

Abdominal Pain

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Diagnostic Radiology, RAD 4001

Clinical History

- 66y.o. male with PMH of a renal transplant 30+ years ago currently on cyclosporine and prednisone, HTN, and HLD who presents with abdominal pain and NBNB vomiting that started a few weeks ago
- T: 101.6, HR: 133, BP: 114/75, O2 sat: 96% on RA
- Physican exam
 - Abdomen soft, with **hepatomegaly**
 - No cervical, supraclavicular, axillary or inguinal lymphadenopathy
 - CV, Lungs, neuro exams wnl
- Labs
 - TB: 1.6, ALP: 691
 - WBC: 15.7, Hgb: 7.3

US Abdomen

C5-1
24Hz
RS
Z 0.8
2D
67%
Dyn R 55
P Low
HGen

P

M3



x3
22cm

RT LIV

*** bpm

CT Abdomen and Pelvis w/ Contrast



RD:623.13
Tilt:0
mA:181
KVp:120
Acq no:3

Z:1.74
C:40
W:400
DFOV:65.5x62.3cm
IM:64 SE:604





A
R

L

RD:472
Tilt:0
mA:664
KVp:120
Acq no:3

Z:1.74
C:50
W:400
DFOV:49.6x47.2cm
IM:75 SE:306



Key Imaging Findings

- U/S: hepatomegaly with innumerable hepatic lesions replacing the entire liver parenchyma, normal caliber CBD
- CT:
 - Hepatomegaly (22.7 cm) with lesions showing central necrosis; mass obliterate plane between stomach and liver
 - Pancreas: heterogeneously enhancing 7.8 cm x 7.4 cm x 4.6 cm mass in the body and tail of the pancreas

Differential Diagnosis

- Pancreatic cancer with metastasis to liver
- Liver abscesses
- Pancreatic cyst

Discussion

- Pancreatic cancer
 - 4th leading cause of cancer-related death
 - Pancreatic metastases from other primary malignancies are rare ¹
 - Most common: adenocarcinoma, 85% ¹
- Diagnostic approach
 - Imaging → biopsy

Final Diagnosis

- Pancreatic neuroendocrine tumor, possibly stage IV

Prognosis

- Grade 1 rectal NET had a median survival >30 years
- Median survival with distant metastases was 50 months
- Five year overall survival after surgery resection was 59.3% ²

ACR appropriateness Criteria

- Median cost of CT: \$400³
- Median cost of US Abdomen: \$200³

Variant 1: Acute nonlocalized abdominal pain and fever. No recent surgery. Initial imaging.		
Procedure	Appropriateness Category	Relative Radiation Level
CT abdomen and pelvis with IV contrast	Usually Appropriate	☼☼☼
MRI abdomen and pelvis without and with IV contrast	May Be Appropriate	○
US abdomen	May Be Appropriate	○

Take Home Points

- Imaging does not reveal primary type of tumor
- Helpful for the staging of cancer
- Multidisciplinary approach

References

1. Sperti, C, Moletta L, Patanè G. Metastatic tumors to the pancreas: The role of surgery. World J Gastrointest Oncol. 2014;6(10):381-392. doi:10.4251/wjgo.v6.i10.381
2. Bilimoria, KY, et al. Prognostic Score Predicting Survival After Resection of Pancreatic Neuroendocrine Tumors: Analysis of 3851 Patients, Annals of Surgery: March 2008 - Volume 247 - Issue 3 - p 490-500
3. Arvind Vijayasarathi, C., et al. How Much Do Common Imaging Studies Cost? A Nationwide Survey of Radiology Trainees. American Journal of Roentgenology 2015 205:5, 929-935



Questions?