

AMSER Case of the Month

June 2026

68-year-old male presented for further evaluation of
incidental multiple intra-abdominal masses
concerning for carcinomatosis

Caroline Malkin, M3¹

1. Cooper Medical School of Rowan University

Adam Polikoff, MD², Pauline Germaine, DO^{1,2}, Veniamin Barshay, MD^{1,2}

2. Cooper University Hospital



Cooper Medical School
of Rowan University



Patient Presentation

- 68 yr old male presenting for follow-up after hospitalization for influenza with bacteremia
- CT imaging during admission revealed multiple intra-abdominal masses concerning for metastatic disease
- History notable for splenectomy at age 9
- Denies: abdominal pain, fever/chills, nausea/vomiting, bowel changes

Pertinent Labs

- WBC: 11.7 (mild leukocytosis, normal range 3.4-10.8)
- Hgb: 12.8 (mild anemia, normal range 13.0-17.7)
- CEA: 5.3 (elevated, normal range 0.0-4.7)
- CA 19-9: 6 (normal, normal range 0-35)
- Bilirubin: 0.3 (normal, normal range 0.0-1.2)
- INR: 1.0 (normal, normal range 0.9-1.2)

What Imaging Should We Order?

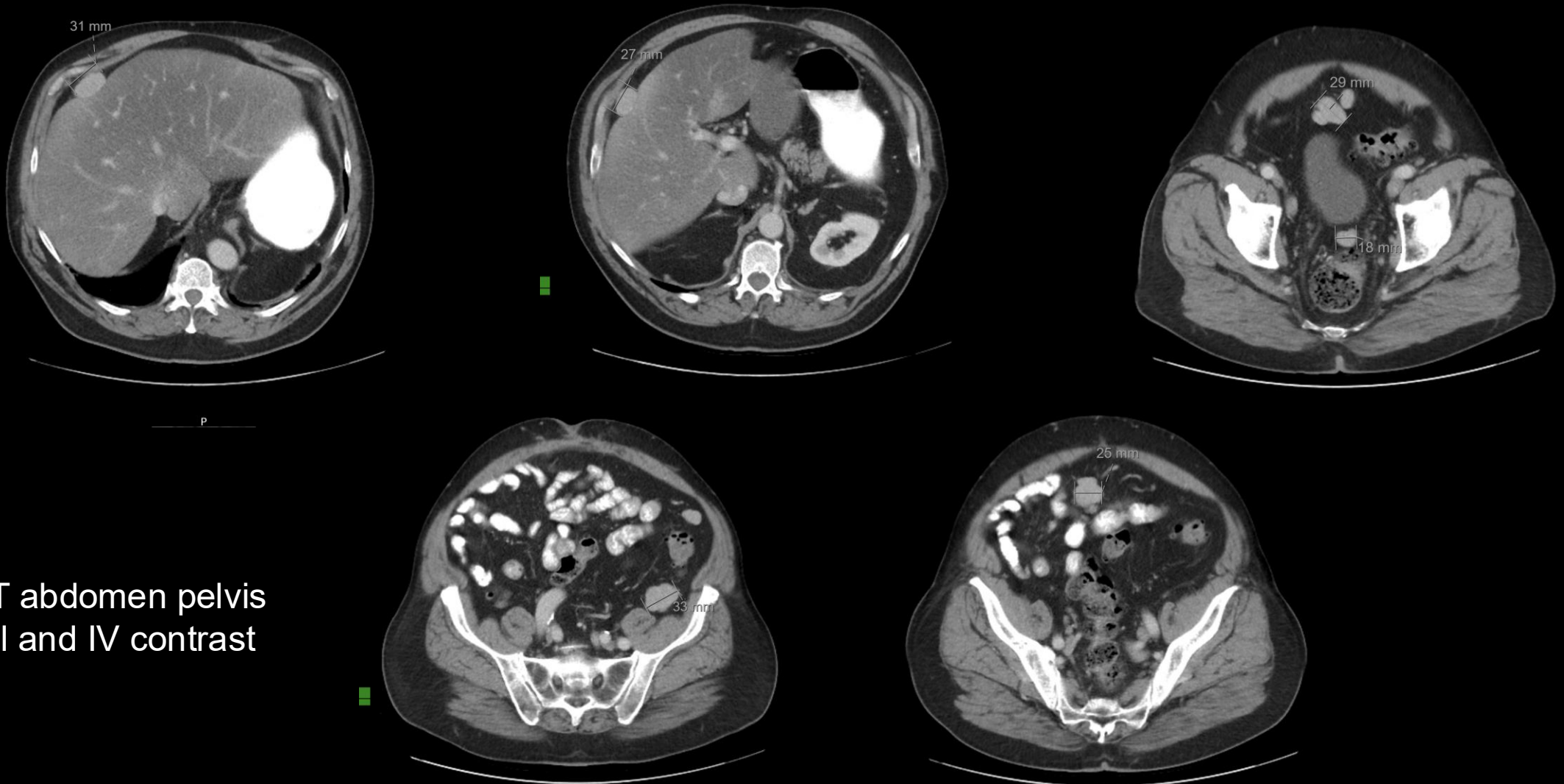
Select the applicable ACR Appropriateness Criteria

Scenario	Scenario ID	Procedure	Adult RRL	Peds RRL	Appropriateness Category
Liver lesion, >1cm, indeterminate on noncontrast MRI, normal liver, no extrahepatic malignancy	3191932	● MRI abdomen without and with IV contrast	0 mSv O	0 mSv [ped] O	Usually appropriate
		● CT abdomen with IV contrast multiphase	10-30 mSv O		Usually appropriate
		● US abdomen	0 mSv O	0 mSv [ped] O	May be appropriate (Disagreement)
		● US abdomen with IV contrast	0 mSv O	0 mSv [ped] O	May be appropriate
		● Image-guided biopsy liver	Varies	Varies	Usually not appropriate
		● DOTATATE PET/CT skull base to mid-thigh	1-10 mSv O		Usually not appropriate
		● Liver spleen scan	1-10 mSv O		Usually not appropriate
		● RBC scan abdomen and pelvis	1-10 mSv O		Usually not appropriate
		● CT abdomen without and with IV contrast	10-30 mSv O	10-30 mSv [ped] O	Usually not appropriate
		● FDG-PET/CT skull base to mid-thigh	10-30 mSv O	3-10 mSv [ped] O	Usually not appropriate
		● Octreotide scan with SPECT or SPECT/CT chest and abdomen	10-30 mSv O		Usually not appropriate

This imaging modality was done first, concern for carcinomatosis

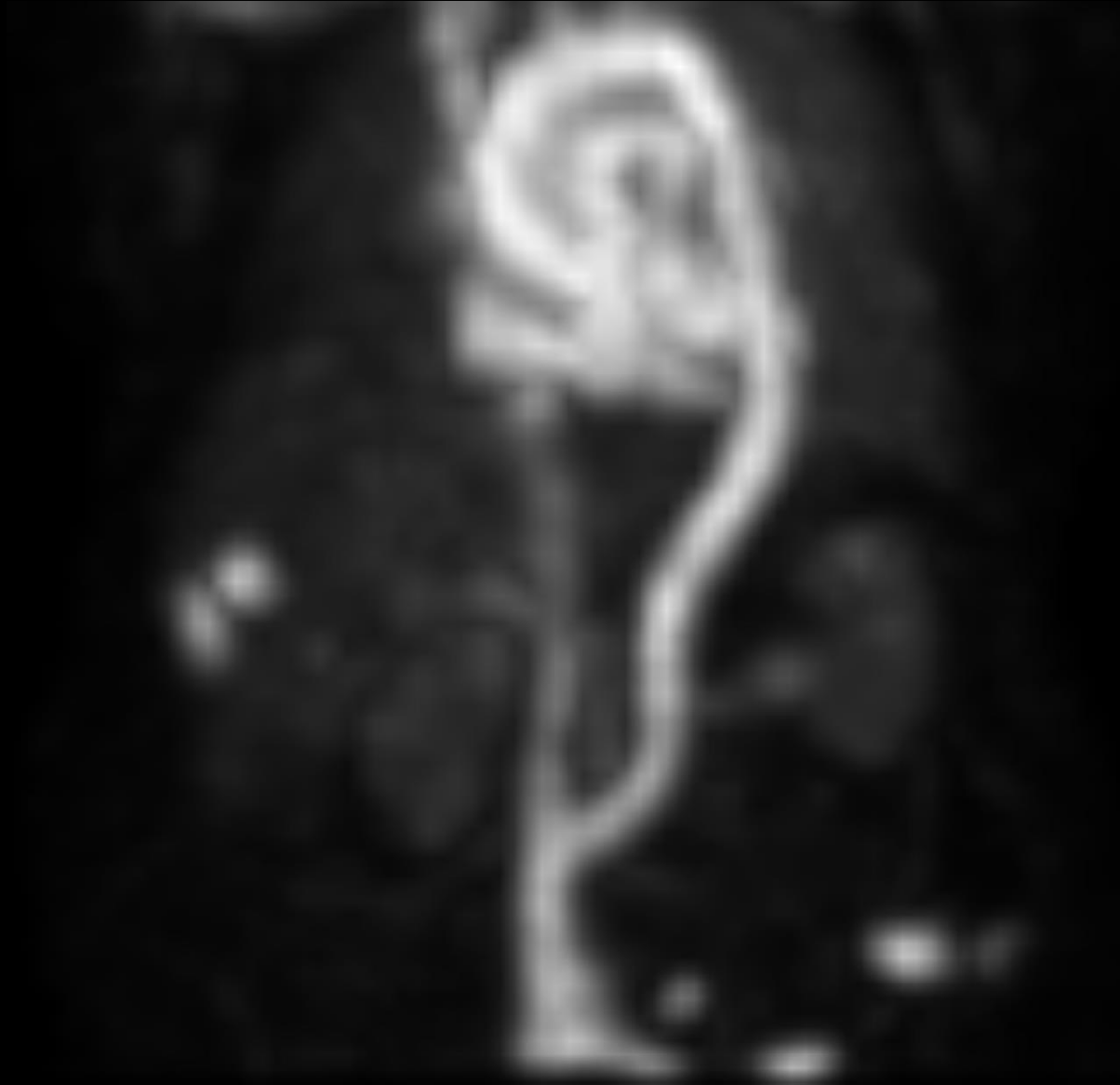
This imaging modality was then appropriately ordered

Findings (unlabeled)



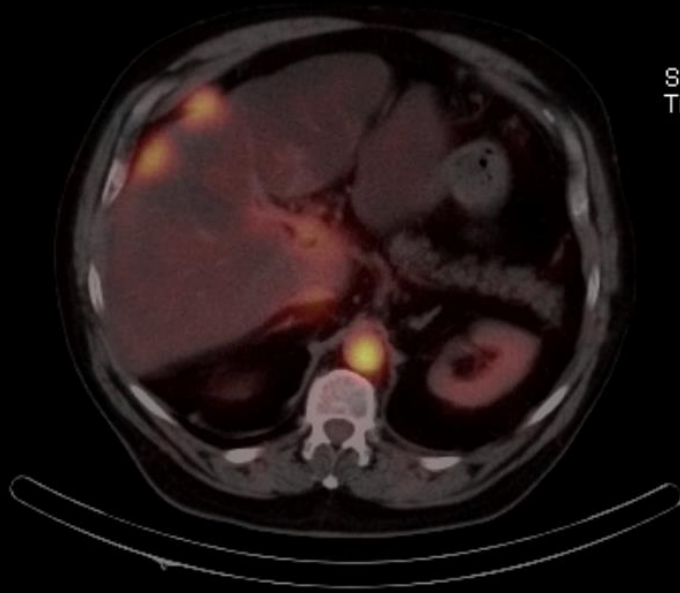
Axial CT abdomen pelvis
with oral and IV contrast

Findings (unlabeled)

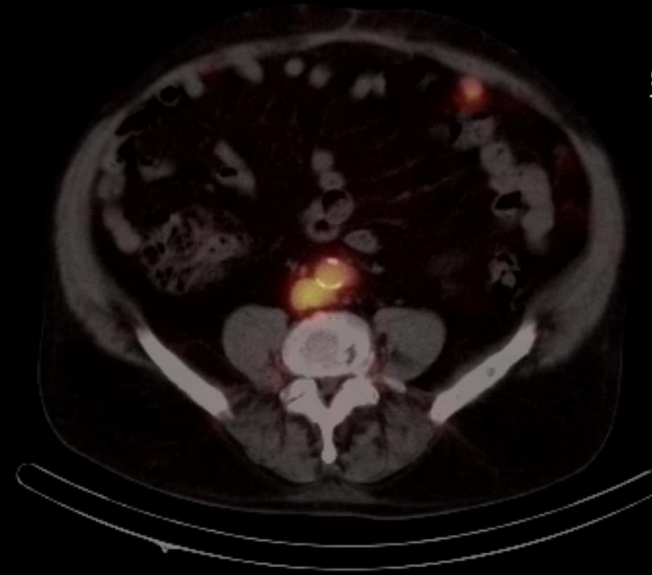


Nuclear Medicine
Technetium 99m Labeled
Denatured RBC scan
Maximum Intensity
Projection (MIP)

Findings (unlabeled)



Spin: -0
Tilt: -90

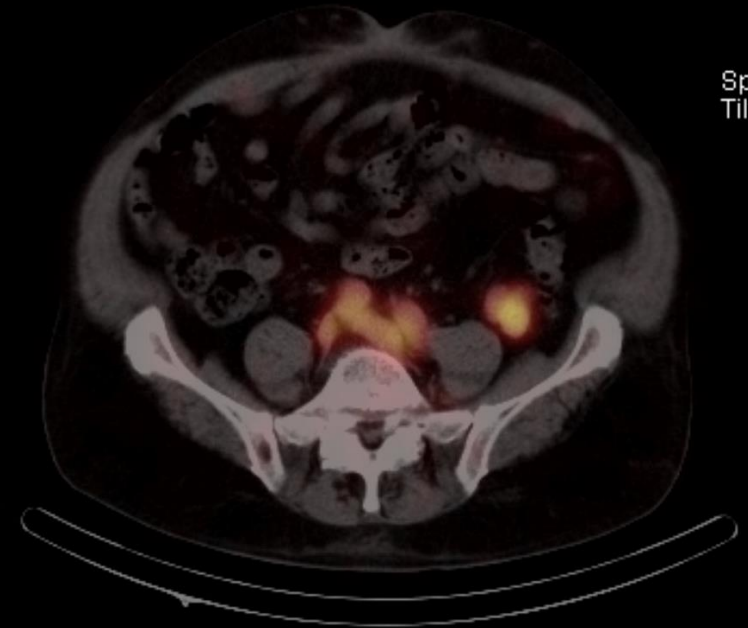


Spin: -0
Tilt: -90

Nuclear Medicine
Technetium 99m
Labeled Denatured RBC
scan Axial images fused
with CT scan (SPECT/CT)

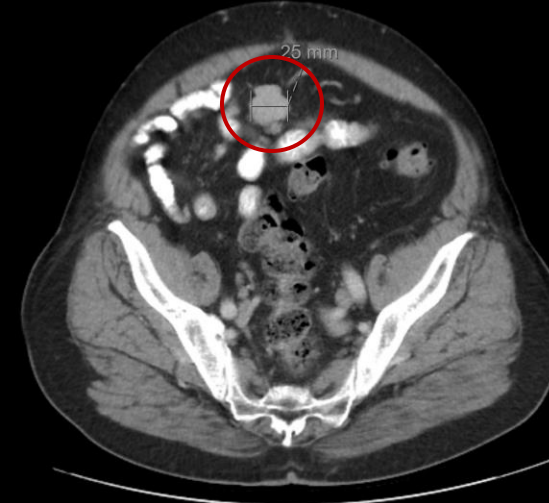
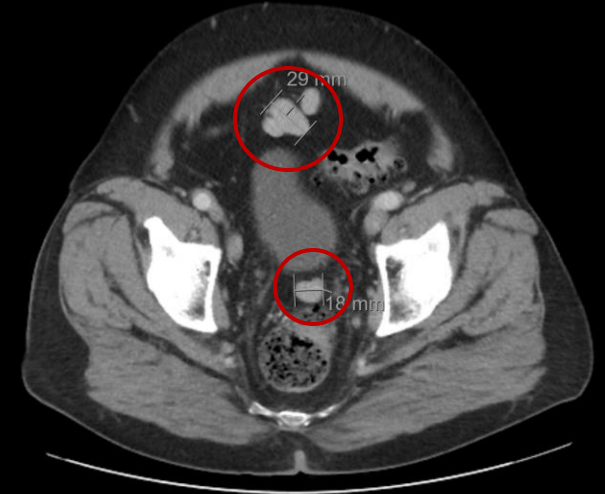
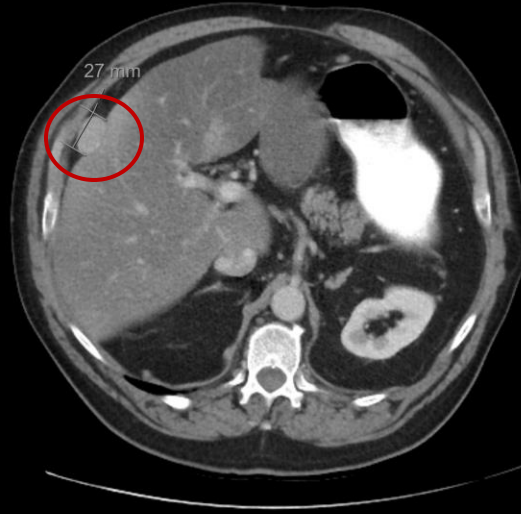
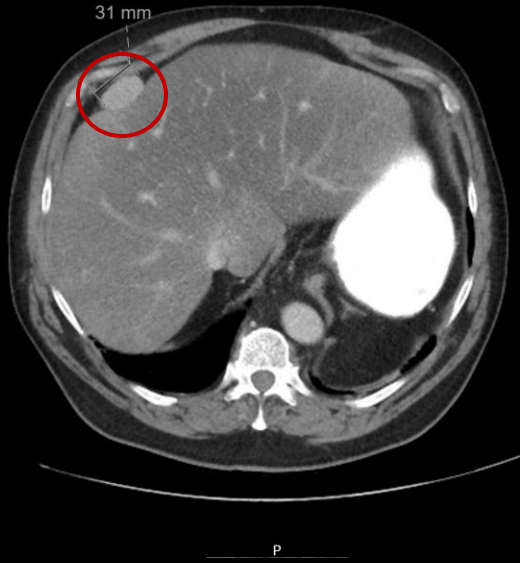


Spin: -0
Tilt: -90



Spin: -0
Tilt: -90

Findings (labeled)



Axial CT abdomen pelvis
with oral and IV contrast

Multiple homogeneously
enhancing circumscribed
peritoneal masses

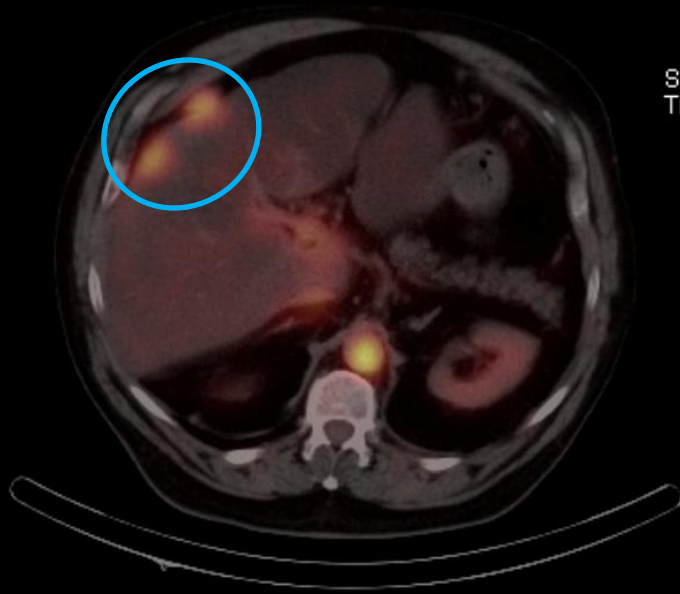
Findings (labeled)



Nuclear Medicine
Technetium 99m Labeled
Denatured RBC scan
Maximum Intensity
Projection (MIP)

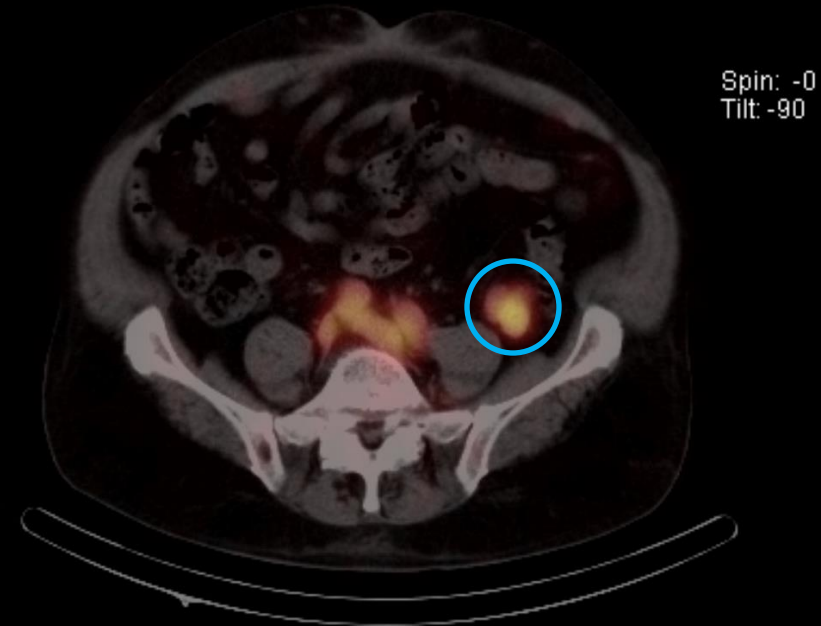
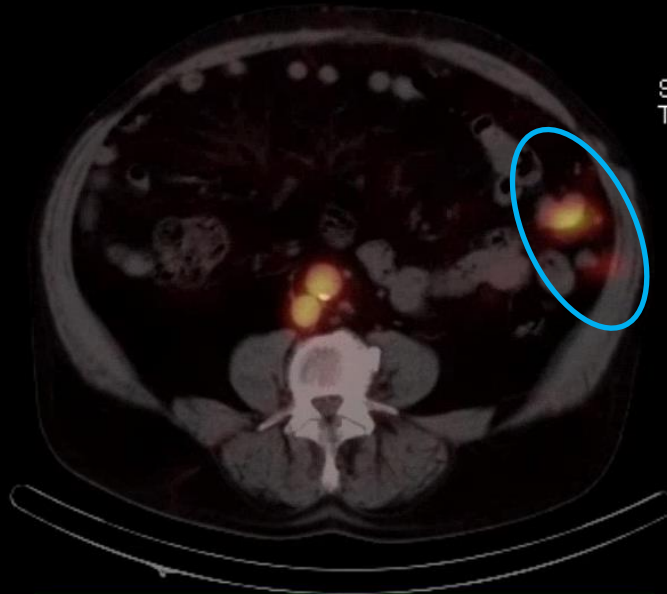
Multiple peritoneal
masses all demonstrate
increased radiotracer
uptake, consistent with
splenoses and correlate
with CT findings.

Findings (labeled)



Nuclear Medicine
Technetium 99m
Labeled Denatured RBC
scan Axial images fused
with CT scan (SPECT/CT)

Perihepatic, omental and
pelvic nodules all
demonstrate increased
radiotracer uptake,
consistent with splenoses
and correlate with
nodules seen on CT.



Final Dx:

Peritoneal Splenoses (Accessory Splenic Tissue)

Case Discussion

What is splenosis?

- Auto-transplantation of splenic tissue after trauma or splenectomy¹
- Splenic pulp seeds throughout peritoneal cavity¹
- Implants revascularize → grow¹
- Most common locations¹
 - Peritoneum
 - Omentum
 - Mesentery
 - Liver surface

Case Discussion

Why it matters:

- Mimics²:
 - Peritoneal carcinomatosis
 - Metastatic disease
 - Lymphoma
- Clues favoring splenosis²
 - History of trauma or splenectomy
 - Multiple nodules without primary malignancy
 - Long-term stability on imaging
 - Typical distribution pattern and pattern of enhancement

Case Discussion

Imaging pearls:

- CT³:
 - Soft tissue nodules similar to spleen density
 - May enhance like splenic tissue
- Best imaging for diagnosis: Tc-99m heat-damaged RBC scan⁴
 - Highly specific for splenic tissue
 - Avoids unnecessary biopsy/surgery

Management: benign, no further workup / treatment

References:

1. Fremont RD, Rice TW. Splenosis: a review. *South Med J*. 2007;100(6):589-593. doi:10.1097/SMJ.0b013e318038d1f8
2. Yammine JN, Yatim A, Barbari A. Radionuclide imaging in thoracic splenosis and a review of the literature. *Clin Nucl Med*. 2003;28(2):121-123. doi:10.1097/01.RLU.0000048681.29894.BA
3. Mortelé KJ, Mortelé B, Silverman SG. CT features of the accessory spleen. *AJR Am J Roentgenol*. 2004;183(6):1653-1657. doi:10.2214/ajr.183.6.01831653
4. Short NJ, Hayes TG, Bhargava P. Intra-abdominal splenosis mimicking metastatic cancer. *Am J Med Sci*. 2011;341(3):246-249. doi:10.1097/maj.0b013e318202893f