AMSER Case of the Month January 2021 Epigastric Pain

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Patient Presentation

- HPI: 58 yo F presented with epigastric pain radiating to chest and upper back for 5 days. No nausea, vomiting. No history of gallstones or alcohol use disorder
- PMH: Atrial fibrillation, CAD, COPD, Depression, Hepatitis A, sick sinus syndrome, arthritis, hyperlipidemia, migraines, myocardial infarction
- PSH: Appendectomy, total abdominal hysterectomy, back surgery, knee surgery, pacemaker placement and coronary angiography
- Social History: 15 pack year smoking history. Reports current alcohol use. No drug use
- Medications: Atorvastatin, Metoprolol, Aspirin
- Vitals: BP: 151/80mmHg; HR: 67; Temp: 36.2C; RR 18; SpO2: 98%
- PE: epigastric and LUQ tenderness to palpation

Pertinent Labs

- Lipase elevated at 232
- Troponin <6, BNP normal
- LFTs, bilirubin, CBC and BMP are within normal limits

What is the appropriate imaging?

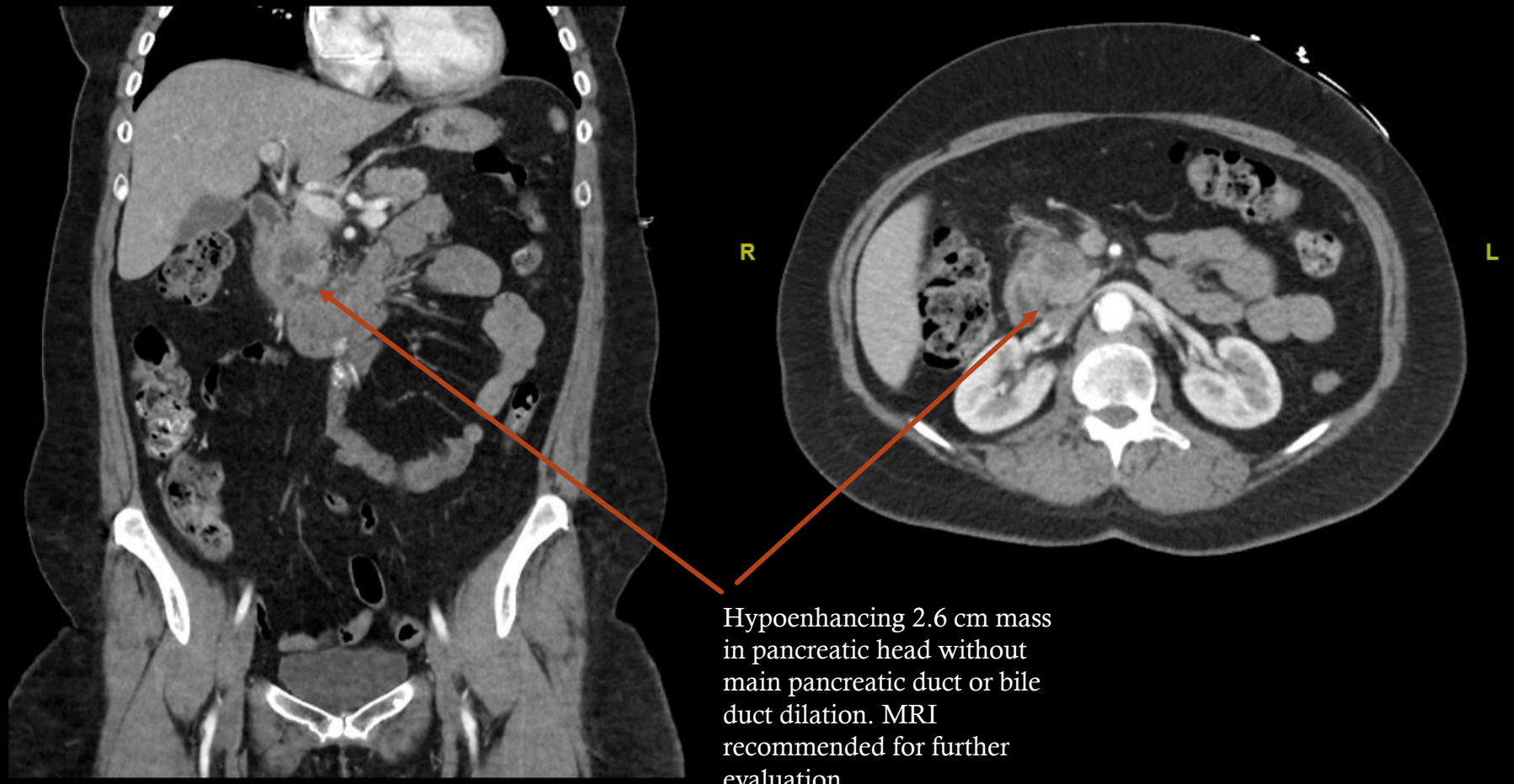
This imaging modality was ordered by the ER physician

Variant 2: **Suspected acute pancreatitis. Initial presentation with atypical signs and symptoms; including equivocal amylase and lipase values (possibly confounded by acute kidney injury or chronic kidney disease) and when diagnoses other than pancreatitis may be possible (bowel perforation, bowel ischemia, etc). Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
CT abdomen and pelvis with IV contrast	Usually Appropriate	☢☢☢
MRI abdomen without and with IV contrast with MRCP	Usually Appropriate	O
CT abdomen and pelvis without IV contrast	May Be Appropriate	☢☢☢
MRI abdomen without IV contrast with MRCP	May Be Appropriate	O
US abdomen	May Be Appropriate	O
US duplex Doppler abdomen	May Be Appropriate	O
CT abdomen and pelvis without and with IV contrast	Usually Not Appropriate	☢☢☢☢
US abdomen with IV contrast	Usually Not Appropriate	O

Findings (unlabeled)

Findings (labeled)

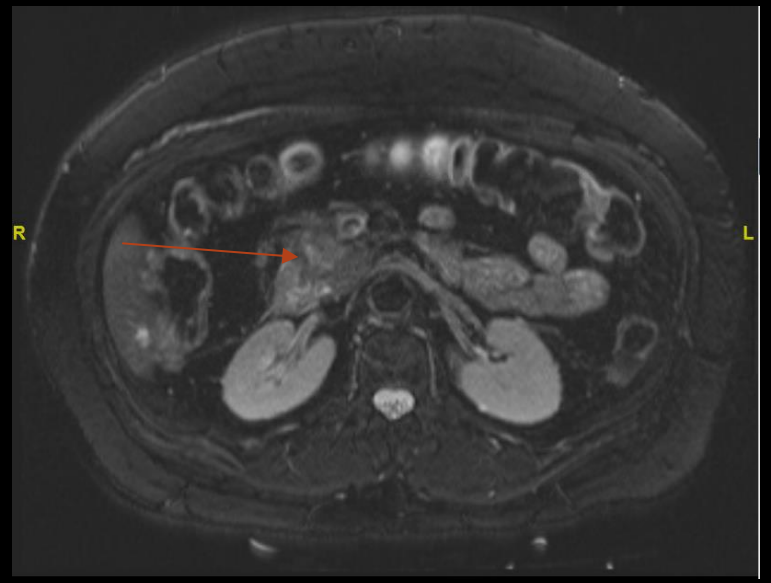


Hypoenhancing 2.6 cm mass in pancreatic head without main pancreatic duct or bile duct dilation. MRI recommended for further evaluation.

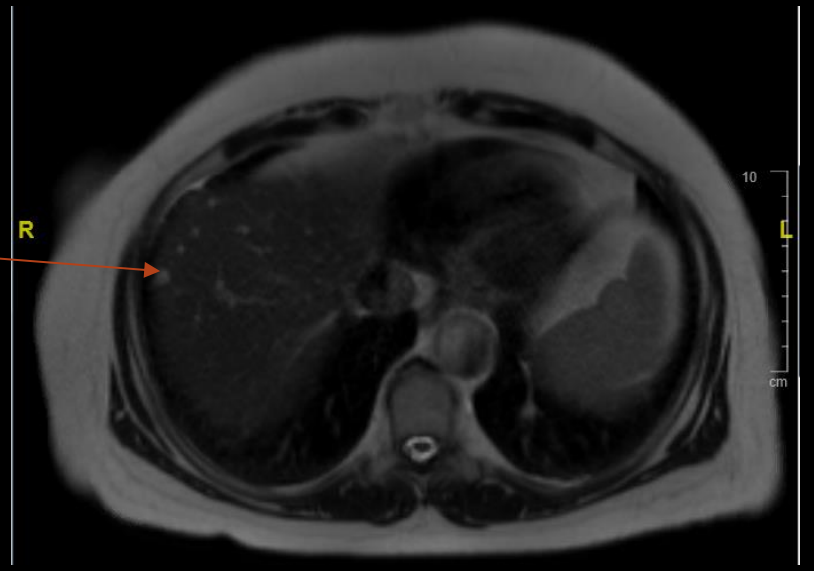
Peripherally enhancing, centrally T2 hyperintense mass in pancreatic head may reflect walled off necrosis in the setting of pancreatitis although malignancy needs to be excluded. EUS may be helpful.

T2 hyperintense masses in the inferior right hepatic lobe and liver dome peripherally showed no enhancement, are sub cm in size, representing small cysts. No suspicious liver masses were seen.

T1 Fat Saturated MRI sequence



T2 Fat Saturated MRI sequence



T2 MRI sequence

Discussion: Pt follow up

- EUS:
- FNA of pancreatic head was performed.
- Cytology results: Positive for malignant cells.

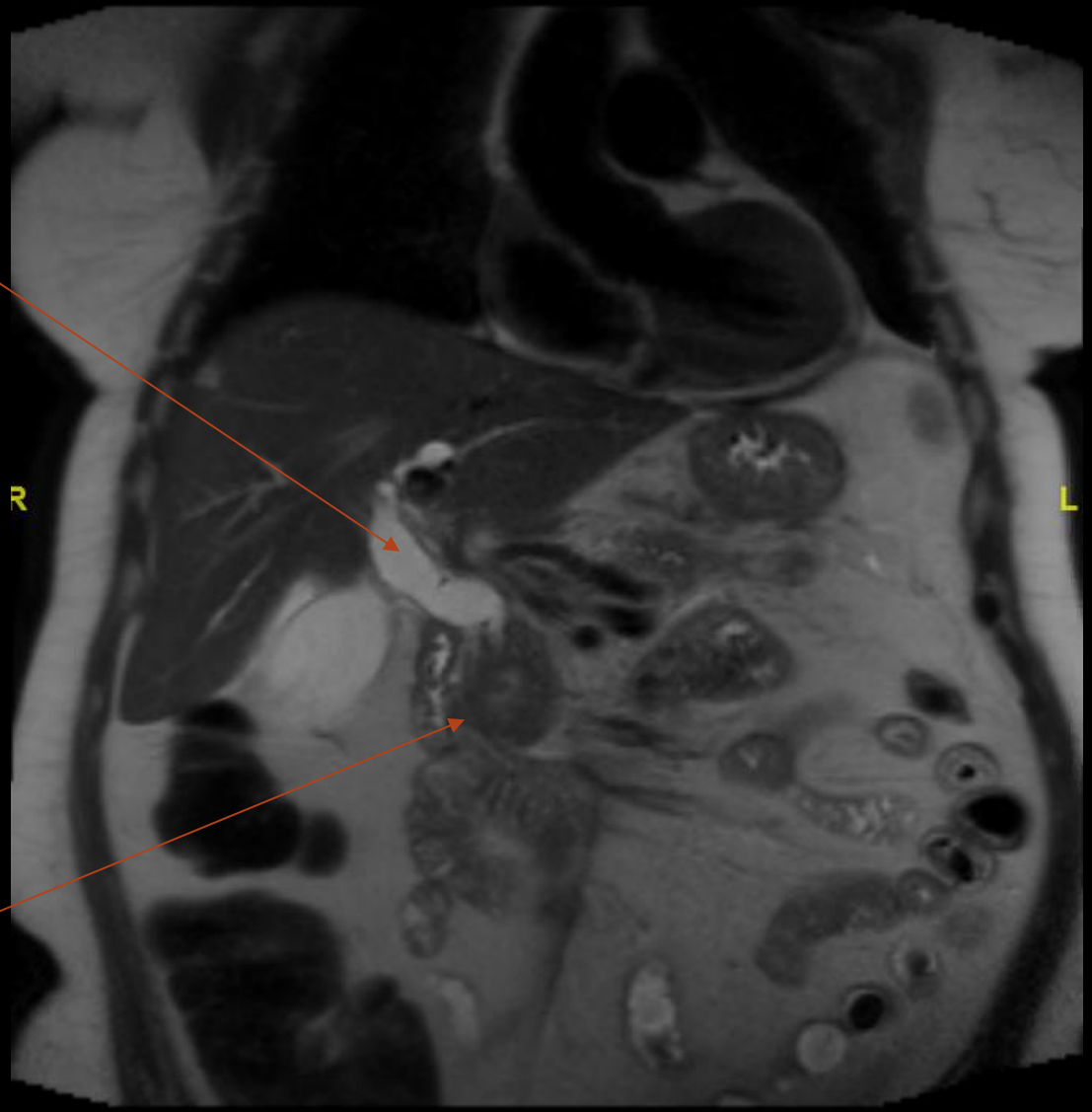
Final Diagnosis:

Pancreatic adenocarcinoma

Discussion: Pt follow up

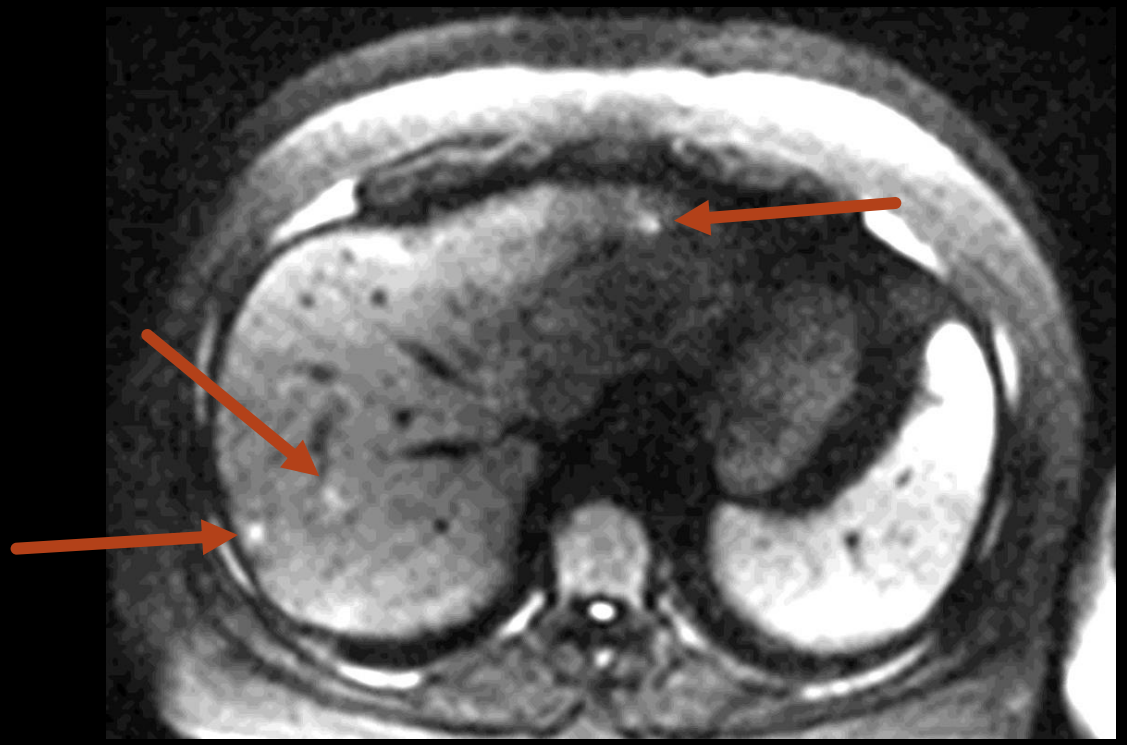
- Pt continued to be hospitalized for multiple episodes of abdominal pain and pancreatitis
- Pt was to start chemotherapy but it was delayed when the patient had recurrent episodes of pancreatitis and most recently had a CT abdomen/pelvis which showed peripancreatic fluid with findings concerning for infection; patient is currently hospitalized.
- Repeat MRI, performed 2 months after initial MRI, showed new intrahepatic and extrahepatic biliary ductal dilation with tapering of CBD at the level of pancreatic mass and at least 7 hepatic metastases (see images on the next slide)
- Pt had a CBD stent placed for obstructive symptoms secondary to pancreatic adenocarcinoma.

New intrahepatic and extrahepatic biliary ductal dilation with tapering of CBD at the level of pancreatic mass



Pancreatic mass

New foci of restricted diffusion within the liver parenchyma with corresponding hypoenhancement on postcontrast imaging, compatible with metastases.



Diffusion B800

T1 Fat Saturated C+

Discussion: Pt presentation, treatment and prognosis

- Pt presented with LUQ and Epigastric pain
  - Common symptoms are weight loss, jaundice and pain[1]
  - Serum bilirubin and alkaline phosphate might suggest pancreatic cancer, but they are not diagnostic. CA-19-9 may help with prognosis [2]
- Imaging modalities for diagnosis and management as shown[3]

Pancreatic Cancer: Diagnosis and Management

TABLE 2

Accuracy of Imaging Studies for the Diagnosis of Pancreatic Cancer

IMAGING STUDY	*SENSITIVITY †(%)*	*SPECIFICITY ‡(%)*	*PERCENTAGE OF PATIENTS WITH PANCREATIC CANCER AT 10 PERCENT PRETEST PROBABILITY**		*PERCENTAGE OF PATIENTS WITH PANCREATIC CANCER AT 30 PERCENT PRETEST PROBABILITY**	
			ABNORMAL (%)	*NORMAL (%)*	*ABNORMAL (%)*	*NORMAL (%)*
Dual-phase helical computed tomography	98	54	19	0.4	48	2
Transabdominal ultrasonography	83	99	90	1.9	97	7
Endoscopic ultrasonographyguided fine-needle aspiration	92	100	95	0.9	99	3
Endoscopic retrograde cholangiopancreatography	70	94	56	3.4	83	12
Magnetic resonance cholangiopancreatography	84	97	76	1.8	92	7
Positron emission tomography	96	65	23	0.7	54	3

**—Estimated likelihood of pancreatic cancer before testing.*

†—Percentage of patients with pancreatic cancer who have an abnormal test.

‡—Percentage of patients without pancreatic cancer who have a normal test.

Information from references 21 through 25.

Discussion: continued

SEER Stage	5-year Relative Survival Rate
Localized	37%
Regional	12%
Distant	3%
All SEER stages combined	9%

- Treatment: surgical resection is the only curative treatment. For this patient, given metastatic disease to the liver, she is not a candidate for resection and will continue with chemotherapy
- Prognosis: This patient has distant metastases to the liver giving her a 3% 5 year relative survival rate[4]

References

1. *DiMagno EP. Cancer of the pancreas and biliary tract. In: Winawer SJ, ed. Management of gastrointestinal diseases. New York: Gower Medical Publishing, 1992.*
2. Malesci A, Montorsi M, Mariani A, Santambrogio R, Bonato C, Bissi O, et al. Clinical utility of the serum CA 19–9 test for diagnosing pancreatic carcinoma in symptomatic patients: a prospective study. *Pancreas*. 1992;7:497–502
3. Anne D. Walling, M.B., CH.B. *Am Fam Physician.* 2006 Feb 1;73(3):485-492.
4. American Cancer Society. *Cancer Facts & Figures 2020*. Atlanta, Ga: American Cancer Society; 2020.