 disease and is unresectable.

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MRI to standard staging CT can be recommended for surgical candidates of PDA

• CT + MR and CT only (2005 – 2012)

  • Staging was changed from resectable on CT to unresectable state on MRI in 14.4% patients
  • The overall survival and recurrence-free survival rates were not significantly different between the two groups
  • The median time to liver metastases after curative surgery in the CT+MR group (9.9 months) was significantly longer than that in the CT group (4.2 months)
Patient Follow up

• Underwent ERCP due to rising bilirubin. Bile duct stenosis was treated with stent. The common hepatic duct and intrahepatic bile ducts were noted to be dilated.

• Staging: T2N0M0 -> resectable

• Currently neoadjuvant therapy
Thank you