AMSER Case of the Month May 2022

69-year-old male with hematochezia and diarrhea

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Patient Presentation

- HPI: Patient presented to the ED with new-onset hematochezia. He had diarrhea for around 3 months and mild upper abdominal pain for a week prior to presenting.

- PMHx: prior MI, pacemaker, hyperlipidemia, HTN, sleep apnea
- Surg Hx: coronary stents, colon polyp removal
- Medications: aspirin, atorvastatin, lisinopril, metoprolol, citalopram

Patient Presentation

- Vitals: BP 149/77, HR 80, RR 18, 36.4° C, SpO2 98%
- PE: DRE heme positive, otherwise unremarkable
- Labs
  - Hgb - 18.3 (H)
  - Na - 133 (L)
  - Lipase - 175 (H)
  - Glucose - 152 (H)

What Imaging Should We Order?

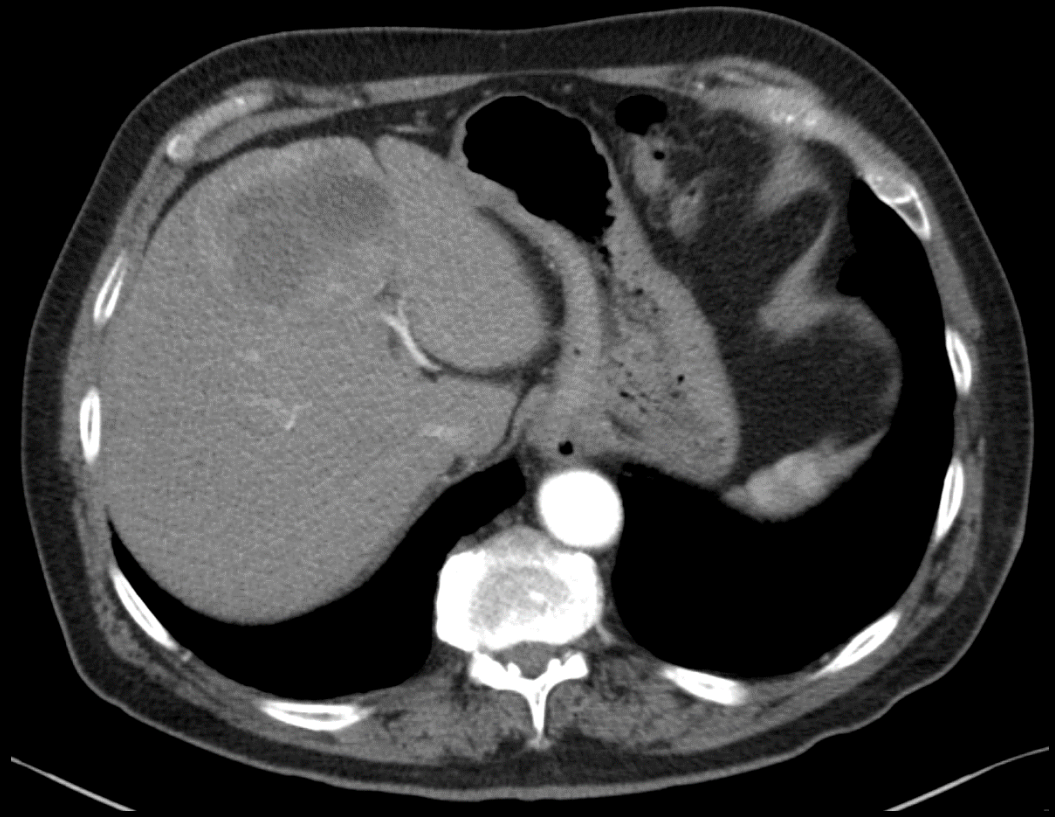
Select the applicable ACR Appropriateness Criteria

Variant 1: **Lower gastrointestinal tract bleeding. Active bleeding clinically observed as hematochezia or melena in a hemodynamically stable patient. Next step.**

Procedure	Appropriateness Category
CTA abdomen and pelvis without and with IV contrast	Usually Appropriate
Diagnostic/therapeutic colonoscopy	Usually Appropriate
RBC scan abdomen and pelvis	Usually Appropriate
Transcatheter arteriography/embolization	May Be Appropriate
MRA abdomen and pelvis without and with IV contrast	Usually Not Appropriate
Surgery	Usually Not Appropriate

This imaging modality was ordered

Findings (unlabeled)



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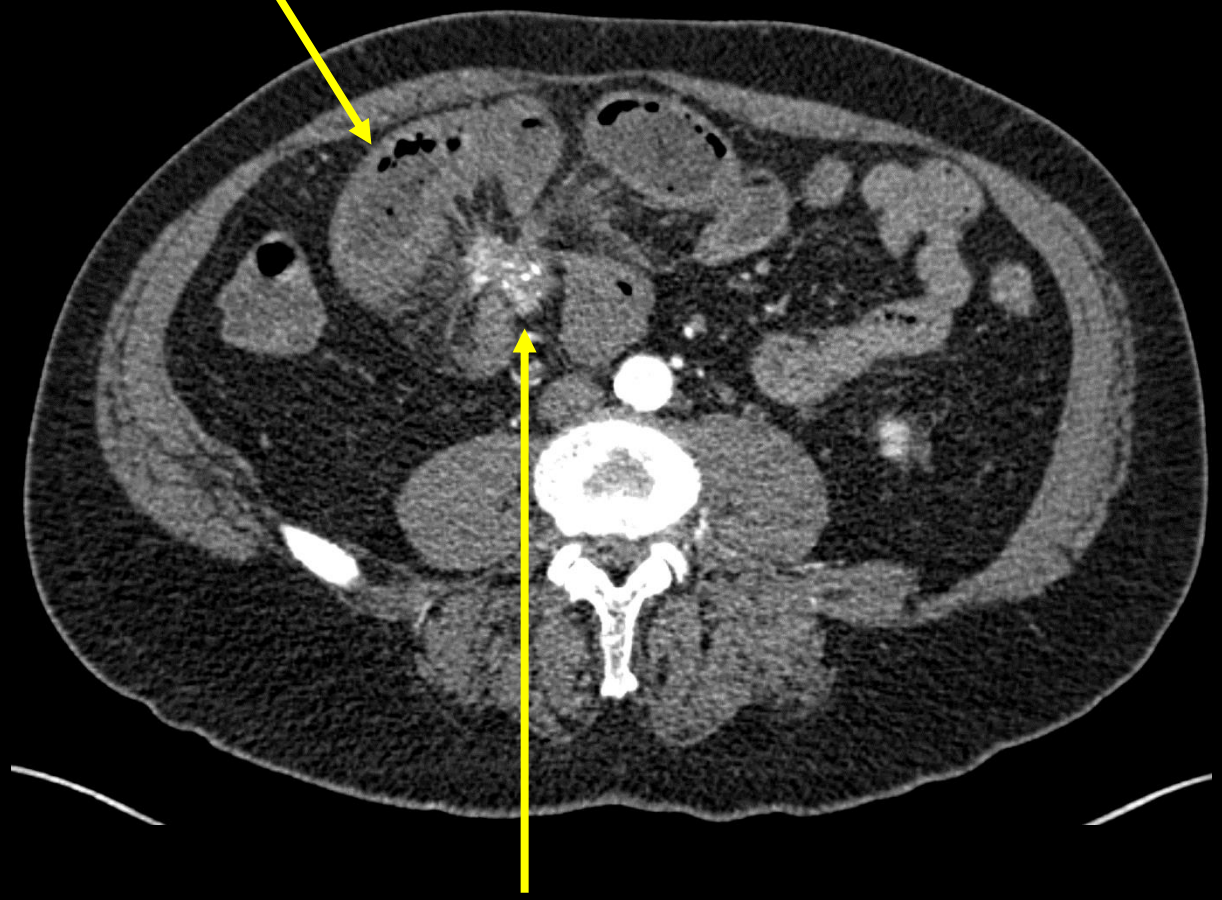

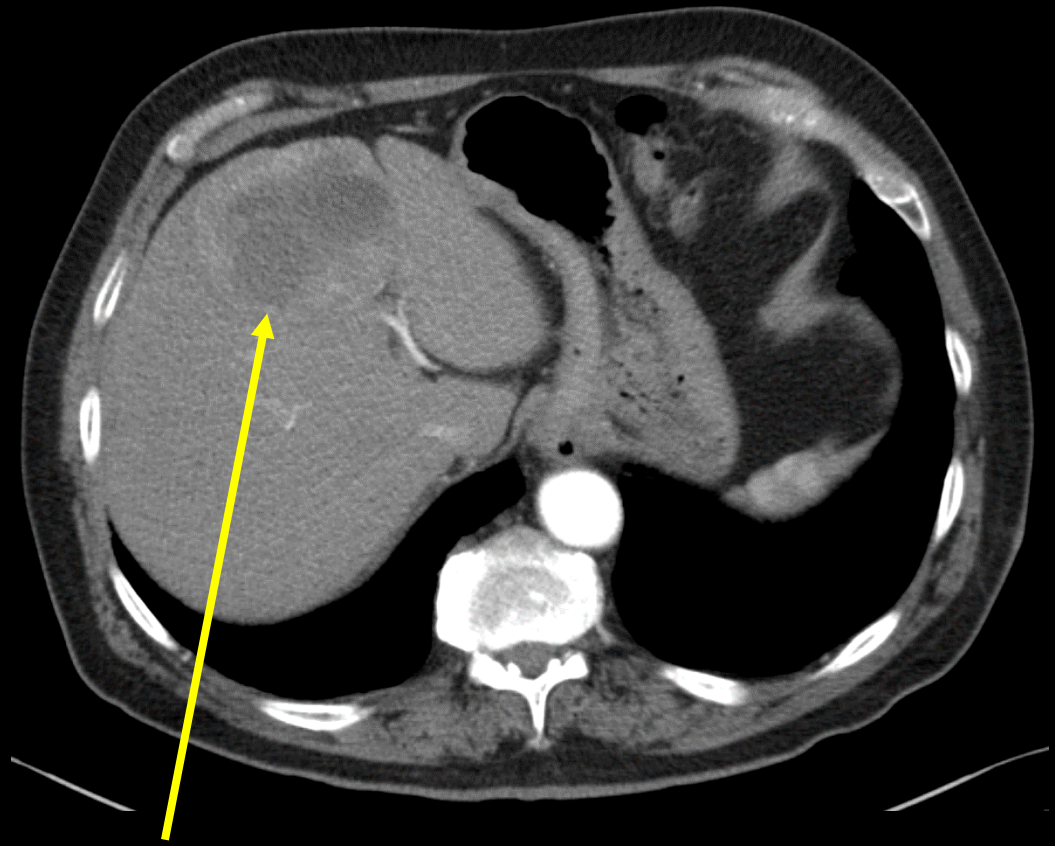

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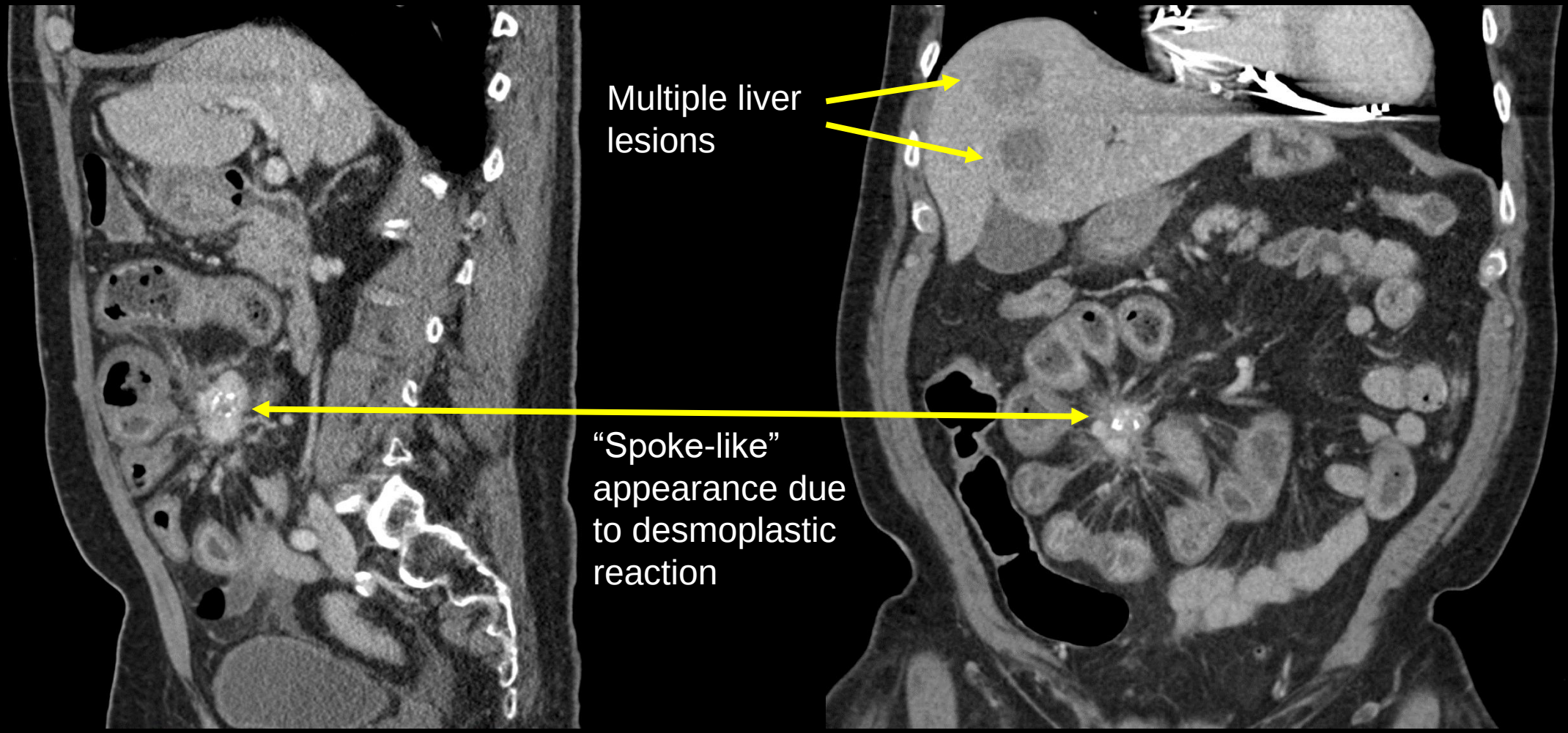

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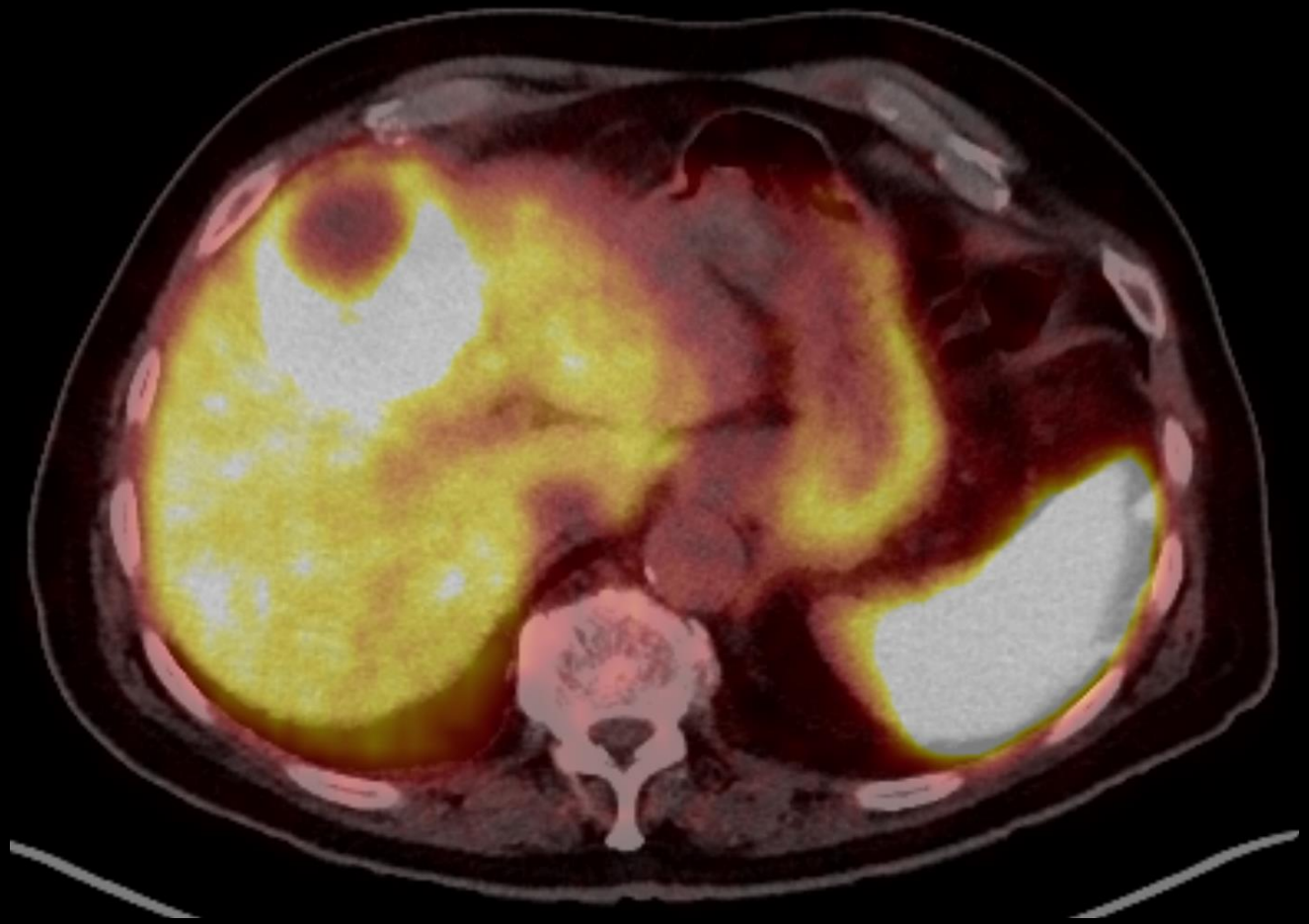
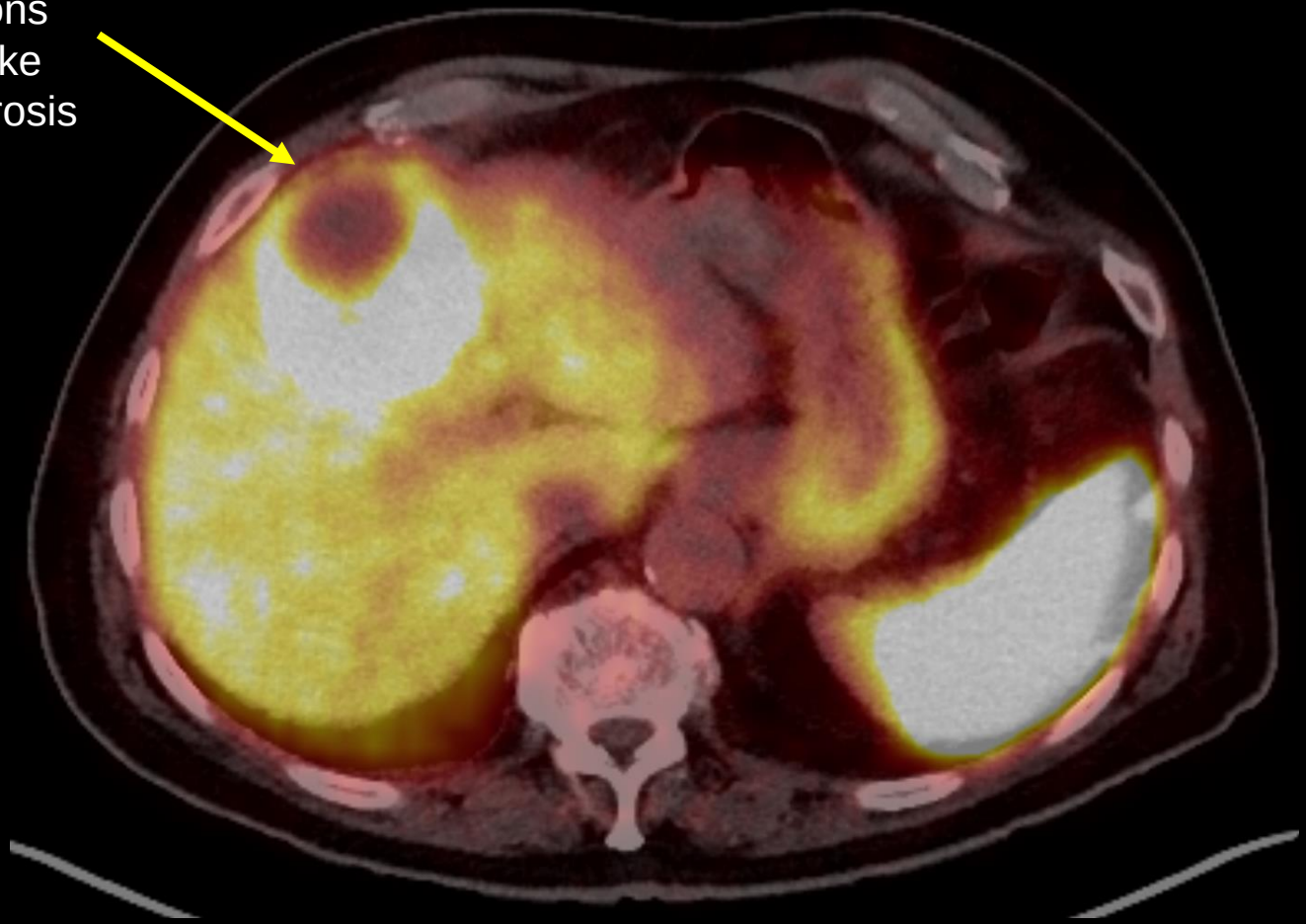


Findings (labeled)

Ga-68 Dotate
PET-CT shows liver lesions with intense gallium uptake and possibly central necrosis



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Final Diagnosis

Malignant Small Intestinal Neuroendocrine (Carcinoid) Tumor with Liver Metastases

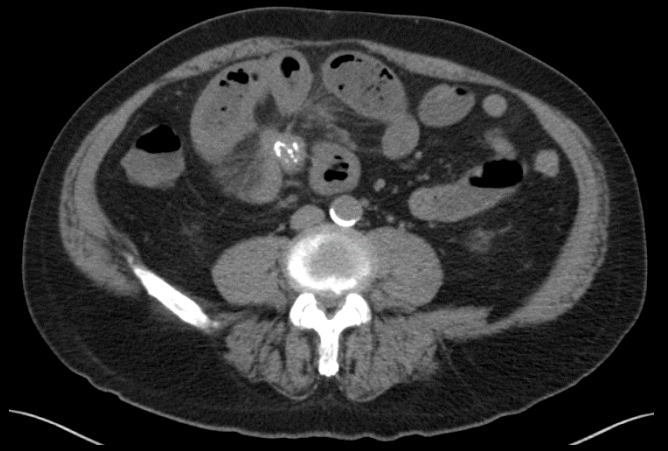
Based on surgical pathology and liver biopsy obtained soon after presentation

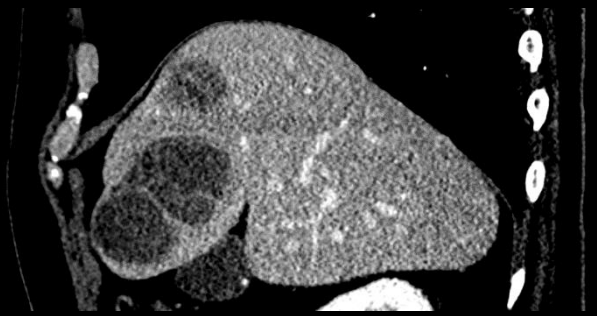
Neuroendocrine (Carcinoid) Tumor

- Pathology
  - Well-differentiated tumor arising from amine precursor uptake and decarboxylation (APUD) cells
  - May secrete hormones – serotonin, histamine, gastrin
- Epidemiology
  - Most commonly arises in small intestines – incidence 1.05 per 100,000
    - Appendix and lungs are other common sites
- Clinical Features
  - Nonspecific – diarrhea, abdominal pain, fatigue, weight loss
  - Small bowel obstruction, hematochezia
  - Carcinoid syndrome – diarrhea, flushing, bronchospasm, right heart disease
    - Occurs in < 10% of cases and only if liver metastasis present
    - Due to increased circulating serotonin

Case Discussion

- Diagnosis
  - Biochemical workup – urine and plasma 5-HIAA, tumor markers (chromogranin A, synaptophysin, serotonin)
  - CT, MRI, nuclear medicine studies
    - PET-CT Ga-68 Dotatate scan to detect distant metastases
    - Somatostatin receptor scintigraphy with radiolabeled octreotide
  - Endoscopy and biopsy
- Radiologic features
  - Primary lesion often spiculated, polypoid, hyperenhancing
    - Calcifications present in 70%
  - Bowel kinking, tethering, obstruction due to desmoplastic reaction and fibrosis caused by serotonin
  - Liver metastases strongly enhance in arterial phase
    - Isoenhancing or hypoenhancing to liver in delayed phase





Case Discussion

- Treatment
  - Surgical resection of tumor and lymph nodes if possible
  - Somatostatin analogs (octreotide, lanreotide)
  - Hepatic artery embolization for liver metastases
  - Chemotherapy, radiotherapy, targeted therapy

- Prognosis
  - 5-year survival rate is 67% when metastatic
    - > 90% if not metastatic

References

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