RadPath: Massive Abdominal Masses

8/21/17

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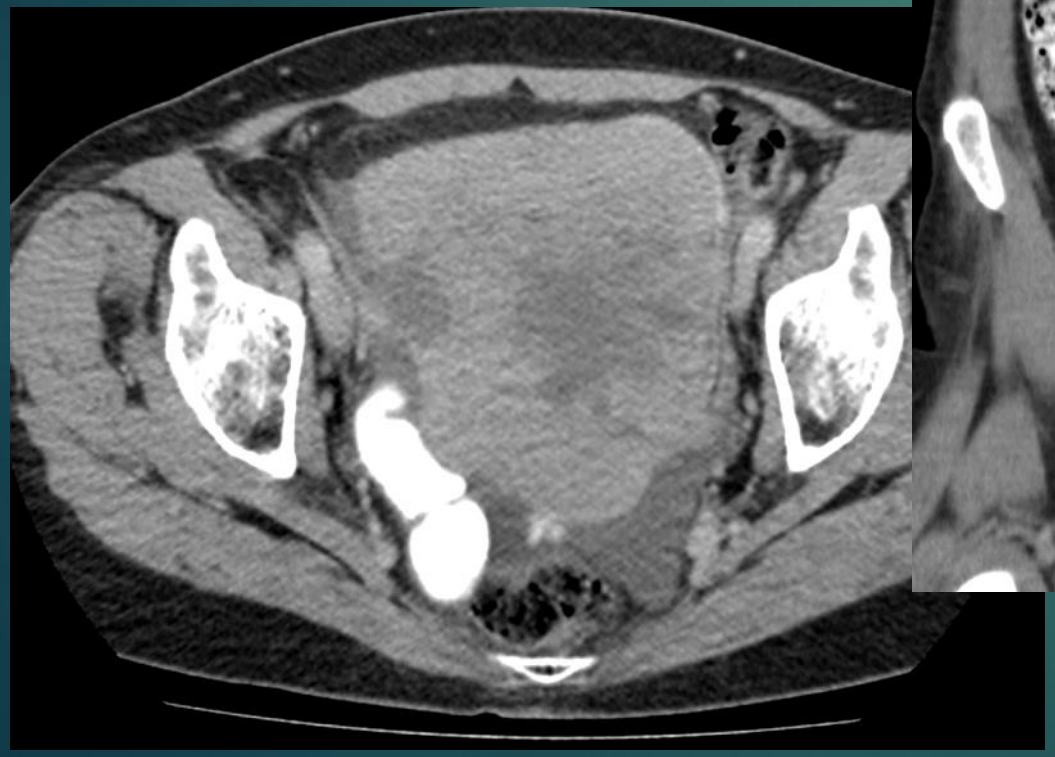
WILLIAM ANDERSON, PATHOLOGY, PGY-1

Case 1:

60 YEAR OLD WOMAN PRESENTED TO HER OB-GYN WITH NEW SYMPTOMS OF PELVIC FULLNESS AND BLADDER PRESSURE. REFERRED TO A UROLOGIST WHO PLACED HER ON MEDICATIONS FOR OVERACTIVE BLADDER. HER SYMPTOMS IMPROVED FOR SEVERAL WEEKS BUT THEN RECURRED.

Case 1:



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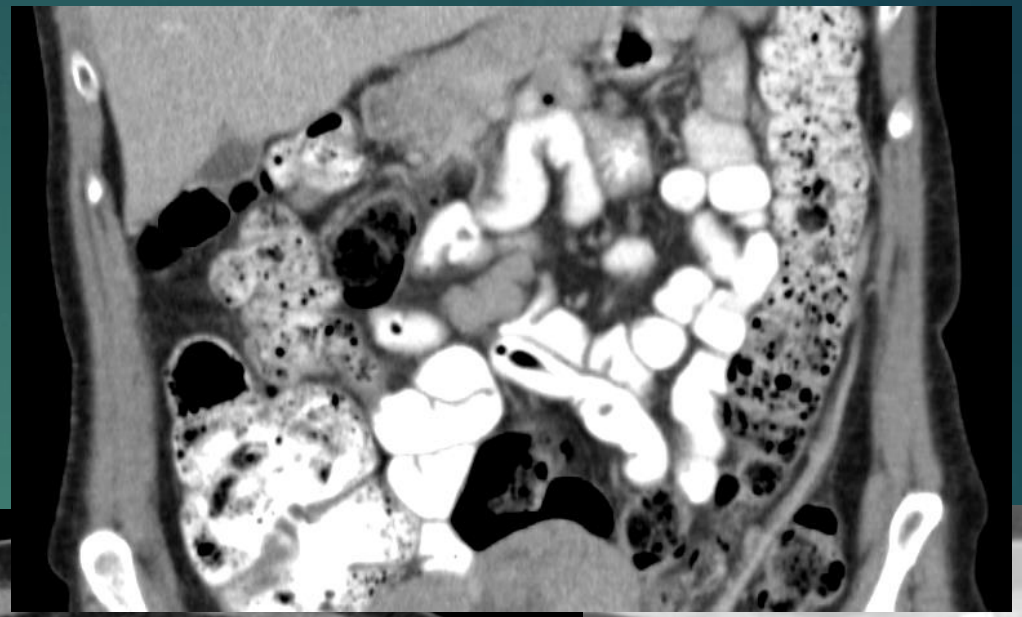
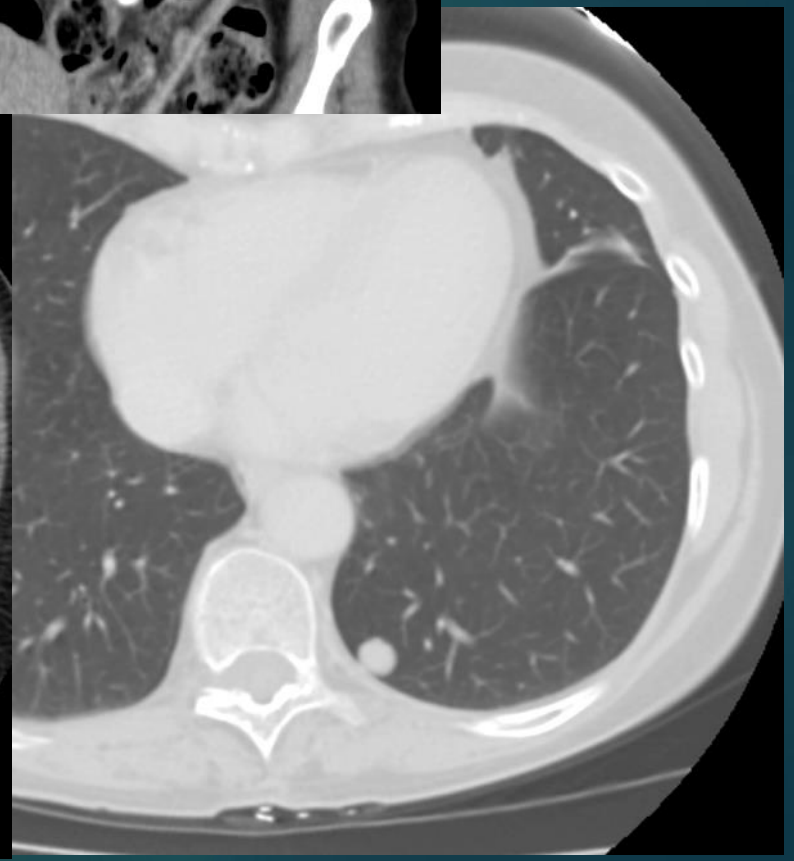
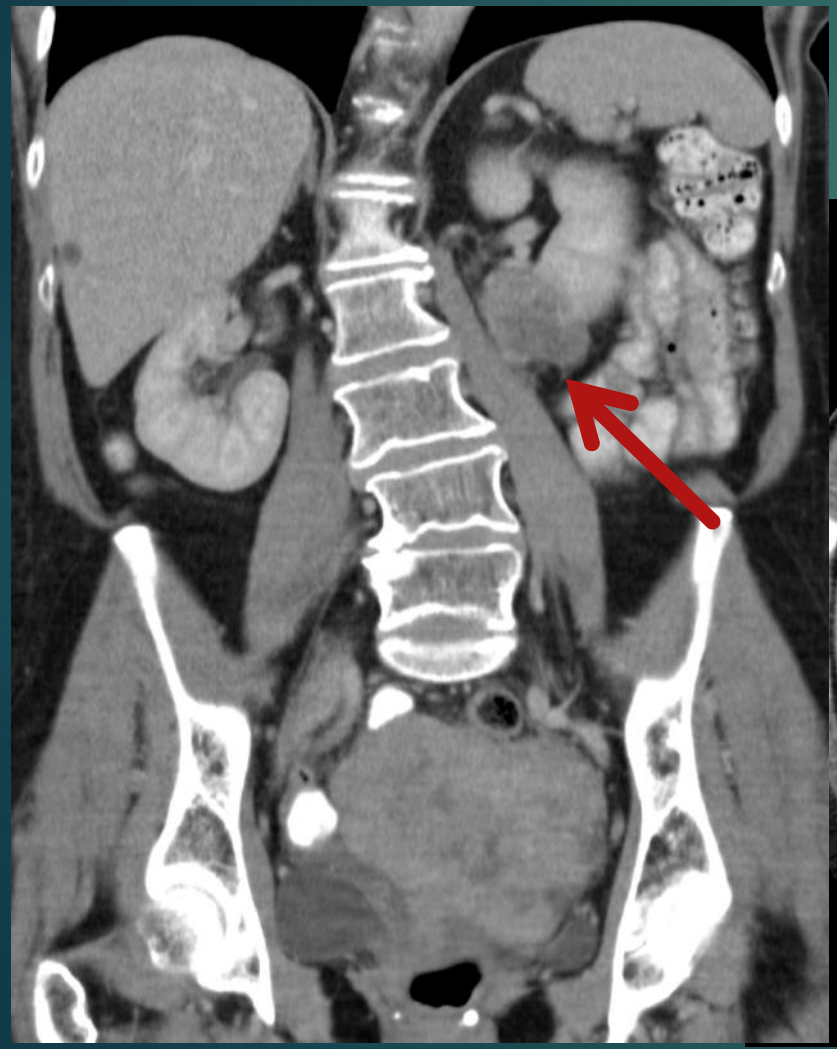
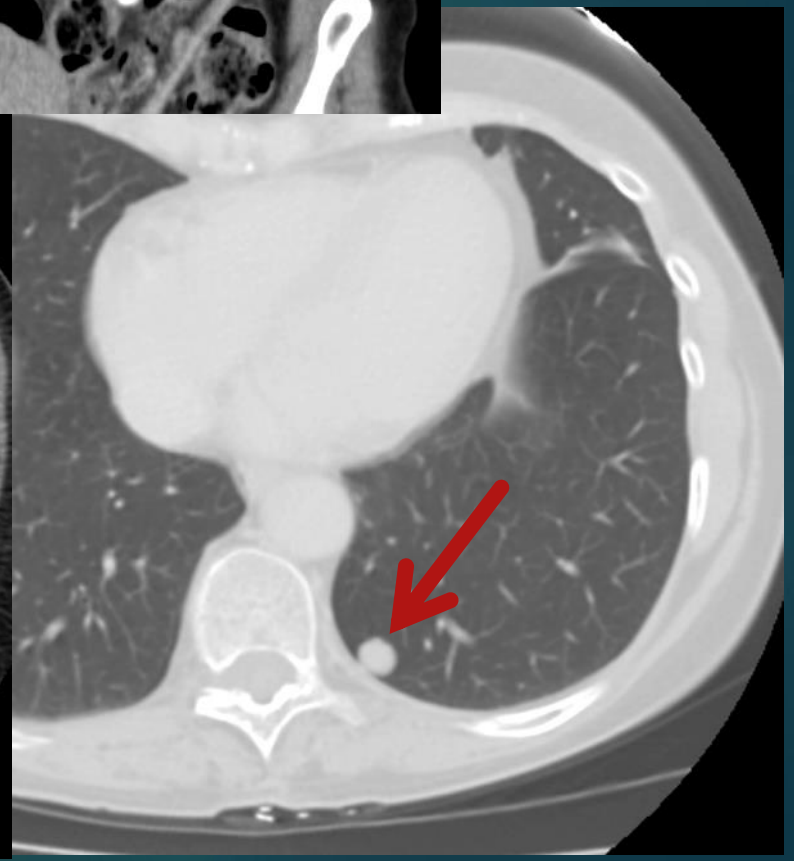


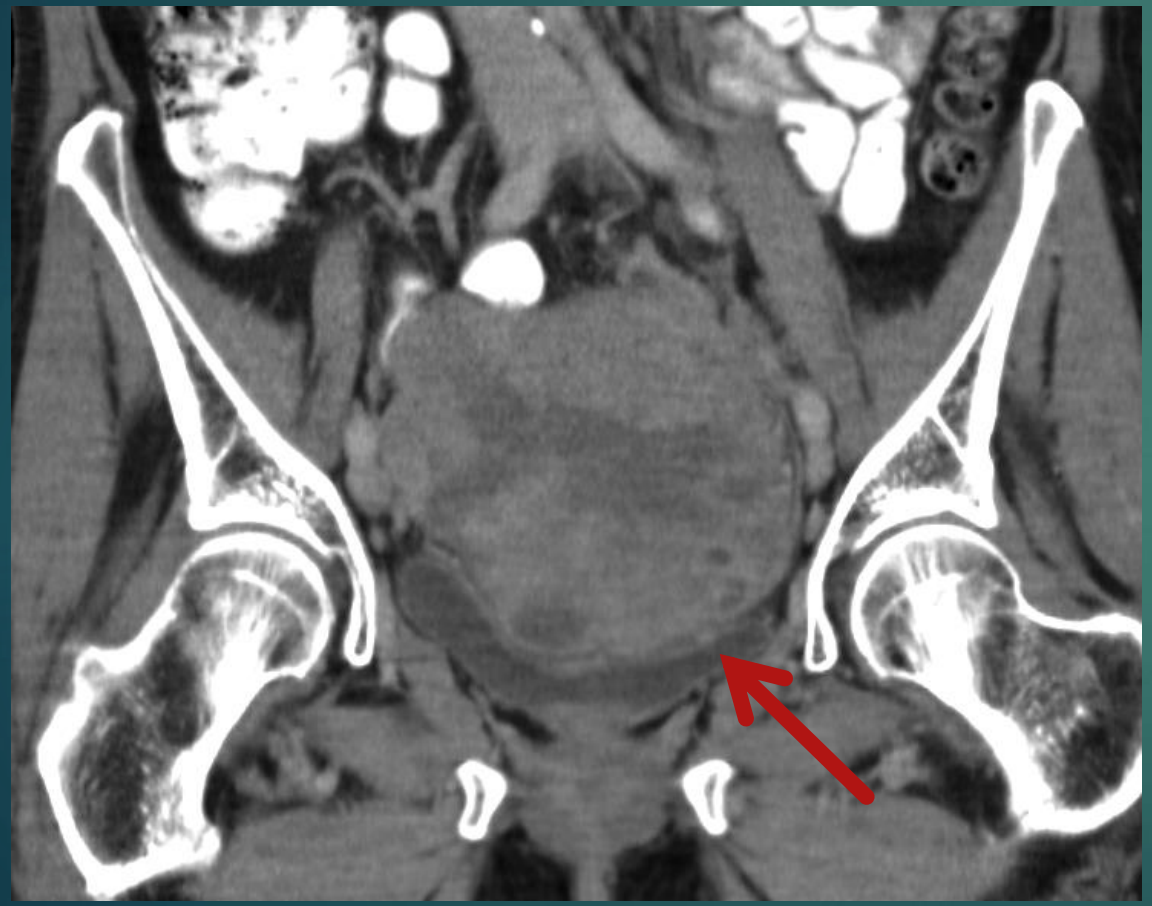


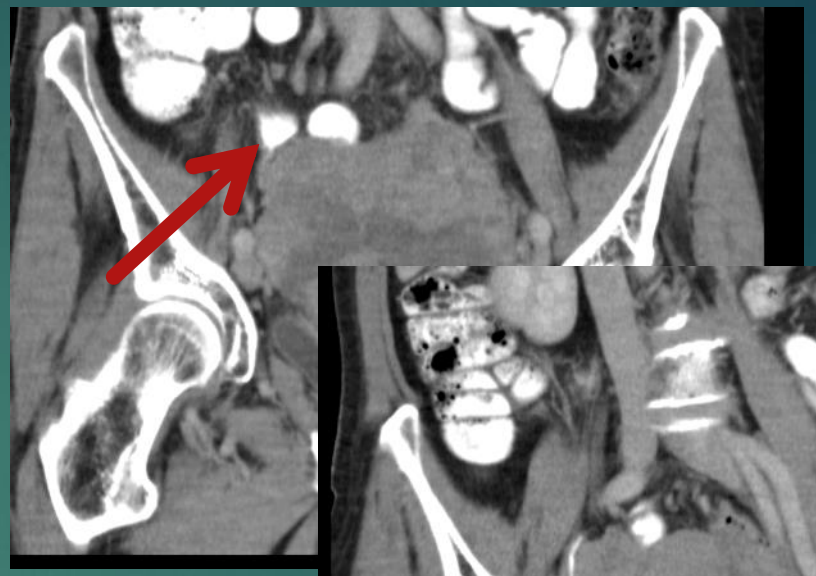
Case 1: Distant lesions

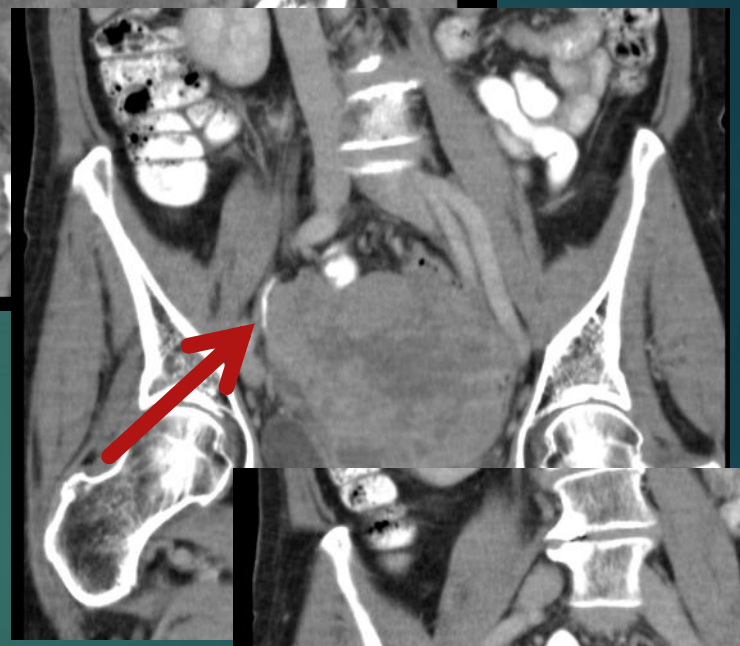


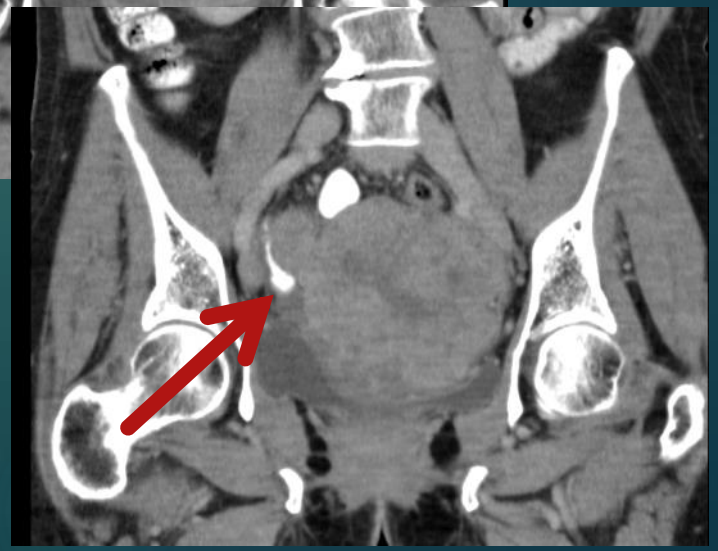


Case 1:
Mass Effect







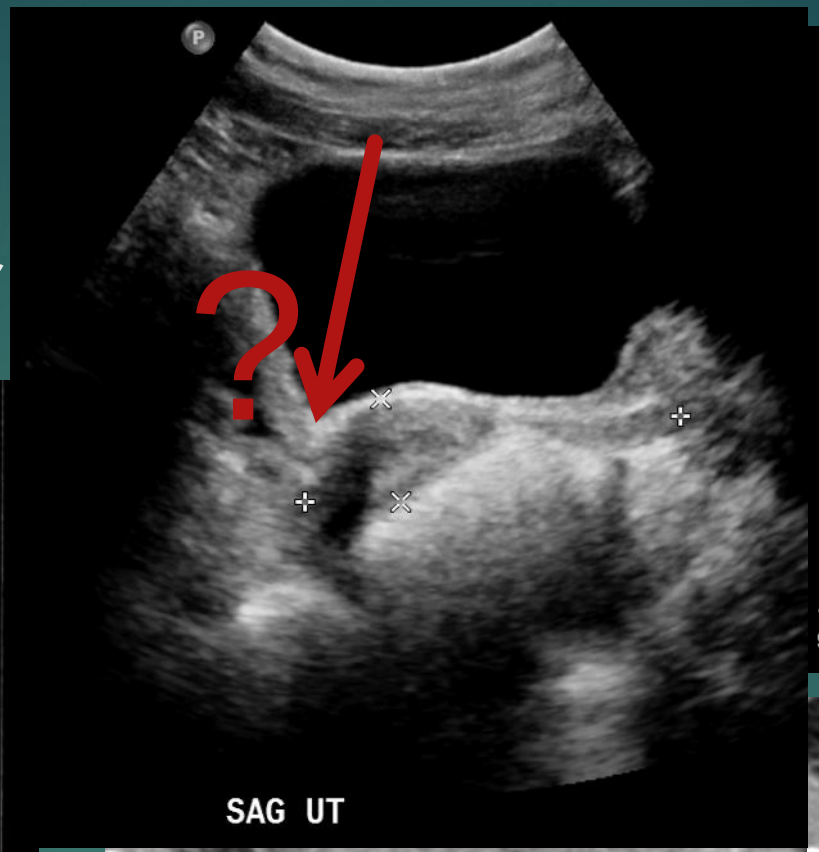


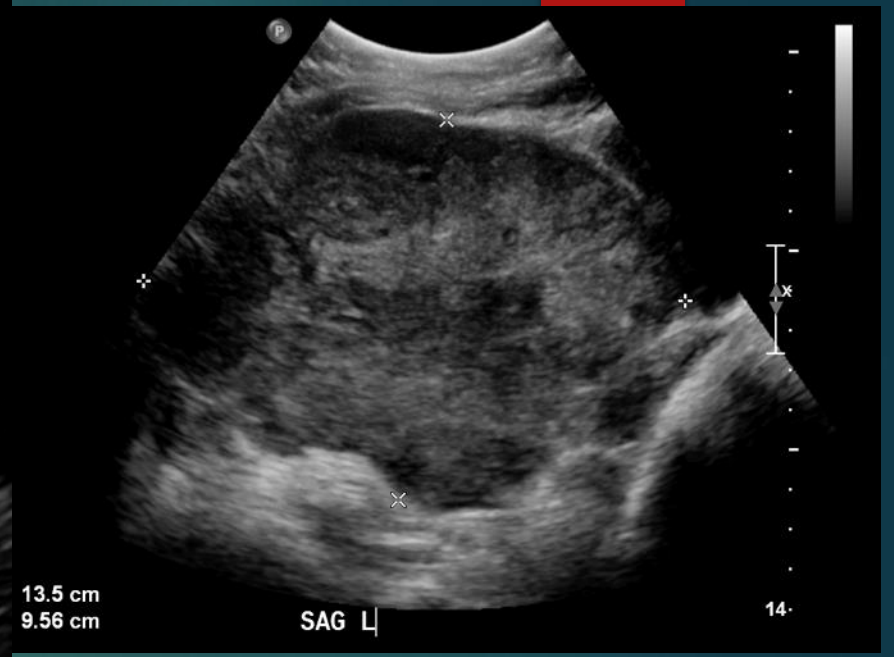
DDX?

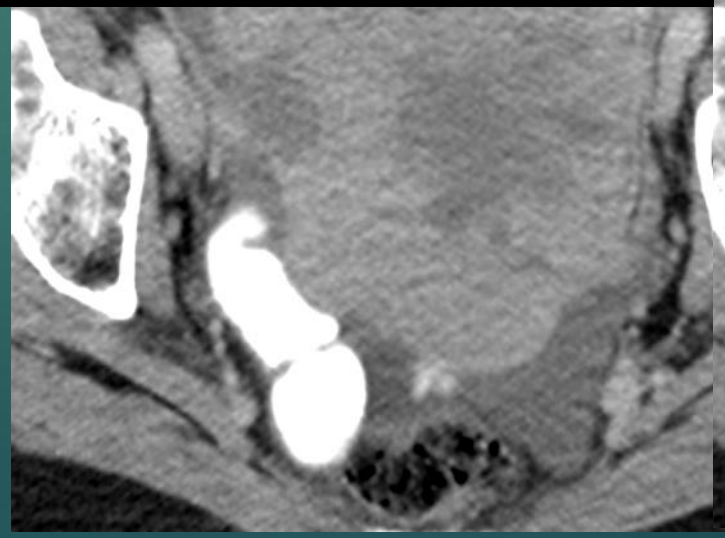
Case 1: DDX

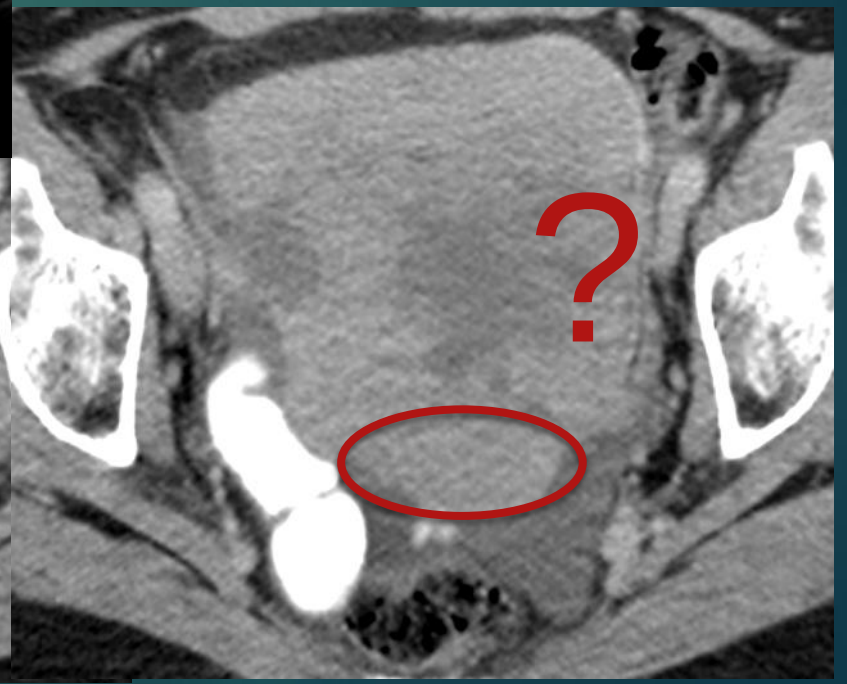
- DDX –
  - Ovarian cancer
  - Uterus
    - Leiomyosarcoma
    - Endometrial cancer
    - Leiomyoma (fibroid) + something else
  - Mesenteric GIST
  - Urinary bladder paraganglioma/pheochromocytoma
  - Metastasis

Case 1: US 2 weeks prior







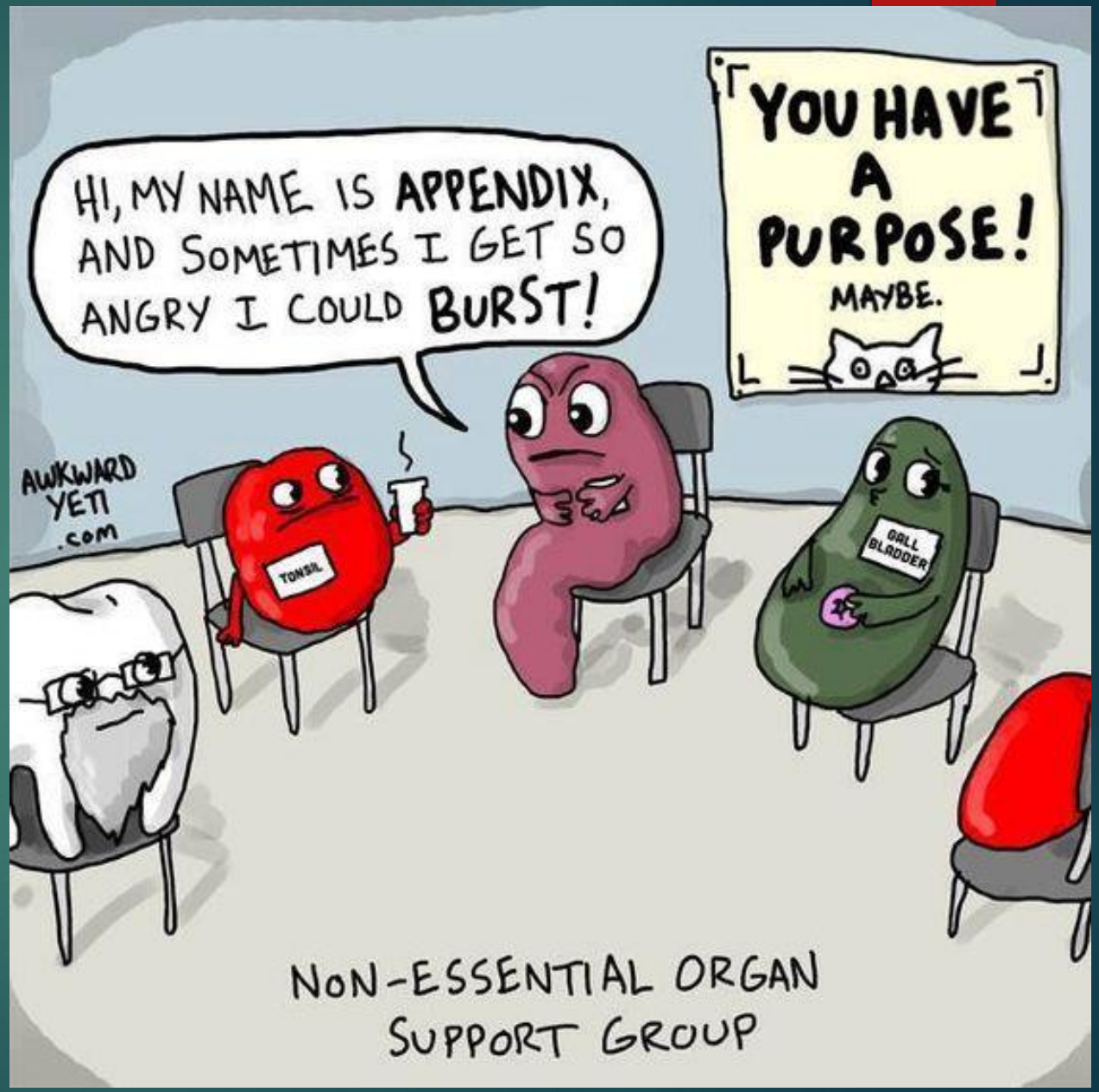


Case 1: FNA

Path is next.

Case 1:

Pathology time!



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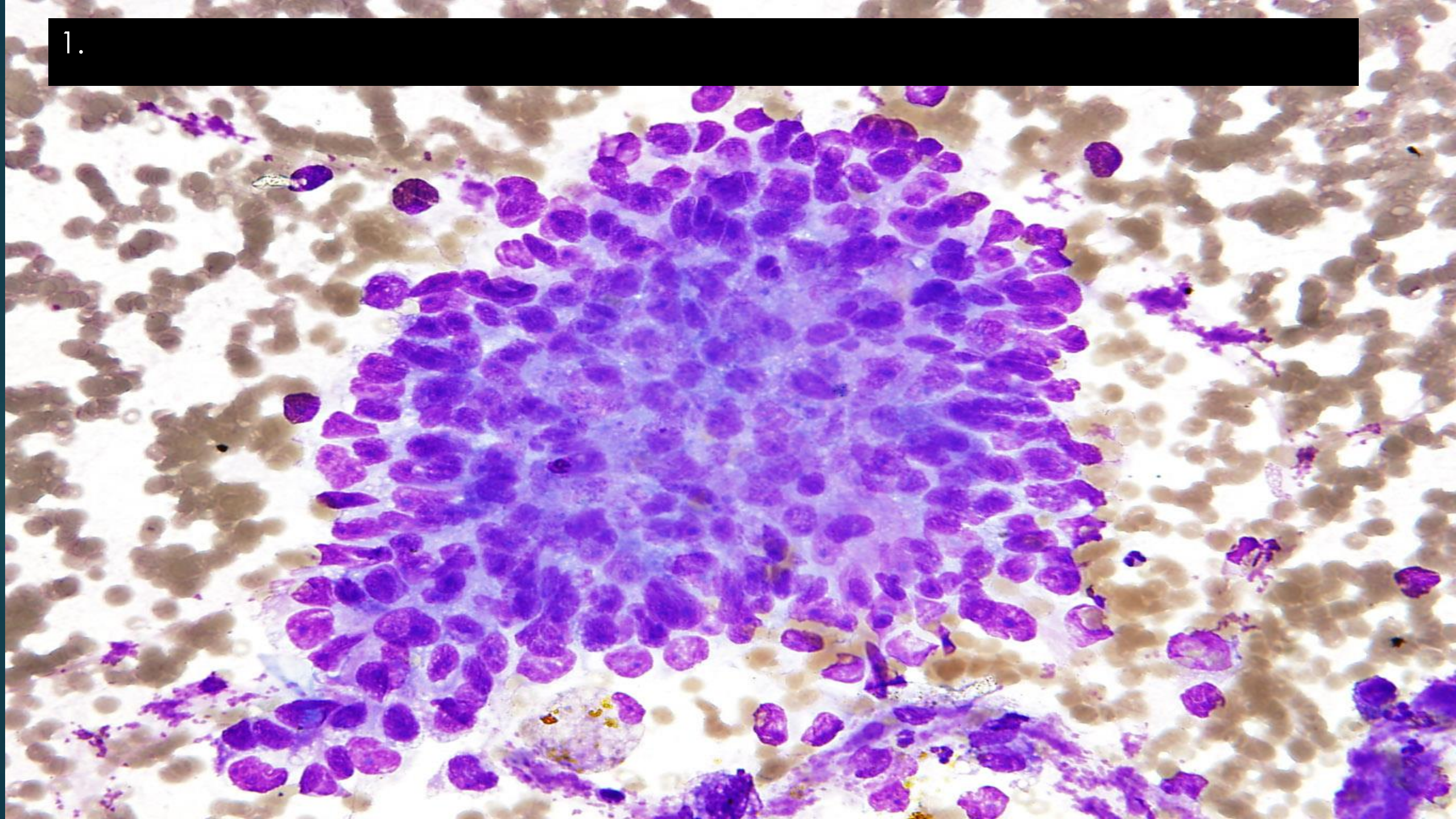

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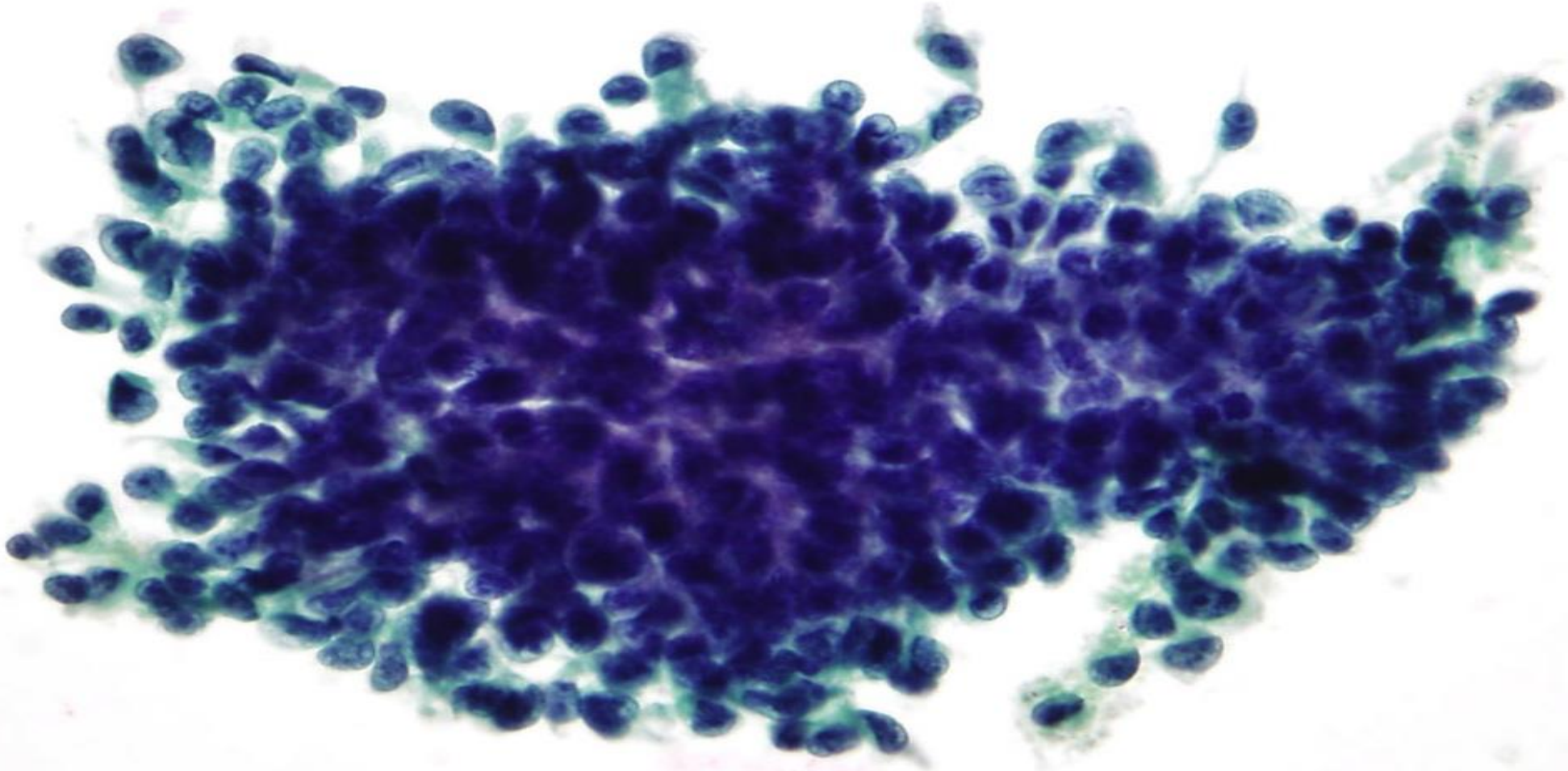
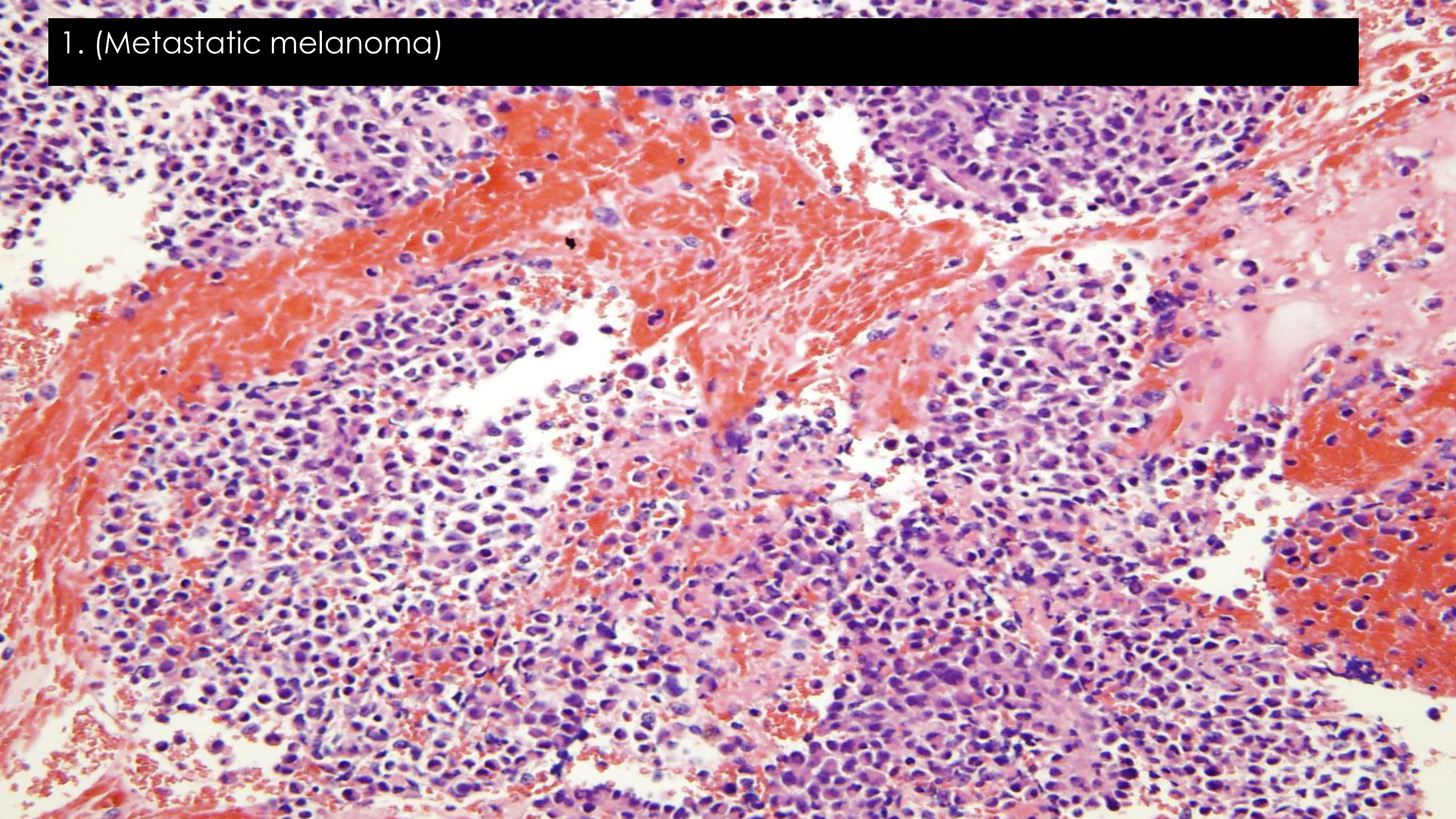


1. (Metastatic melanoma)



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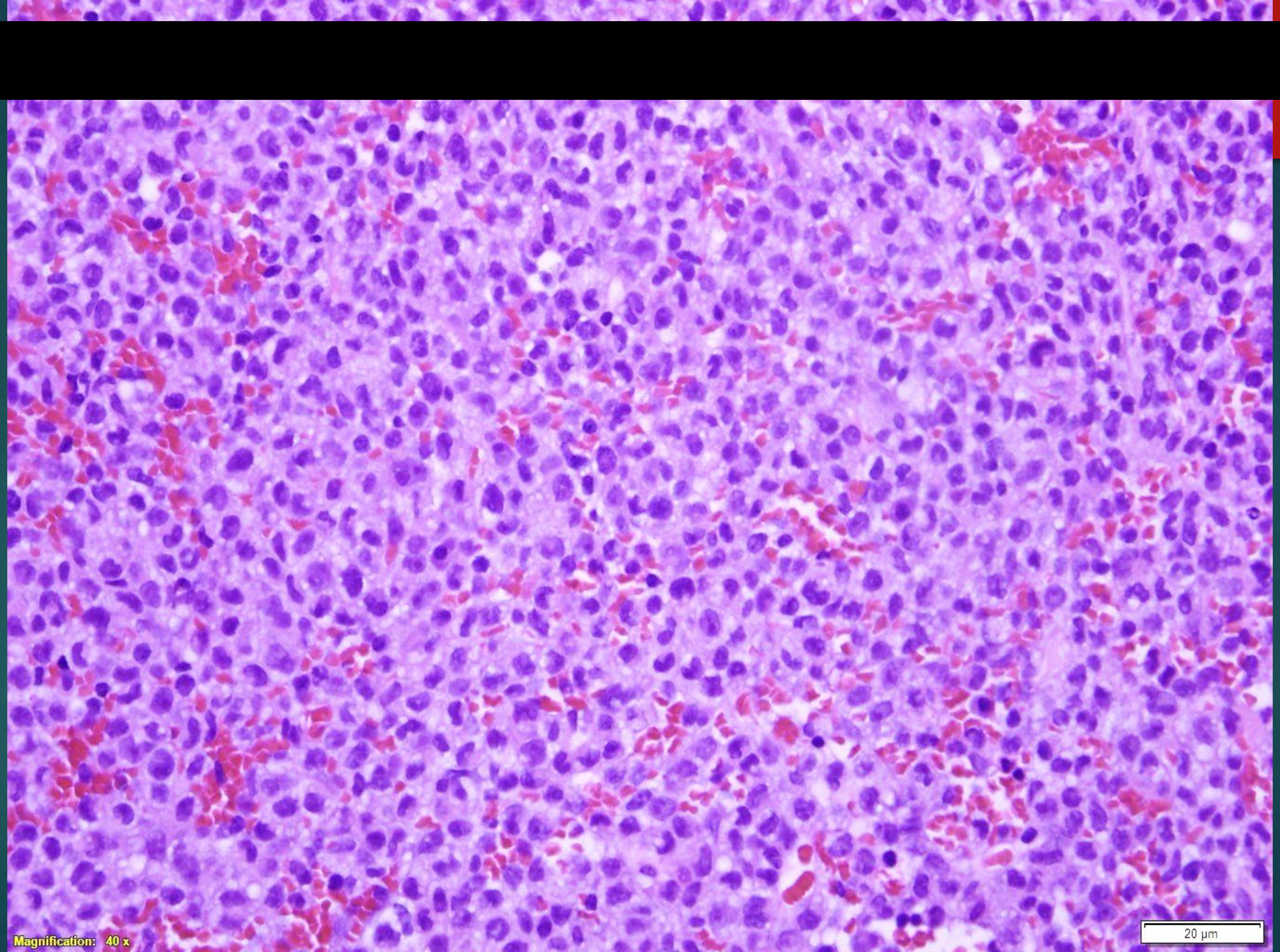

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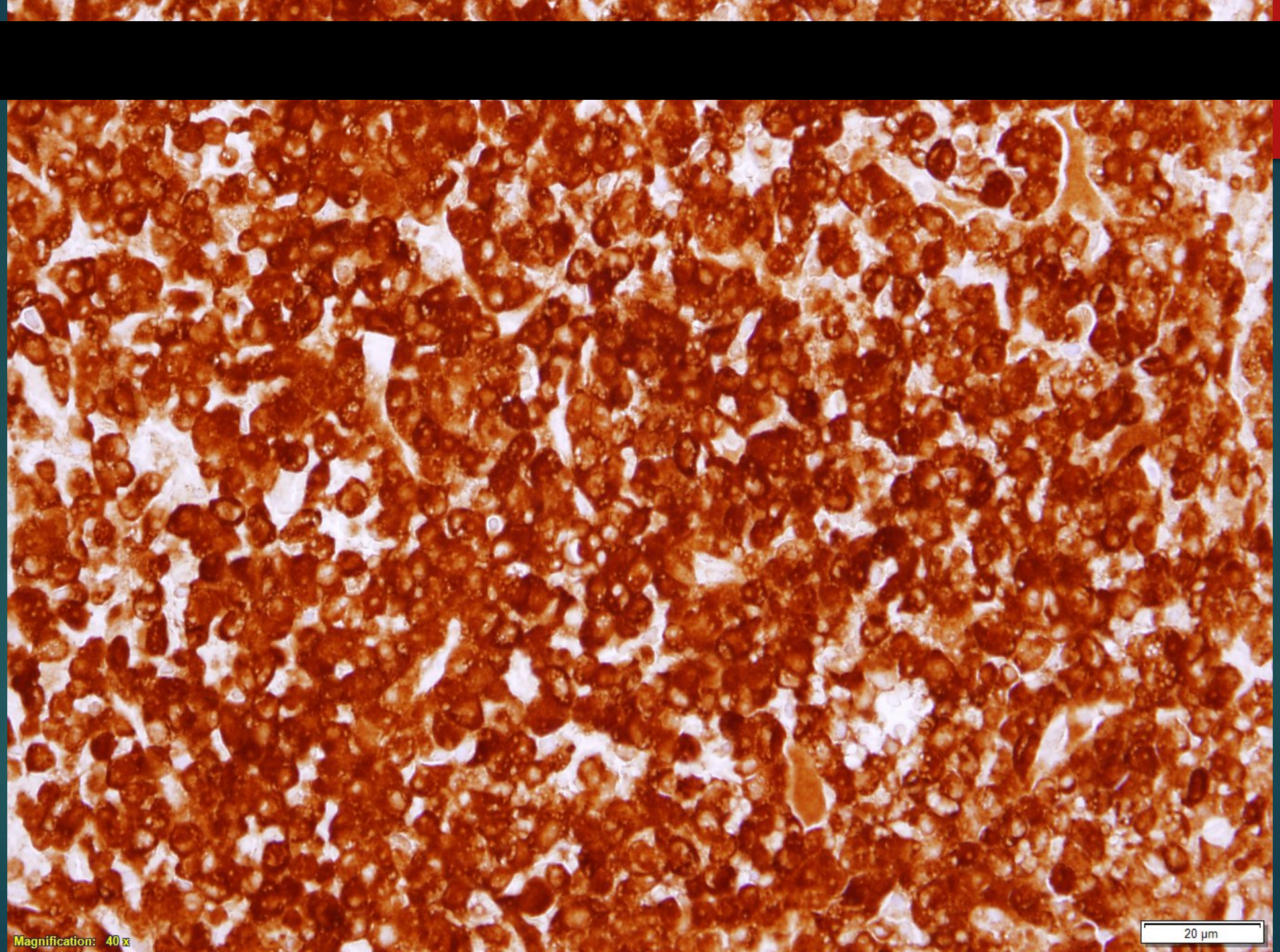

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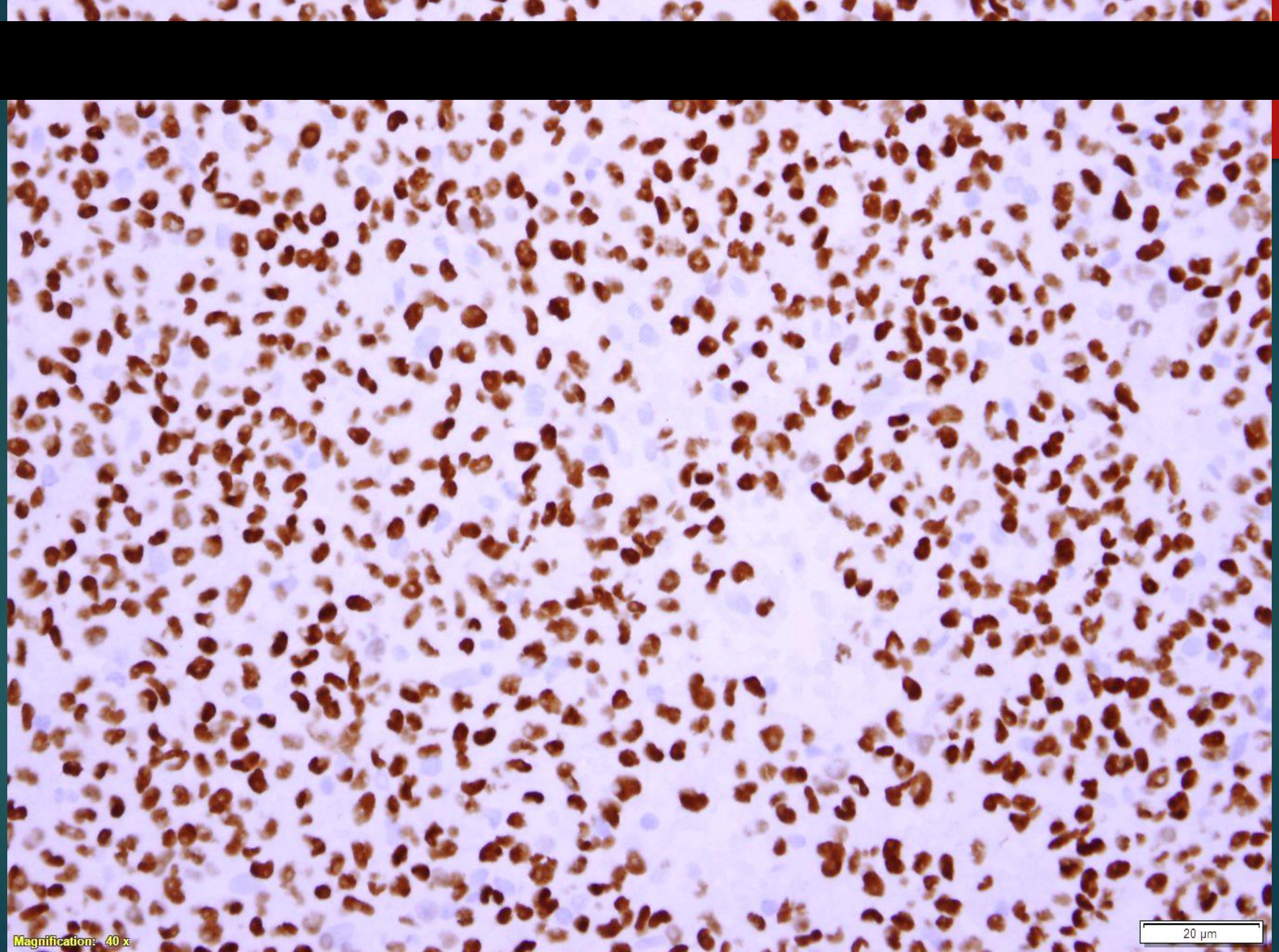


Case 1: Question

- Which is the LEAST LIKELY location for metastatic melanoma?
  A. Skin/soft tissue
  B. Lymph nodes
  C. Lung
  D. Brain
  E. Liver
  F. Bone
  G. Accessory soleus

Case 1: Question

- Which is the LEAST LIKELY location for metastatic melanoma?
  A. Skin/soft tissue
  B. Lymph nodes
  C. Lung
  D. Brain
  E. Liver
  F. Bone
  G. Accessory soleus – only 3% of people have this

Case 1: Question

- Which is the LEAST LIKELY location for metastatic
  - A. Skin/soft tissue (42-59%)
  - B. Lymph nodes (42-59%)
  - C. Lung (18-36%)
  - D. Brain (12-20%)
  - E. Liver (14-20%)
  - F. Bone (11-17%)

  Also:
  adrenal glands
  spleen
  GI tract
  heart

Respiratory	Lung Pleura Diaphragm Upper tract
Gastrointestinal	Liver Peritoneum Pancreas Spleen Small bowel Colon Stomach Gall bladder Esophagus

Malignant Melanoma: Pattern of Metastasis

Yeu-Tsu N. (Margaret) Lee, M.D., F.A.C.S.

Bone, soft tissue	Breast Skin Subcutaneous/ muscle Vertebra Other bones
Lymph node	Abdomen Thorax Others
CNS	Brain
Cardiovascular	Heart Pericardium
Endocrine	Adrenals Thyroid Pituitary Parathyroid
Urinary	Kidney Bladder Ureter Prostate
Genital	Testis Ovary Uterus

TABLE 2
LESS FREQUENT SITES OF MELANOMA METASTASIS

Site	Percent of Patients
Scalp[3]	8
Dura[3]	5
Eye[3]	1
Bile duct[3]	6
Duodenum[3]	12
Rectum[3]	5
Anus[3]	1
Uterine cervix[3]	2
Broad ligament[3]	1
Labia[3]	1
Bone marrow[4]	16
Vagina[4]	2
Major blood vessel[6]	6
Peripheral nerve[8]	5

Case 1: Discussion

Patient history: malignant melanoma of the arm 20 years ago, with negative dermatology skin checks since then

- Early-stage melanoma can be treated with surgery, with a 5-year survival rate of 98.3%; however, 6–10% of patients present with regional or distant metastases for which the therapeutic options are limited and the prognoses are poor. (Perng, et al)

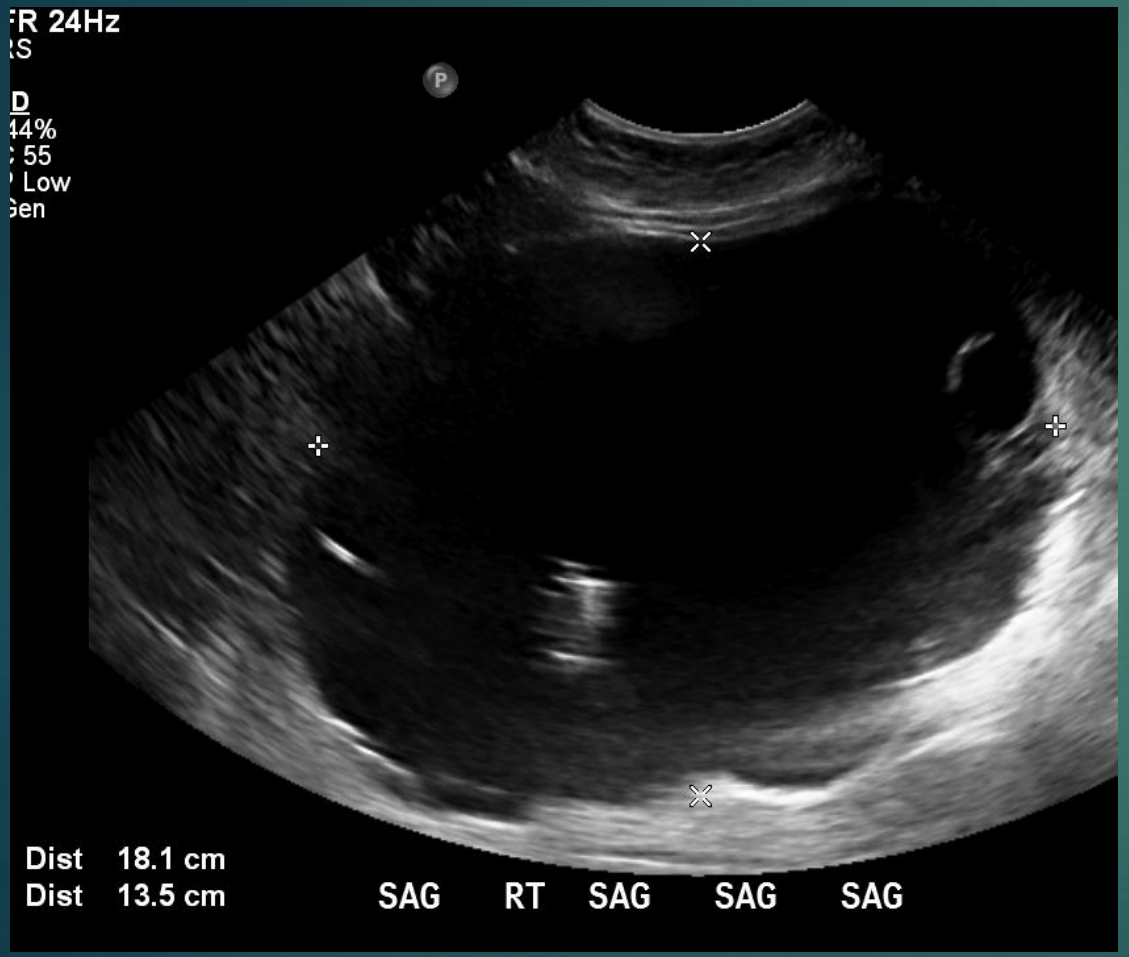
- Nearly 1/3 of all melanoma patients will experience disease recurrence (Tas, Faruk)
- Most recurrences become evident by 2 years (55-79%)
- 1 year survival rate decreases with increasing number of mets:
  - 1 site = 36 %
  - 2 sites = 13%
  - 3 or more sites = < 1%

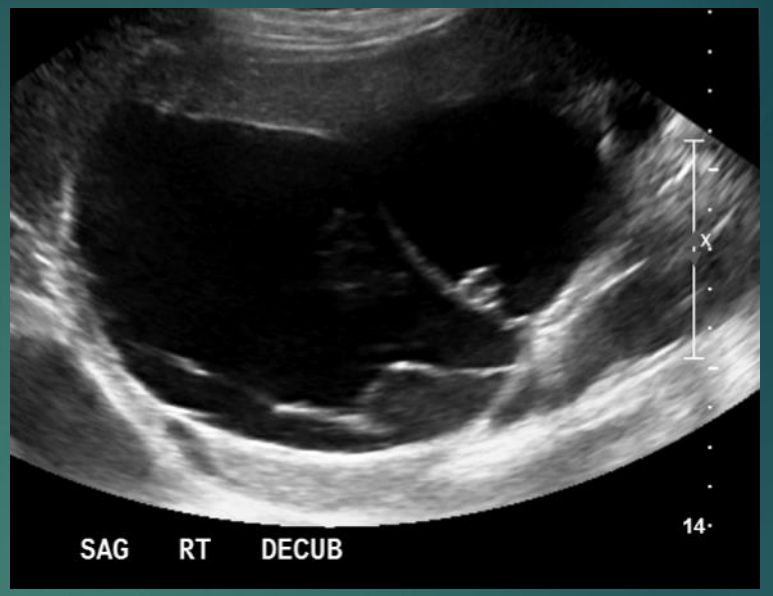
End of case

Case 2:

47 YEAR OLD WOMAN WITH 8 MONTHS OF DISCOMFORT WHILE EXERCISING. THEN FATIGUE, LIGHTHEADEDNESS, DYSPNEA ON EXERTION, AND FOUND TO BE ANEMIC. WITH WORSENING HEARTBURN, AND "CONTINUED PALPABLE ABNORMALITY IN THE RUQ," SHE WAS SENT FOR A RUQ US.

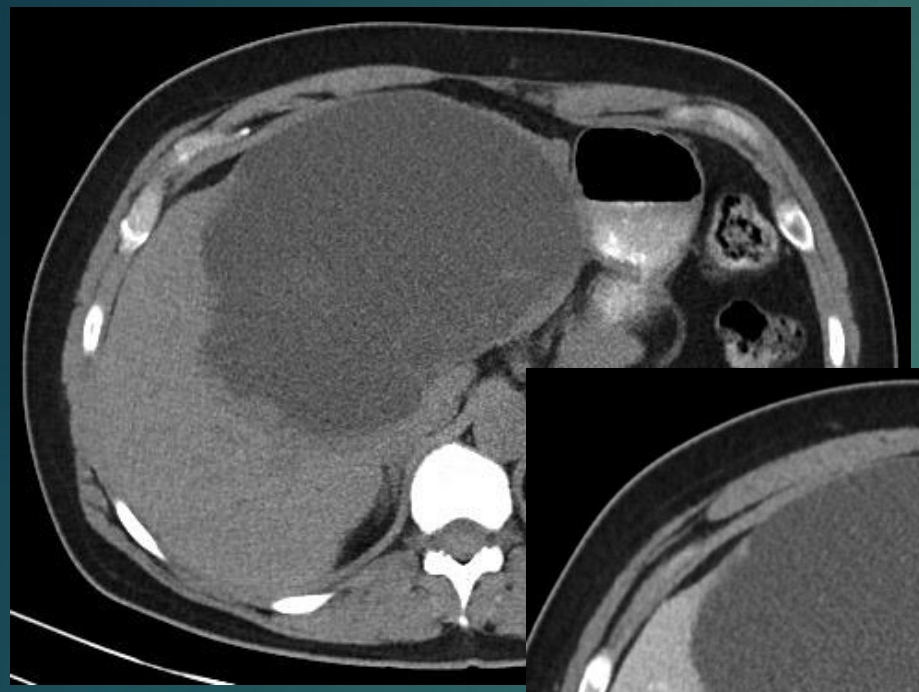
Case 2: US



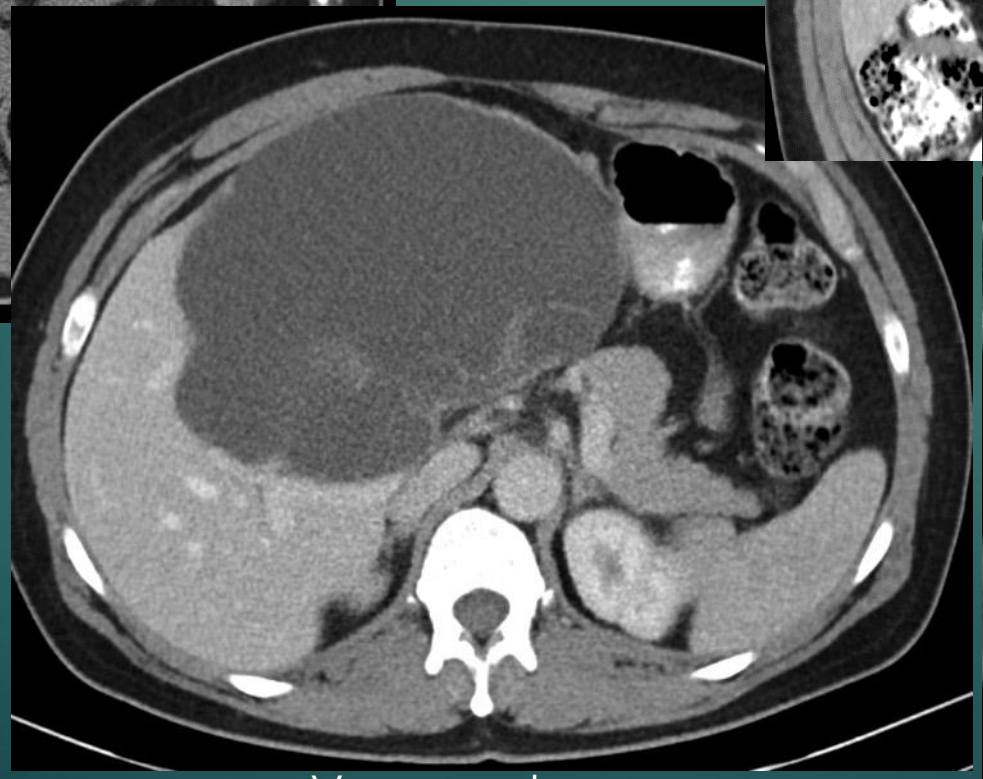


CBD not seen

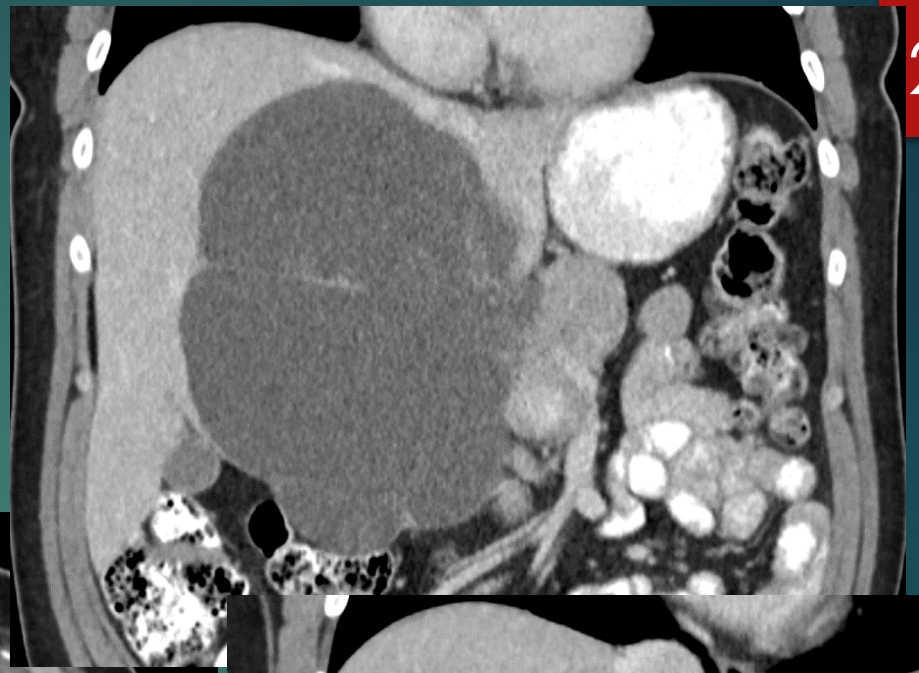
Case 2: CT



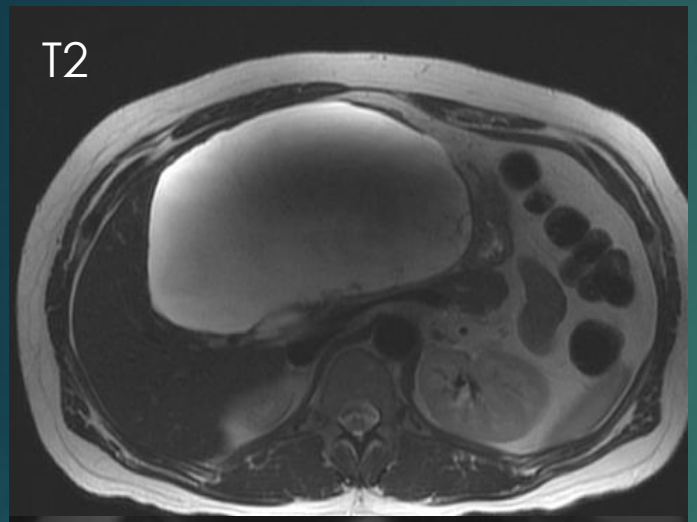
Non-Con

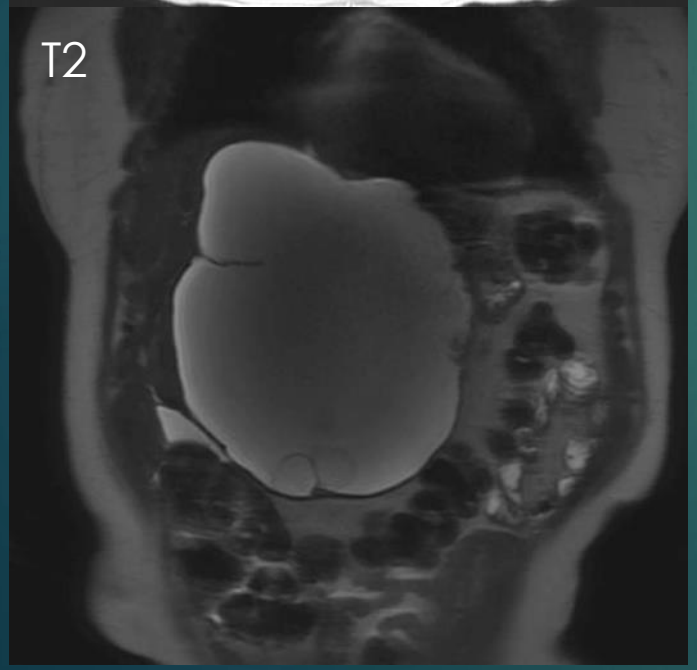


Venous phase

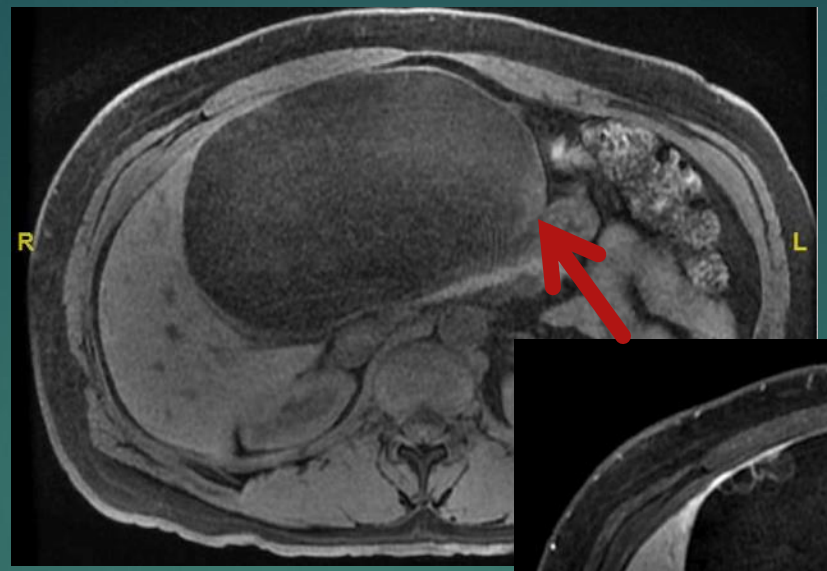


Case 2: MR





T1 pre



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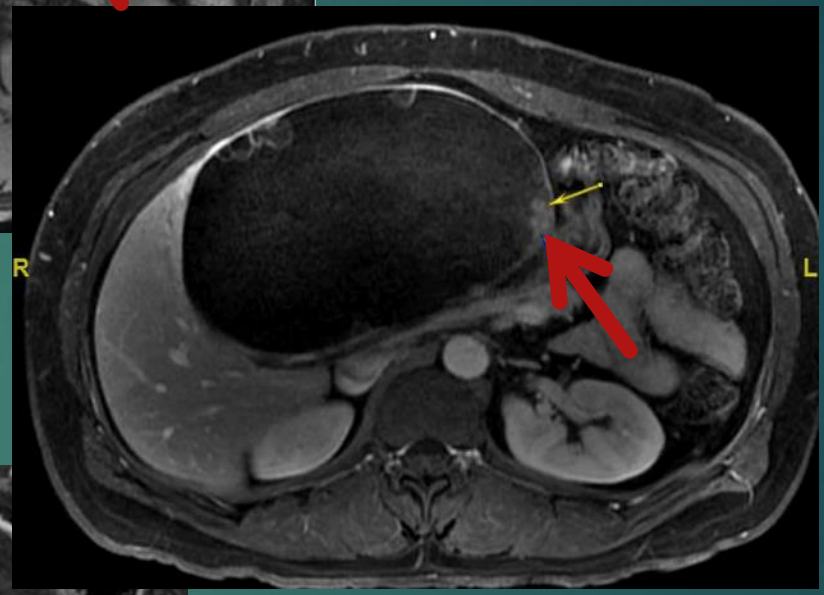

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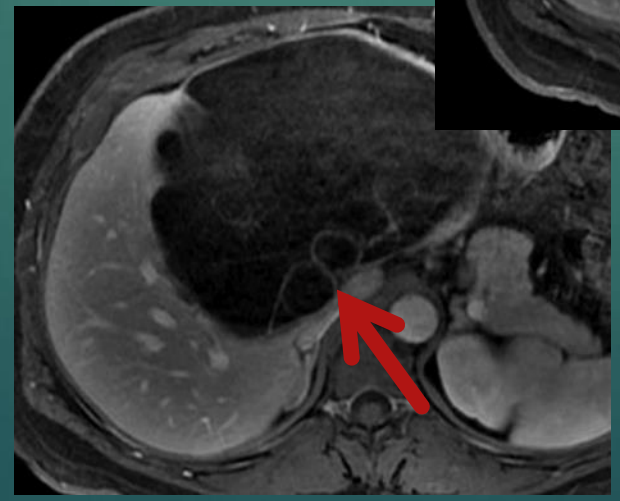
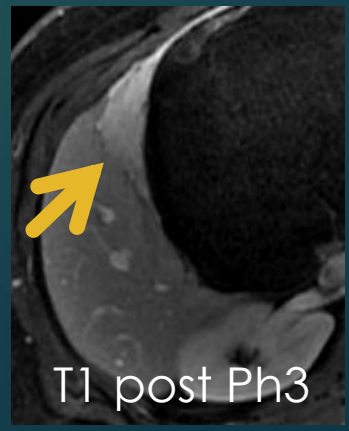
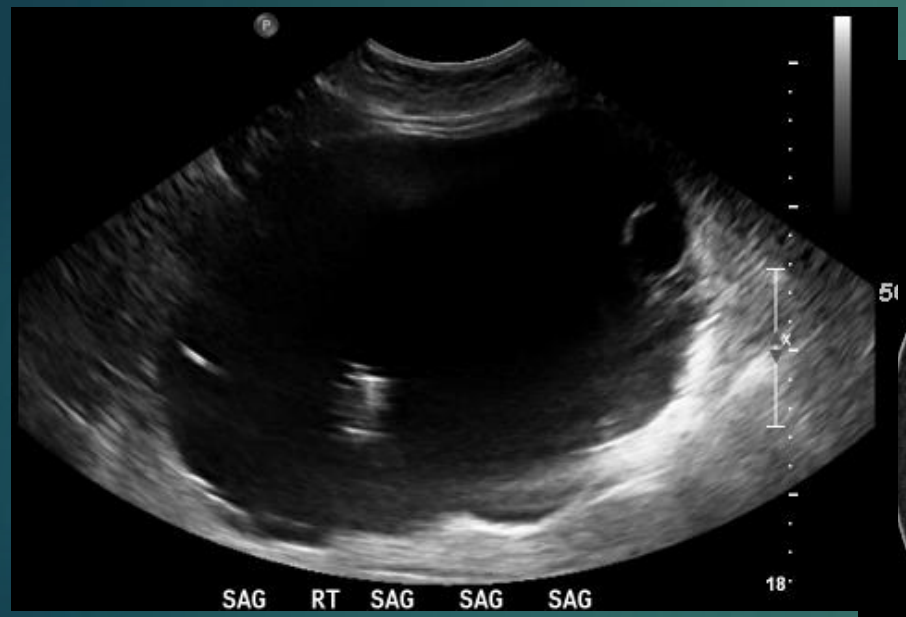




Case 2:
3 modalities



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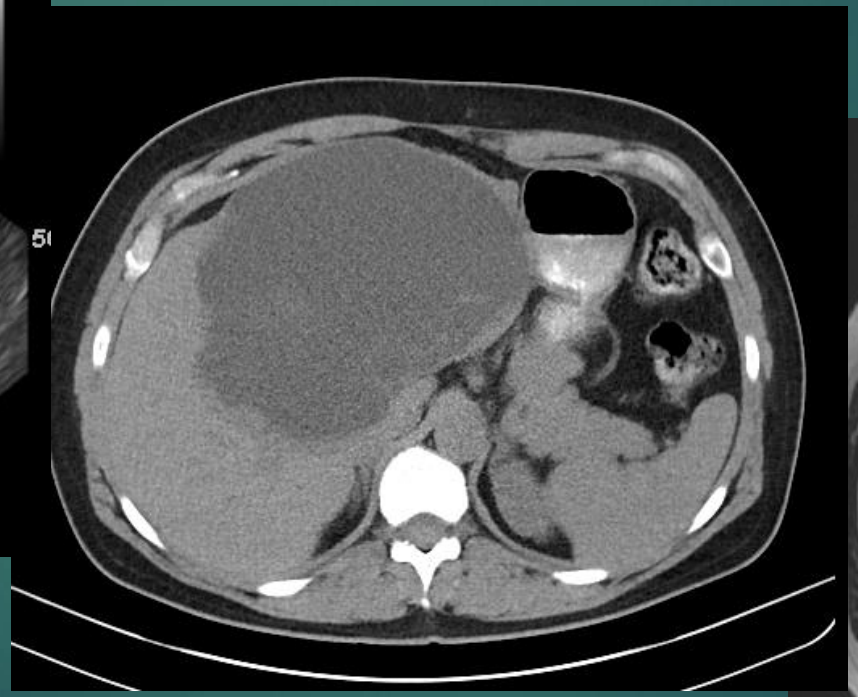
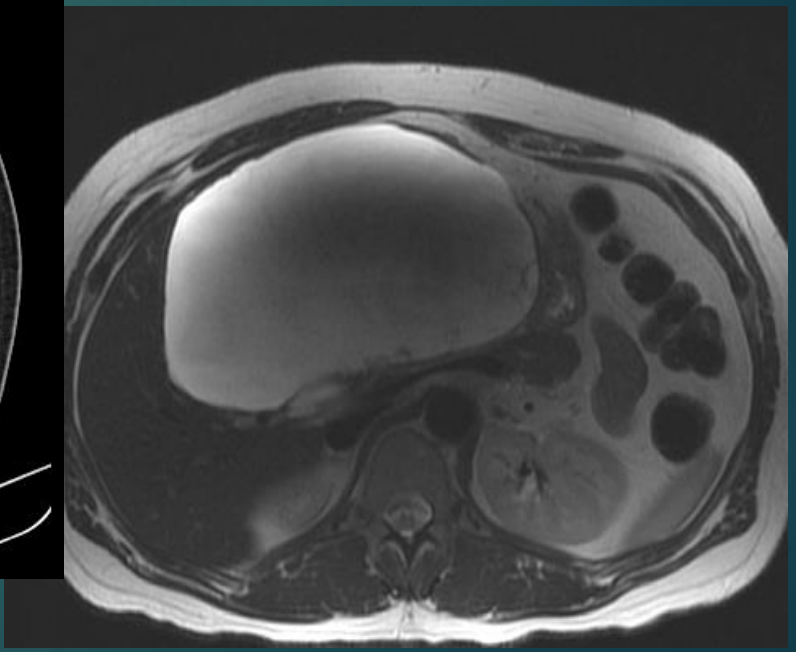


Hypodense



T2 Bright

Case

American College of Radiology
ACR Appropriateness Criteria®

Clinical Condition: **Palpable Abdominal Mass**

Radiologic Procedure	Rating	Comments	RRL*
CT abdomen with IV contrast	9	Use of intravenous contrast may help better delineate the mass.	☢☢☢
MRI abdomen without and with IV contrast	9	Use of intravenous contrast may help better delineate the mass.	O
CT abdomen without IV contrast	8	Use of intravenous contrast may help better delineate the mass.	☢☢☢
MRI abdomen without IV contrast	8		O
US abdomen	7	This procedure may be appropriate as a first imaging examination for certain abdominal masses in adults (eg, superficial). Usually this is the first examination in pediatric and pregnant patients.	O
CT abdomen without and with IV contrast	6	This procedure without, followed by with, contrast may be useful in cases in which enhancement pattern of mass may help differentiate or further characterize the lesion.	☢☢☢☢
X-ray abdomen	5	This procedure is a simple and inexpensive way to evaluate bowel for obstruction or constipation as the cause of the mass.	☢☢
X-ray contrast enema	4		☢☢☢
X-ray upper GI series	4		☢☢☢
X-ray upper GI series with small bowel follow-through	4		☢☢☢
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate			*Relative Radiation Level

Case

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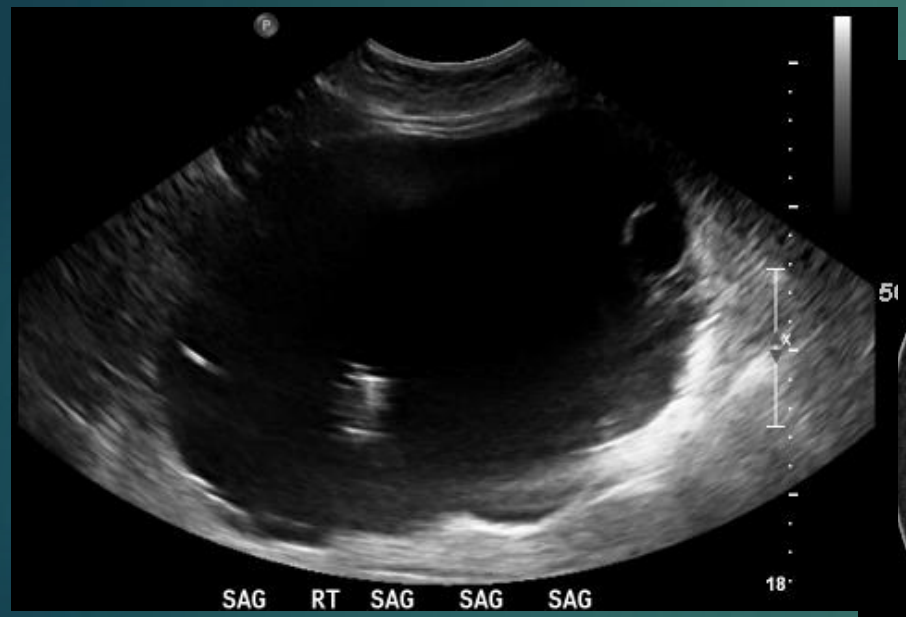
X-ray upper GI series	4		☢☢☢
X-ray upper GI series with small bowel follow-through	4		☢☢☢
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate			*Relative Radiation Level

$9 + 9 + 7 = 25$

DDX?

Case 2:
3 modalities



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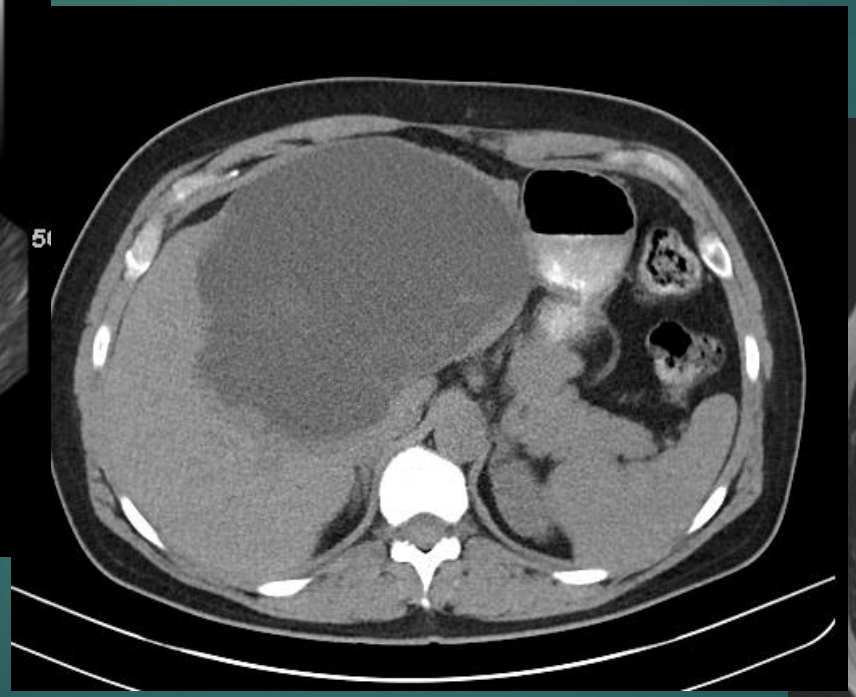

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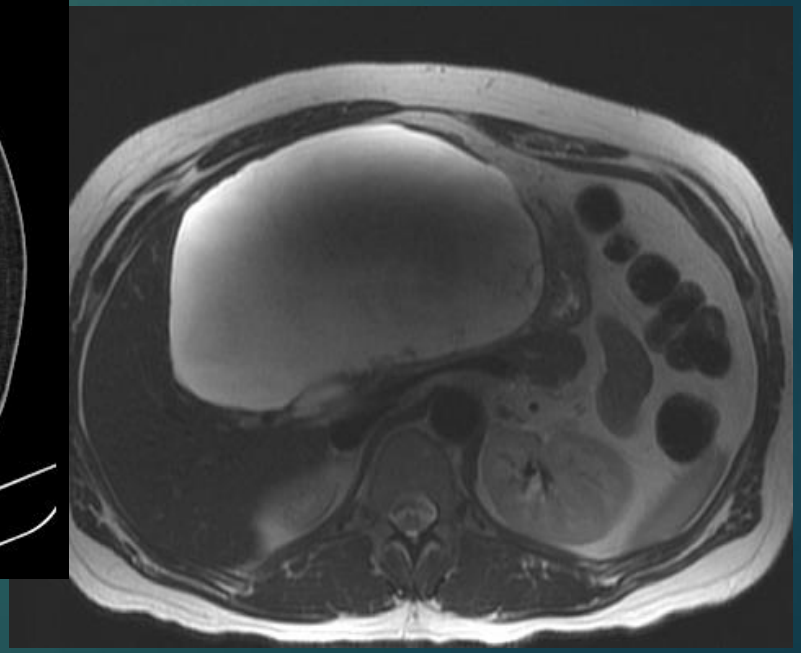


T2 Bright

DDX?

Case 2: DDX

- DDX =
  - Cystadenoma
  - Hydatid/echinococcal cyst
  - Biliary cystadenocarcinoma
  - Cystic metastasis
  - Necrotic metastasis
  - Abscess
  - Choledochal cysts
  - Cholangiocarcinoma

Case 2: Question

- What is your recommendation?
  A. Repeat US
  B. Aspiration of the cyst
  C. Partial resection of the cyst
  D. Complete resection of the cyst
  E. Hepatic resection
  F. Bears watching

Case 2: Question

- What is your recommendation?
  A. Repeat US
  B. Aspiration of the cyst
  C. Partial resection of the cyst
  D. Complete resection of the cyst
  E. Hepatic resection
  F. Bears watching

Path is next.

Case 2:

Pathology time!

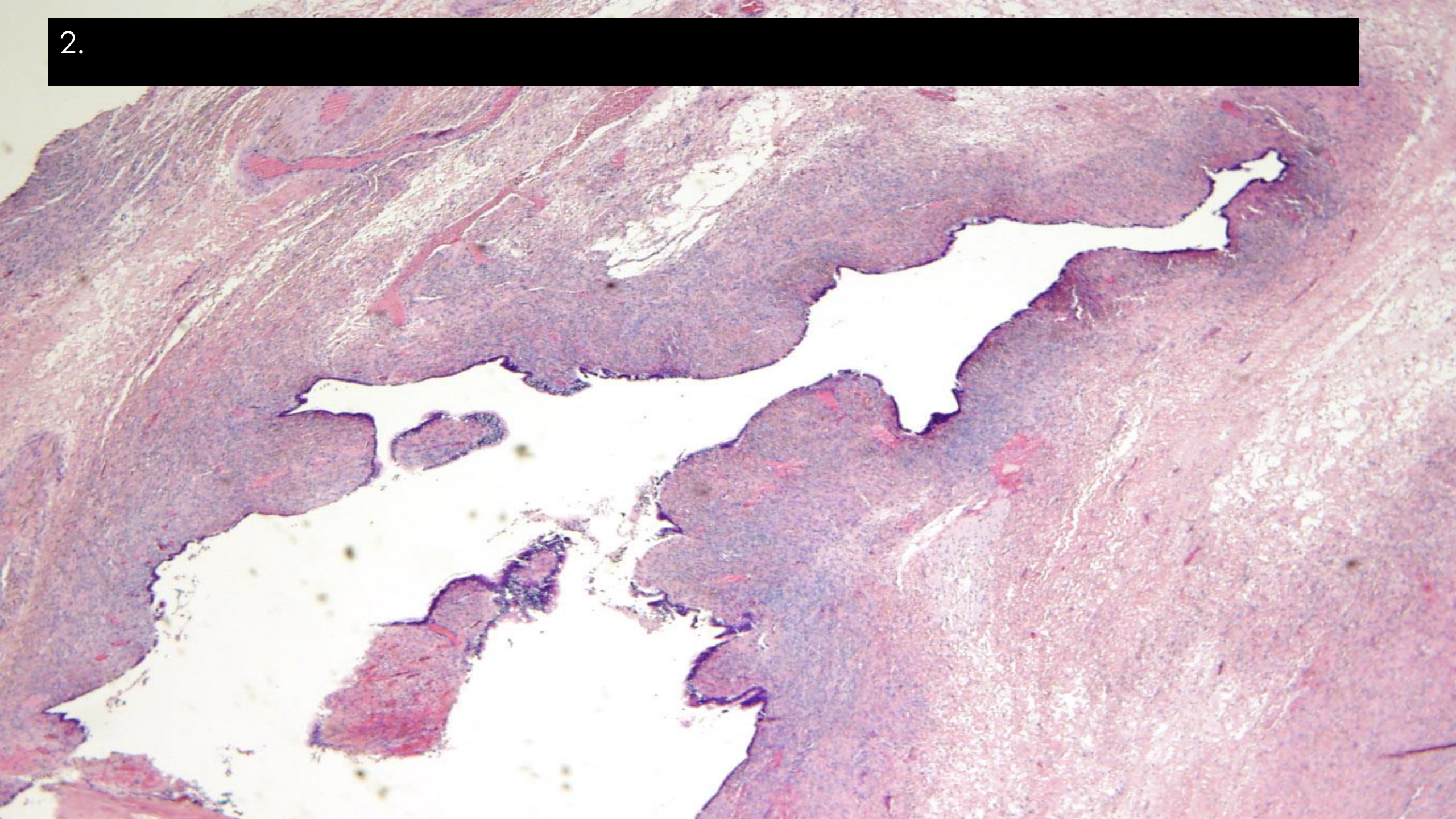
Fun fact:

Who	What
ABDULLAH BAKHET AL HAGAWE	**37 LITRE(S)**
Where	**When**
SAUDI ARABIA (KING FAHAD CENTRAL HOSPITAL, JIZAN)	**14 JUNE 2010**

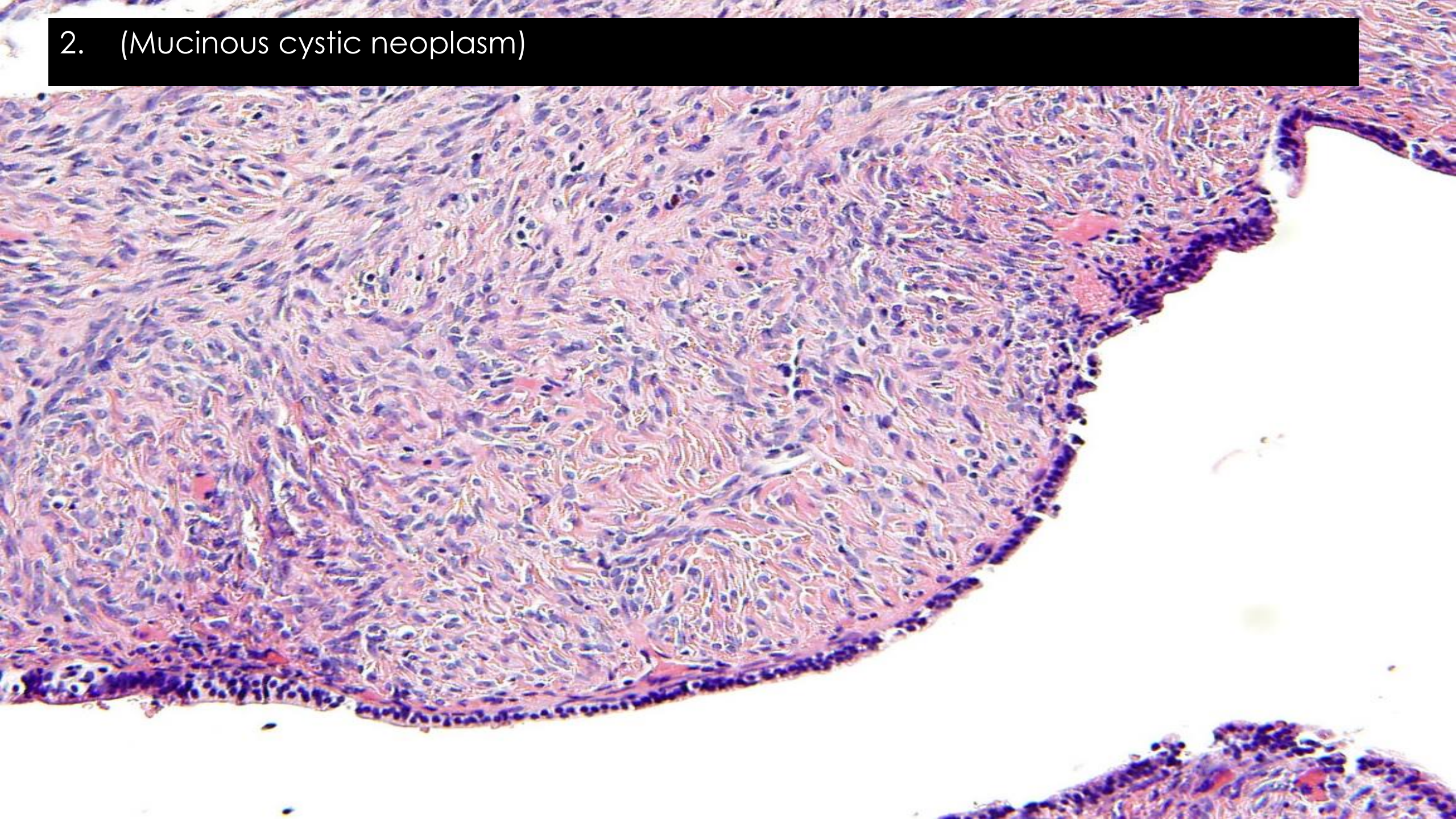
The Largest hydatid cyst contained 37 litres of fluid and was removed from 80 year old Abdullah Bakhet Al Hagawe by Dr. Abdul Rahman Arishi and Dr. Mohd Shahid Hussain Khan, at the King Fahd Central Hospital in Jizan, Saudi Arabia, on 12 January 2005. The main cysts had multiple daughter cysts attached and was found in his abdomen.

www.guinnessworldrecords.com

2.



2. (Mucinous cystic neoplasm)



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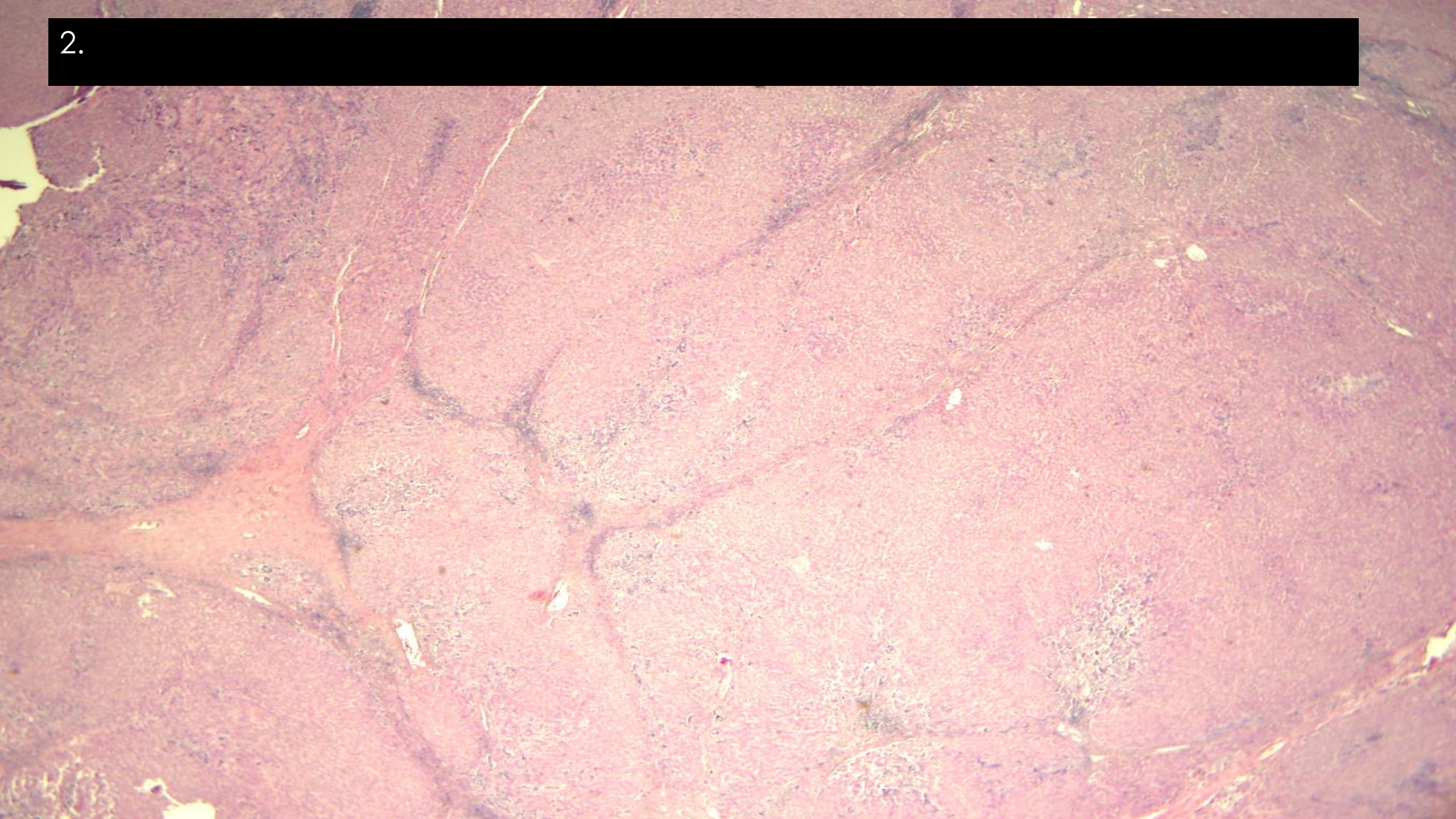

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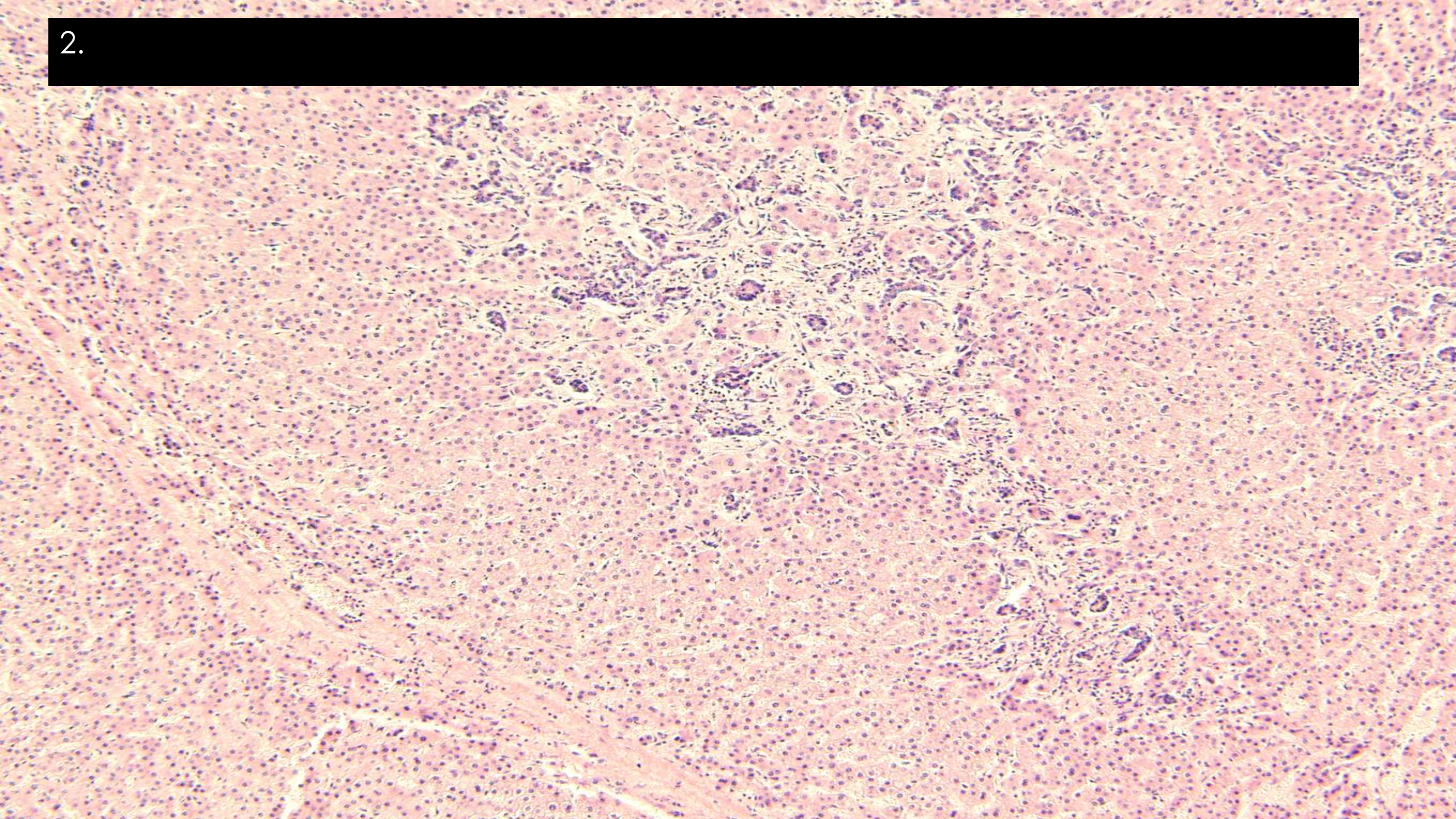
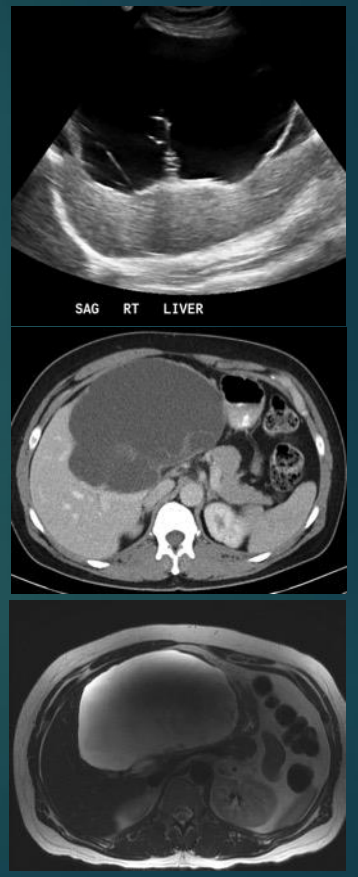


2. (Focal nodular hyperplasia) Glutamine synthetase

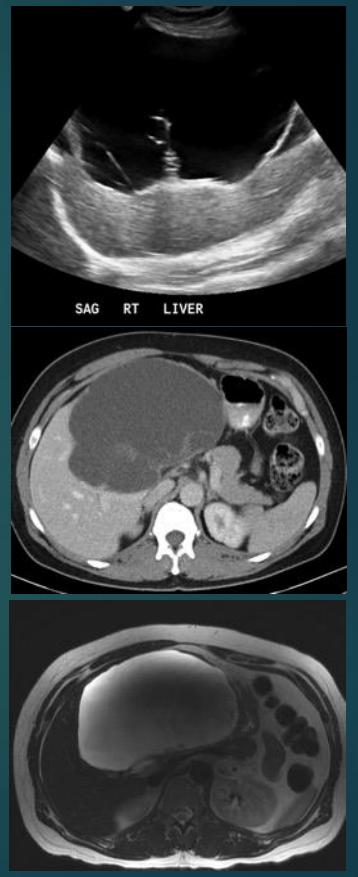
Case 2: Discussion
DDX

- DDX =
  - Cystadenoma - could be. Has septations.
  - Hydatid or echinococcal cyst – could be. Has septations. Less likely though.
  - Biliary cystadenocarcinoma – more likely if there was a large solid component or thick calcification
  - Cystic metastasis - NO h/o malignancy (would be GI mucinous)
  - Necrotic metastasis - NO B/C that would have a thick, enhancing wall
  - Abscess – NO B/C that would have a thick, enhancing wall
  - Choledochal cysts (Type 5 intrahepatic, Caroli disease) – NO B/C those would be small cysts, off the bile ducts, and this doesn't connect to biliary system
  - Cholangiocarcinoma – NO B/C that would be solid mass at central bile ducts, with distal ductal dilation (or infiltrative mass).



Case 2: Discussion

- Biliary Cystadenoma (AKA Mucinous cystic neoplasm):
  - Most often presentation is sensation of upper abdominal mass, abdominal discomfort/pain, and anorexia. Many are found incidentally.
  - Large, multiloculated, cystic mass.
    - US: hypoechoic lesion, occasional internal echoes (debris)
    - CT: low attenuation mass, uni or multilocular, may have septations
    - MR: T2 bright, T1 dark, septations are T1 enhancing
  - Has septations! (if no septations, would be simple cyst). Septations may mimic echinococcal (hydatid) cyst.
  - BUT there shouldn't be thick enhancing wall (that would be hepatic abscess or necrotic metastasis)
  - Does NOT communicate with the biliary system.
  - Benign. Rare to occur after resection.
  - Rare to degenerate into biliary cystadenocarcinoma. SO, if you see a large solid component, or thick calcification, raise your concern for cystadenocarcinoma.



Case 2: Question follow-up

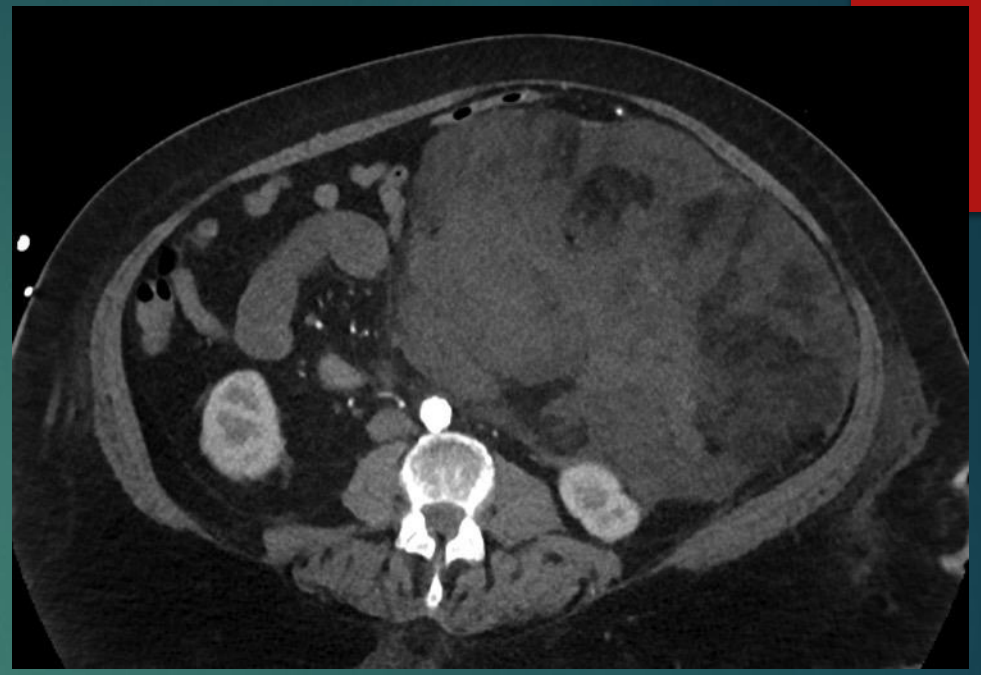
- What is your recommendation?
  - ~~A. Repeat US~~
  - B. Aspiration of the cyst – associated with rapid recurrence of fluid and symptoms
  - C. Partial resection of the cyst – recurrence and worse prognosis
  - D. Complete resection of the cyst – do this.
  - E. Hepatic resection – consider if the lesion is suspected of containing invasive carcinoma
  - ~~F. Bears watching~~

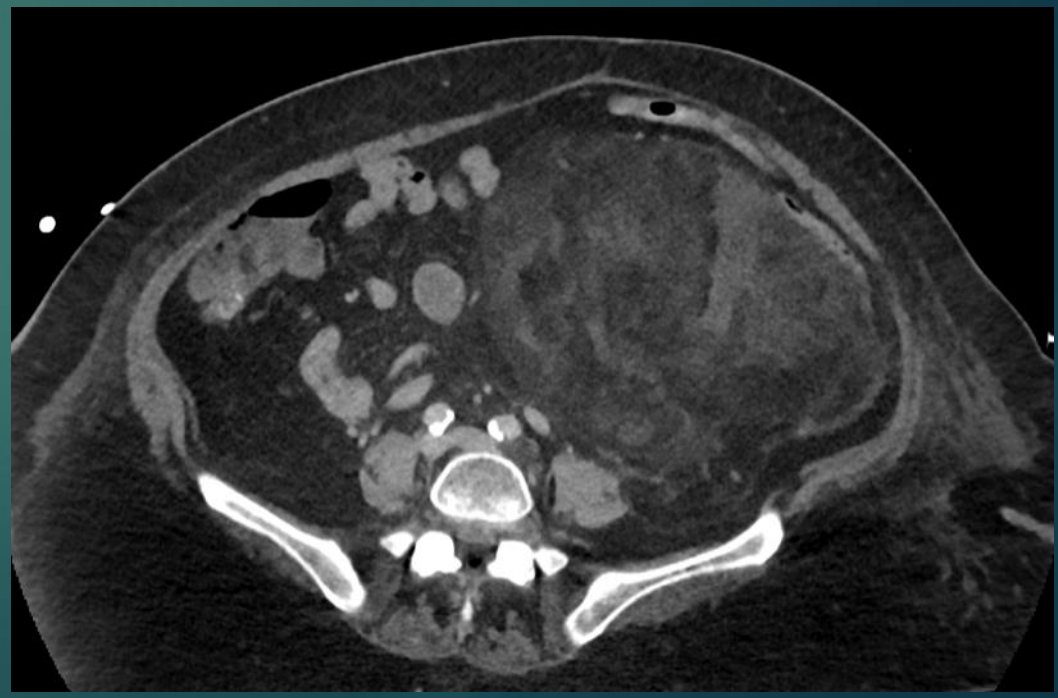
End of case

Case 3:

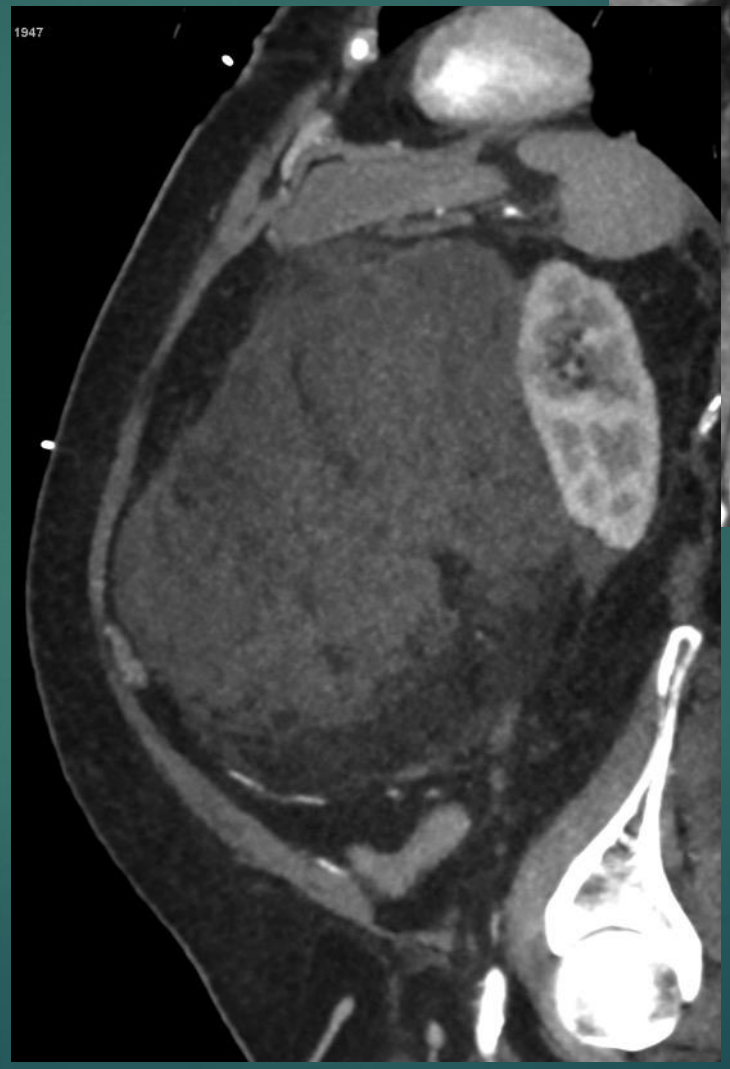
69 YEAR OLD WOMAN REFERRED TO GI BY HER PCP FOR HEMOCCULT-POSITIVE STOOL AND A HISTORY OF COLON POLYPS. ON EXAM SHE WAS FOUND TO HAVE A POSSIBLE LARGE ABDOMINAL MASS.

Case 3

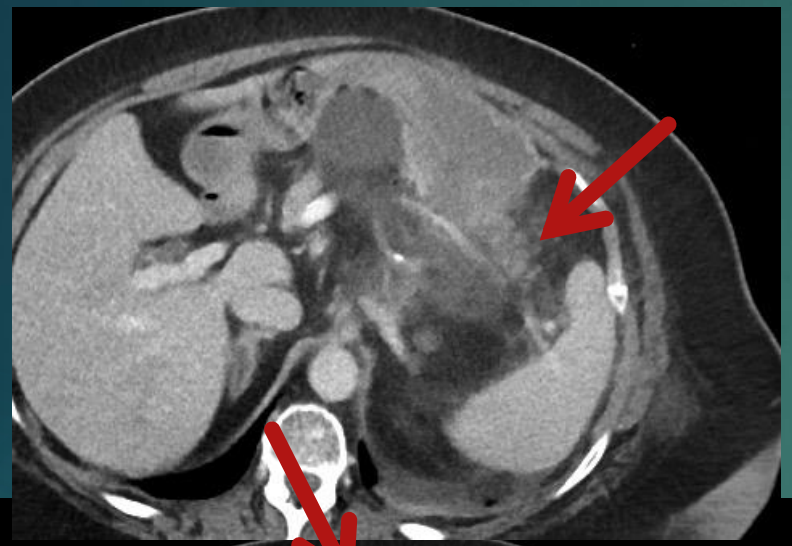


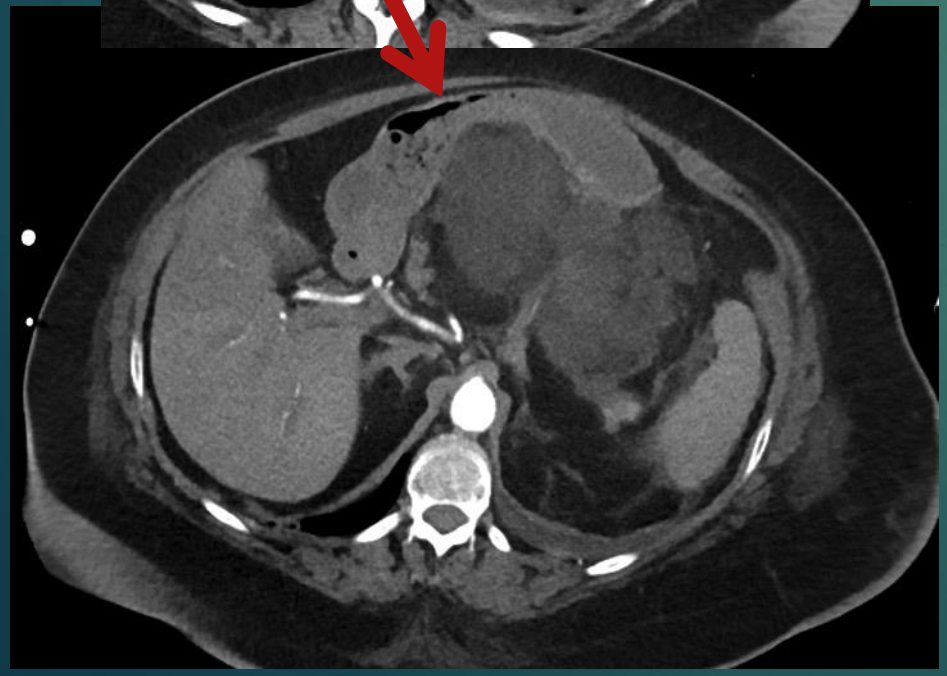


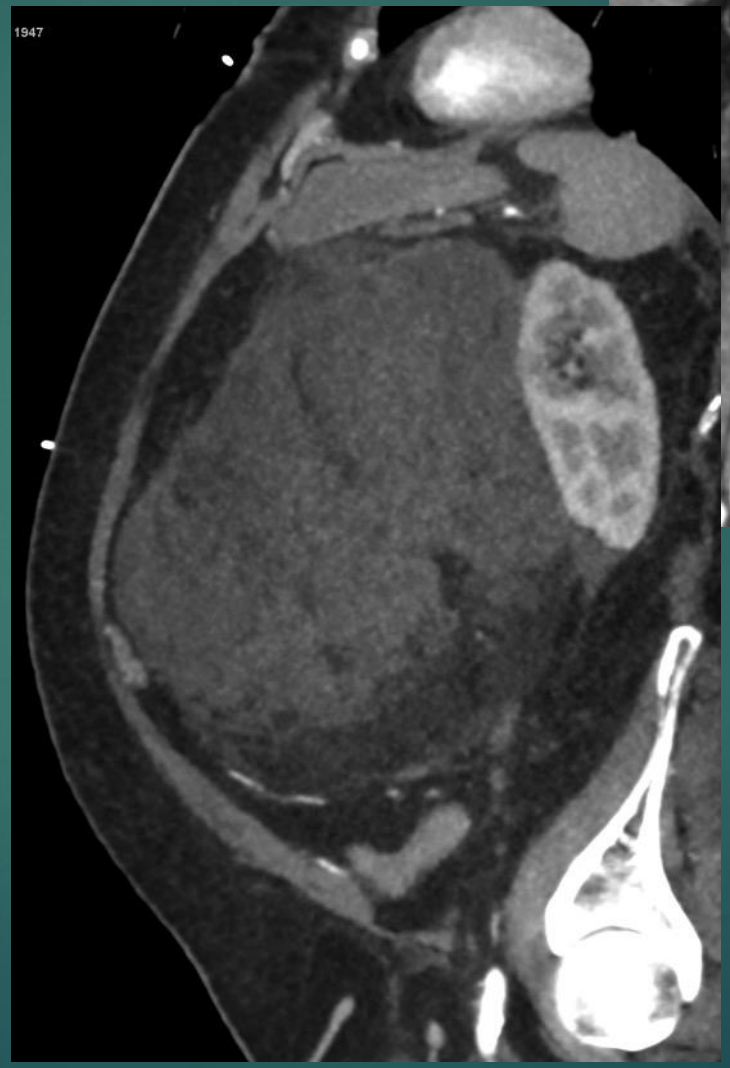
Case 3

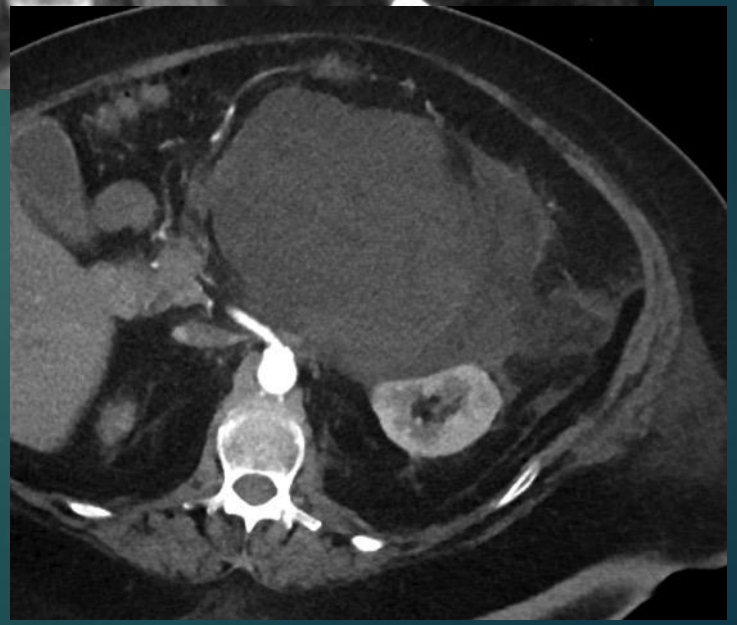


Case 3

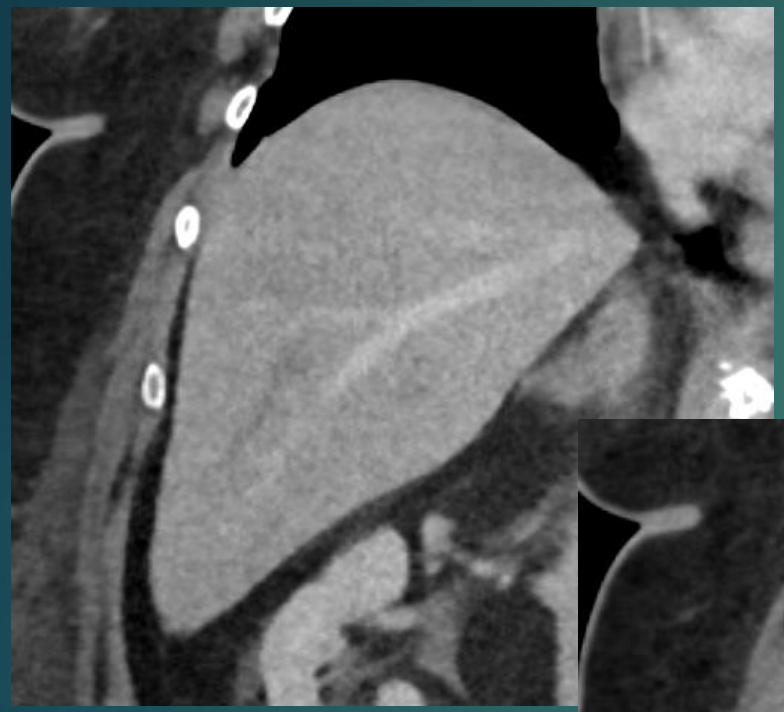


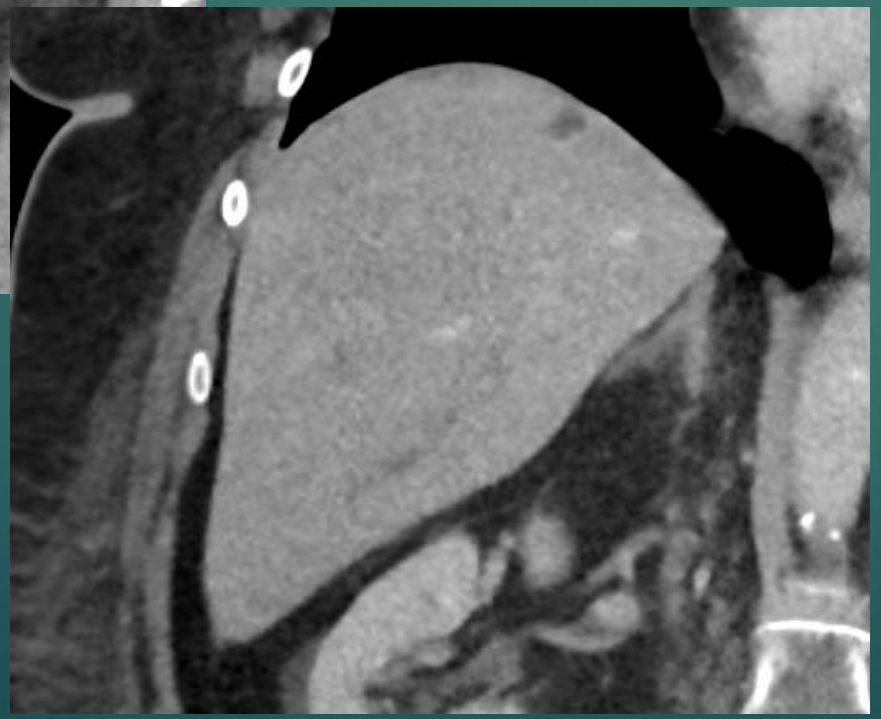


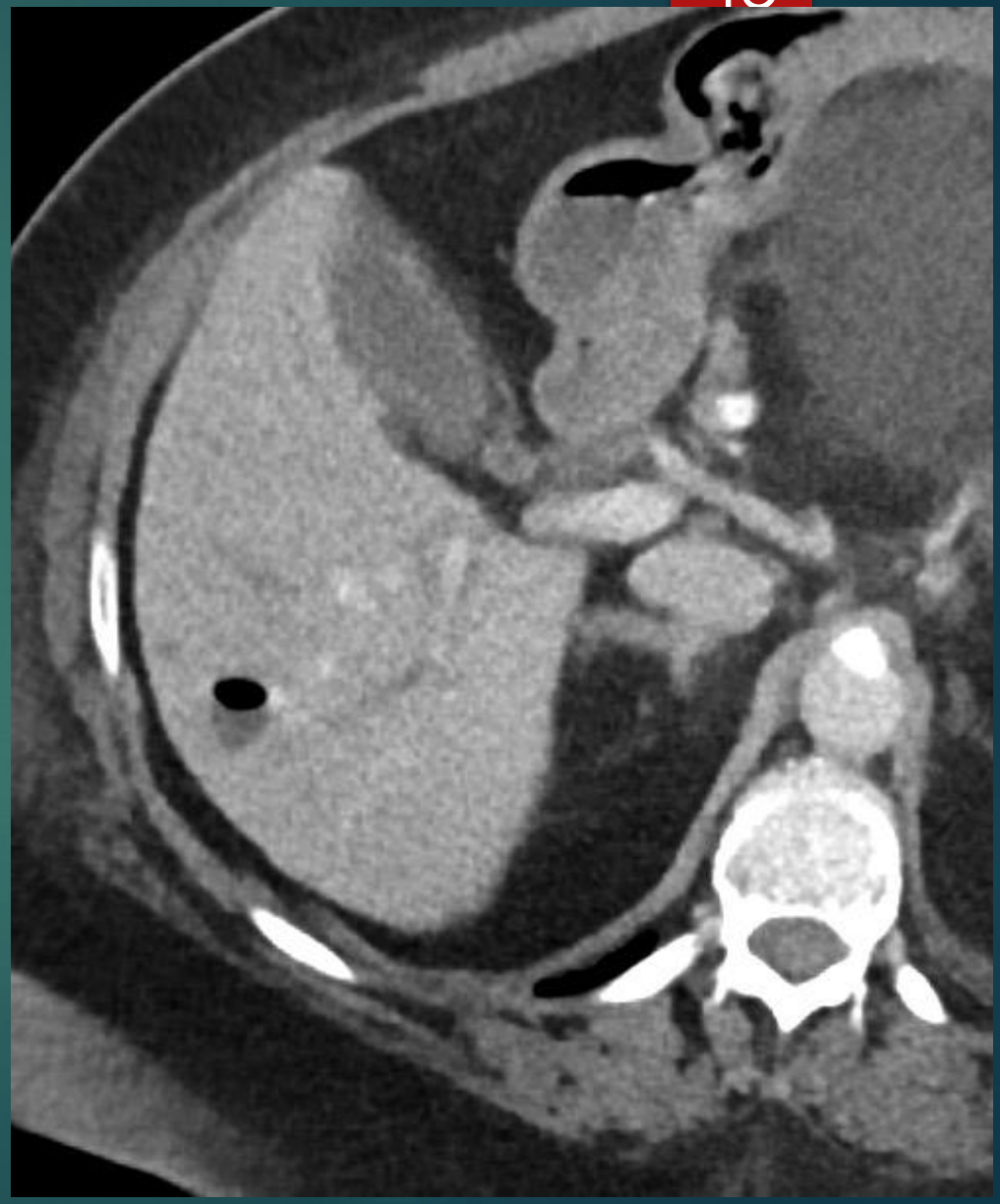




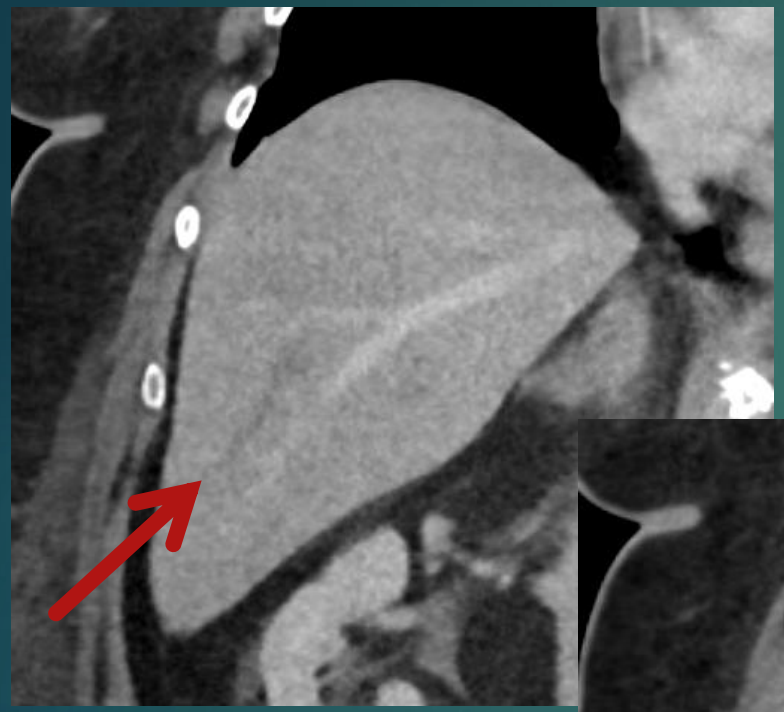
Case 3: Complications

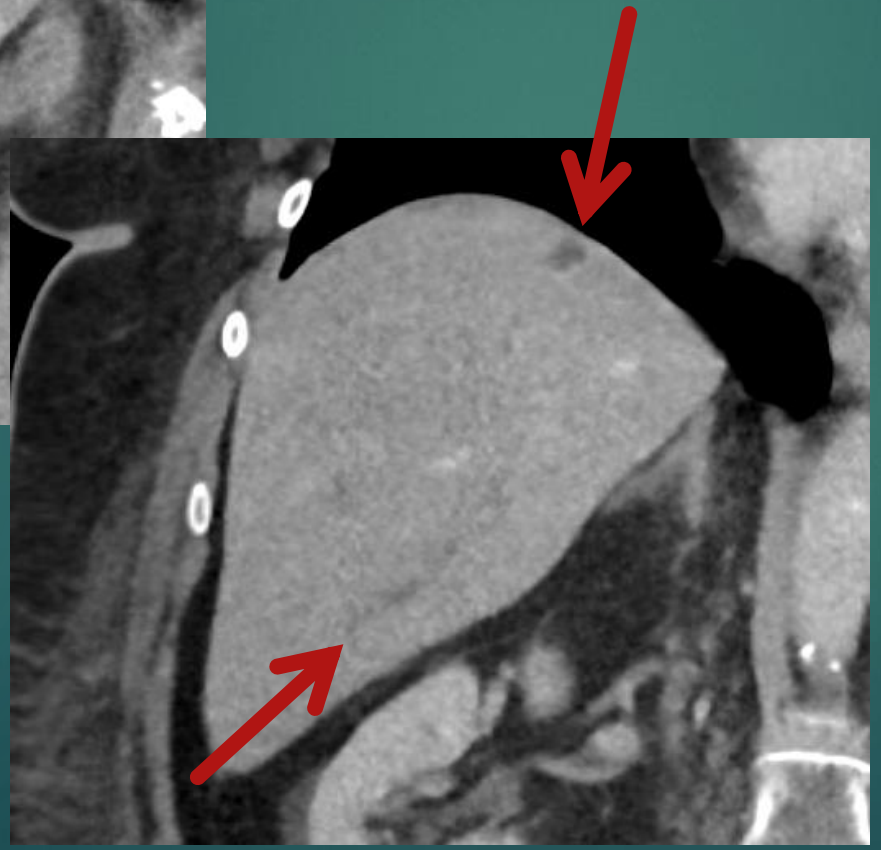


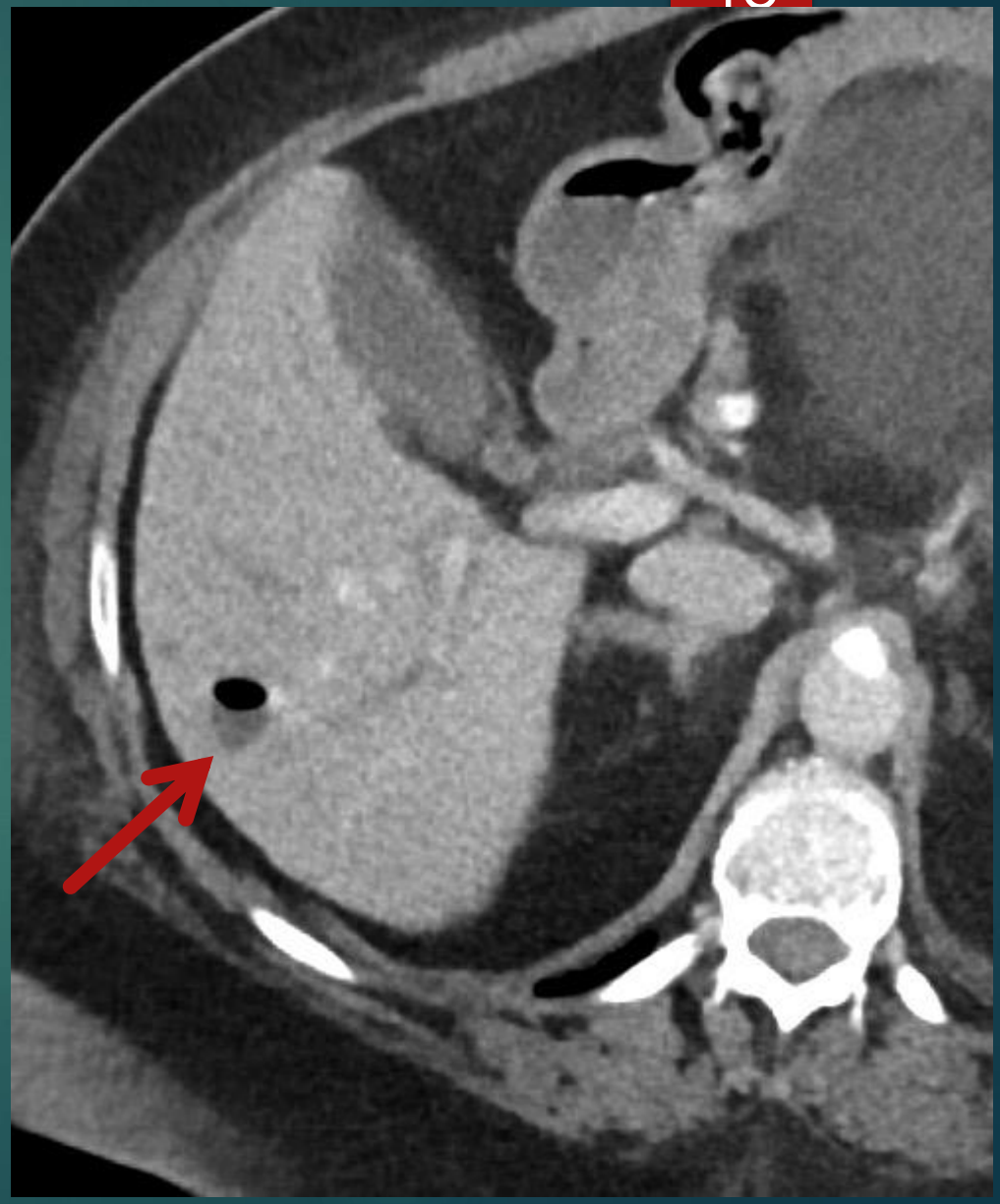




Case 3: Complications







DDX?

Case 3: DDX

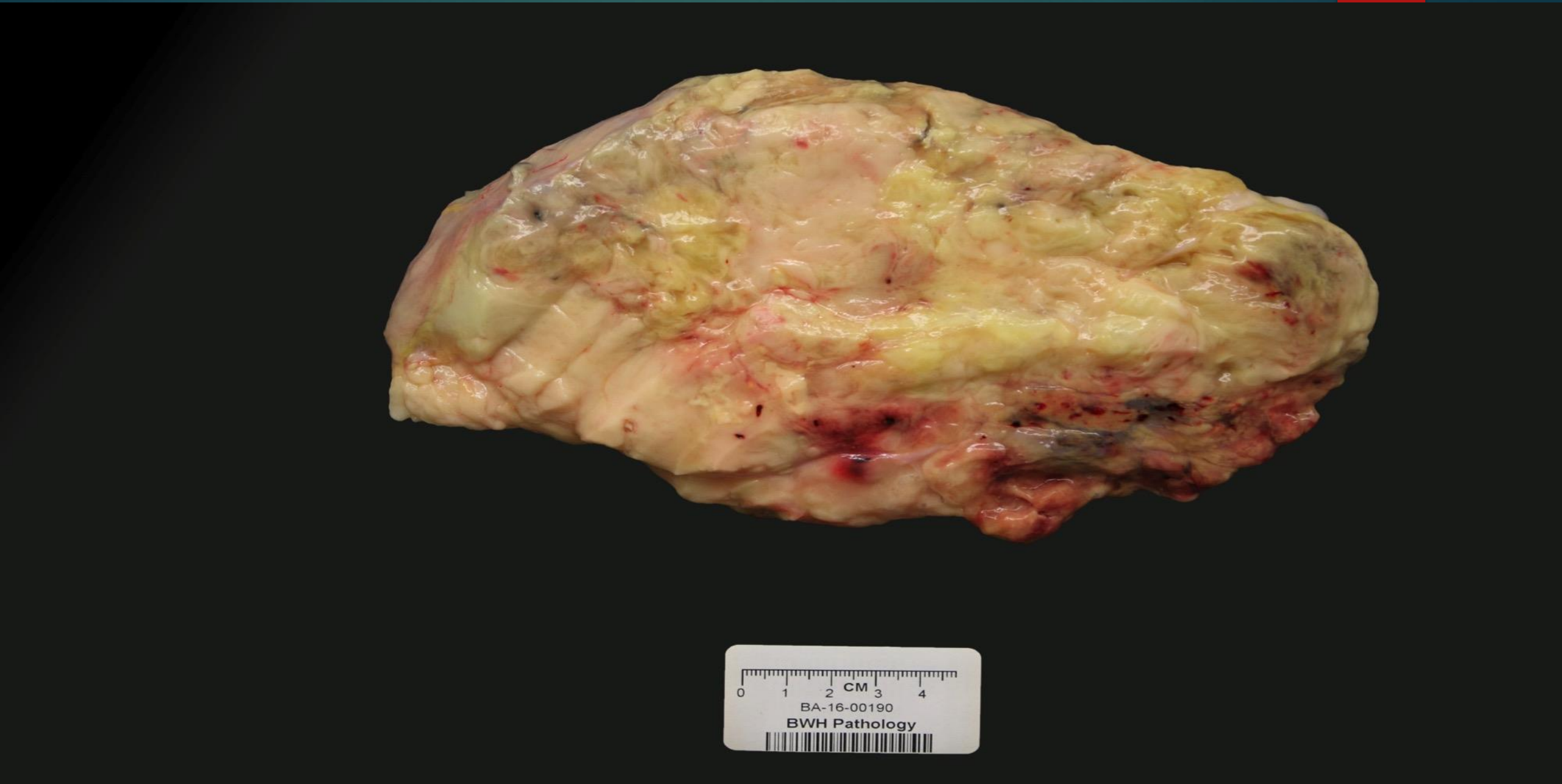
- DDX for fat containing masses in the RP –
  - Lipoma
  - Liposarcoma
  - Adrenal myelolipoma (macro fat)
  - Adrenal adenoma (micro fat)
  - Adrenal: pheochromocytoma and adrenocortical carcinoma rarely can have fat
  - Renal angiomyolipoma (AML)

Path is next.

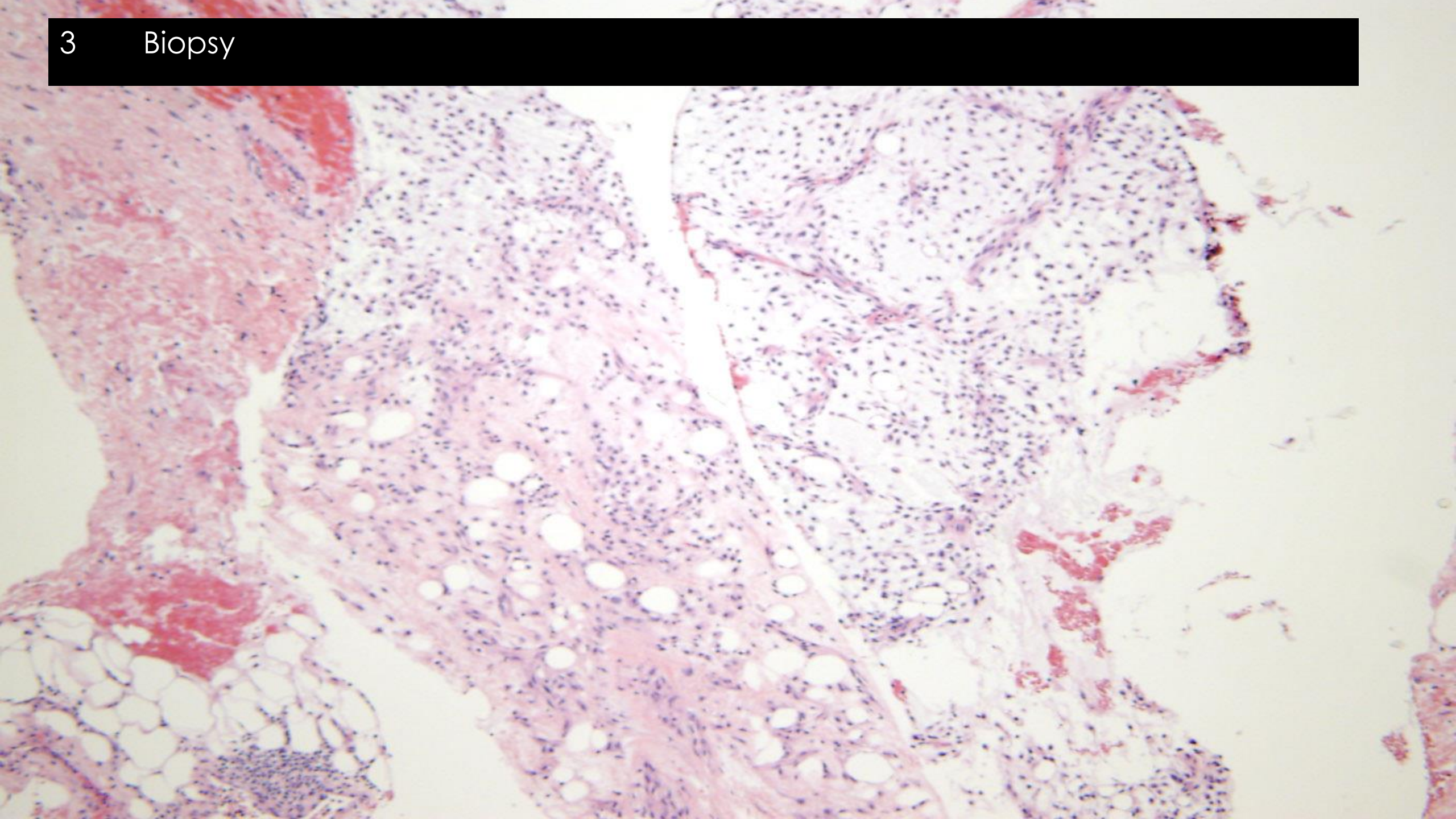
Case 3:

Pathology time!

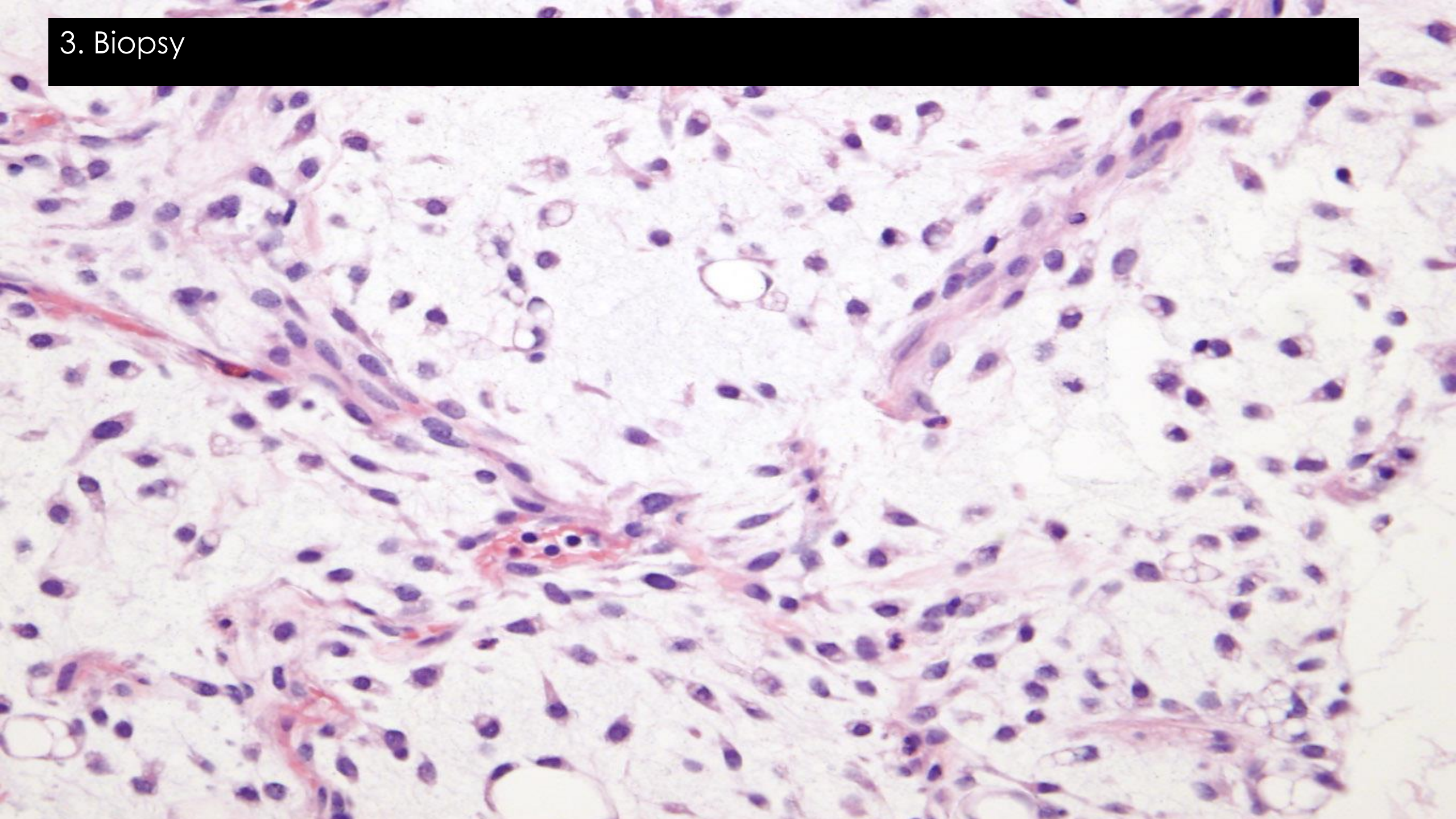
3. Autopsy



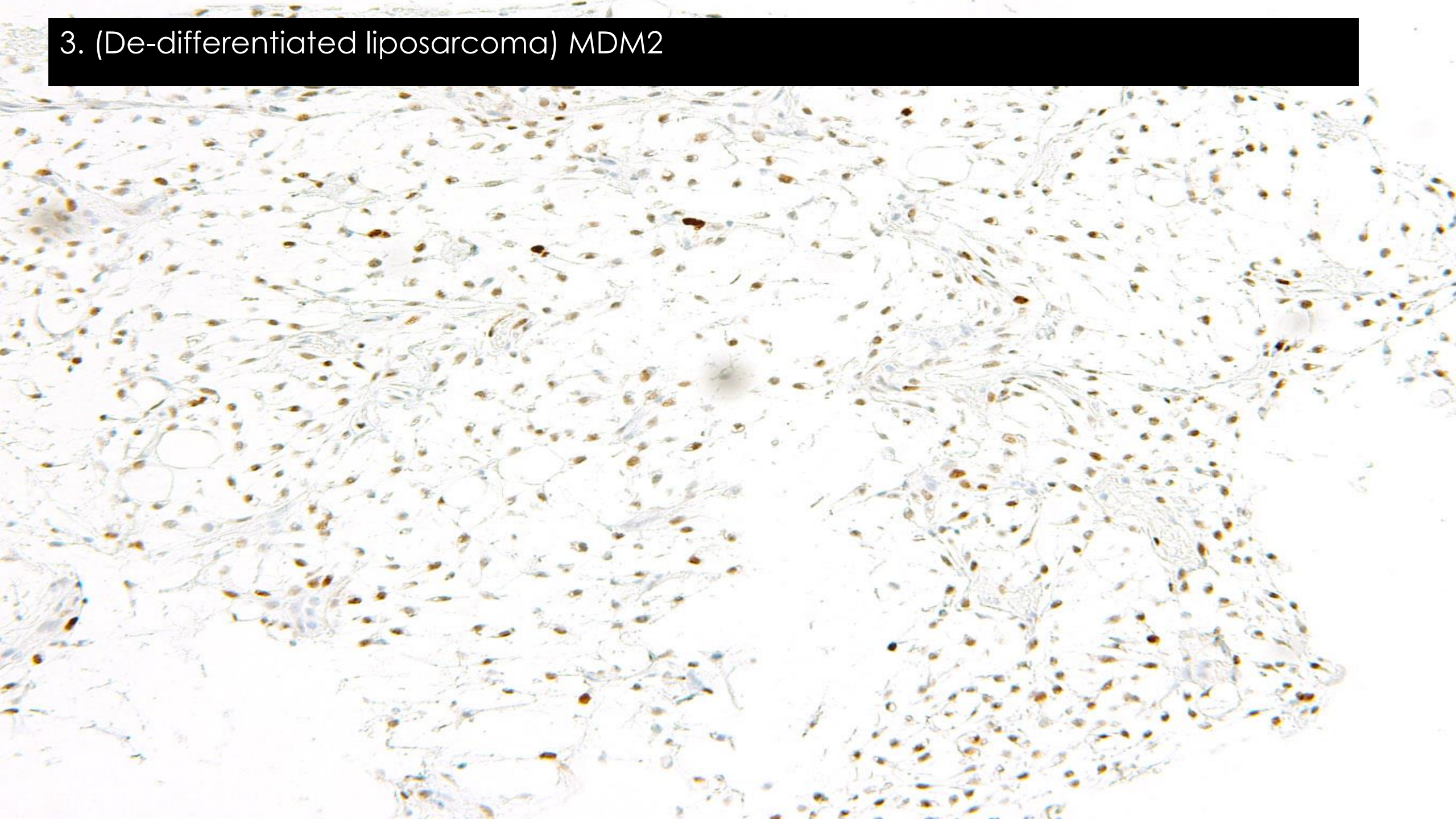
3 Biopsy



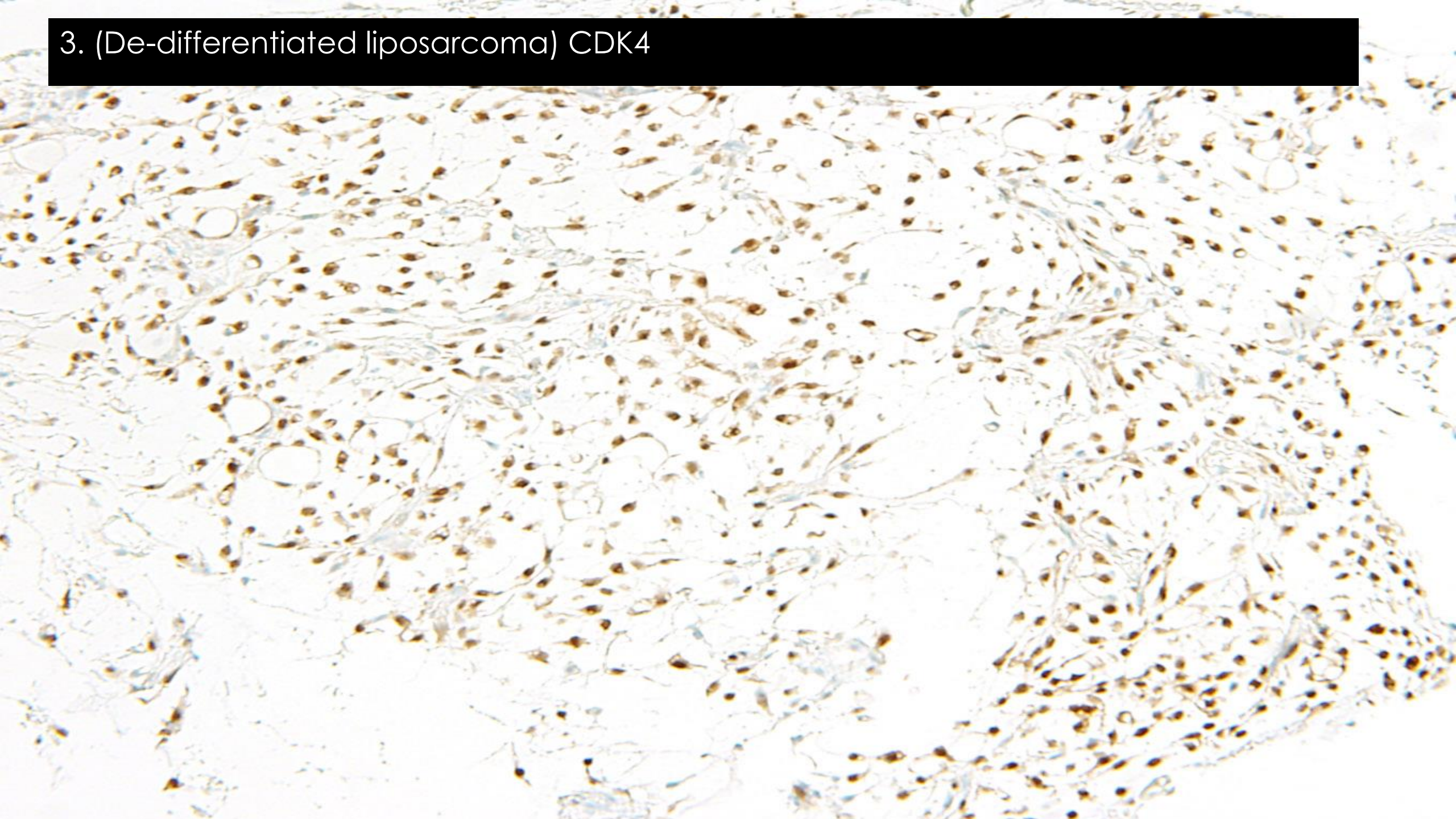
3. Biopsy



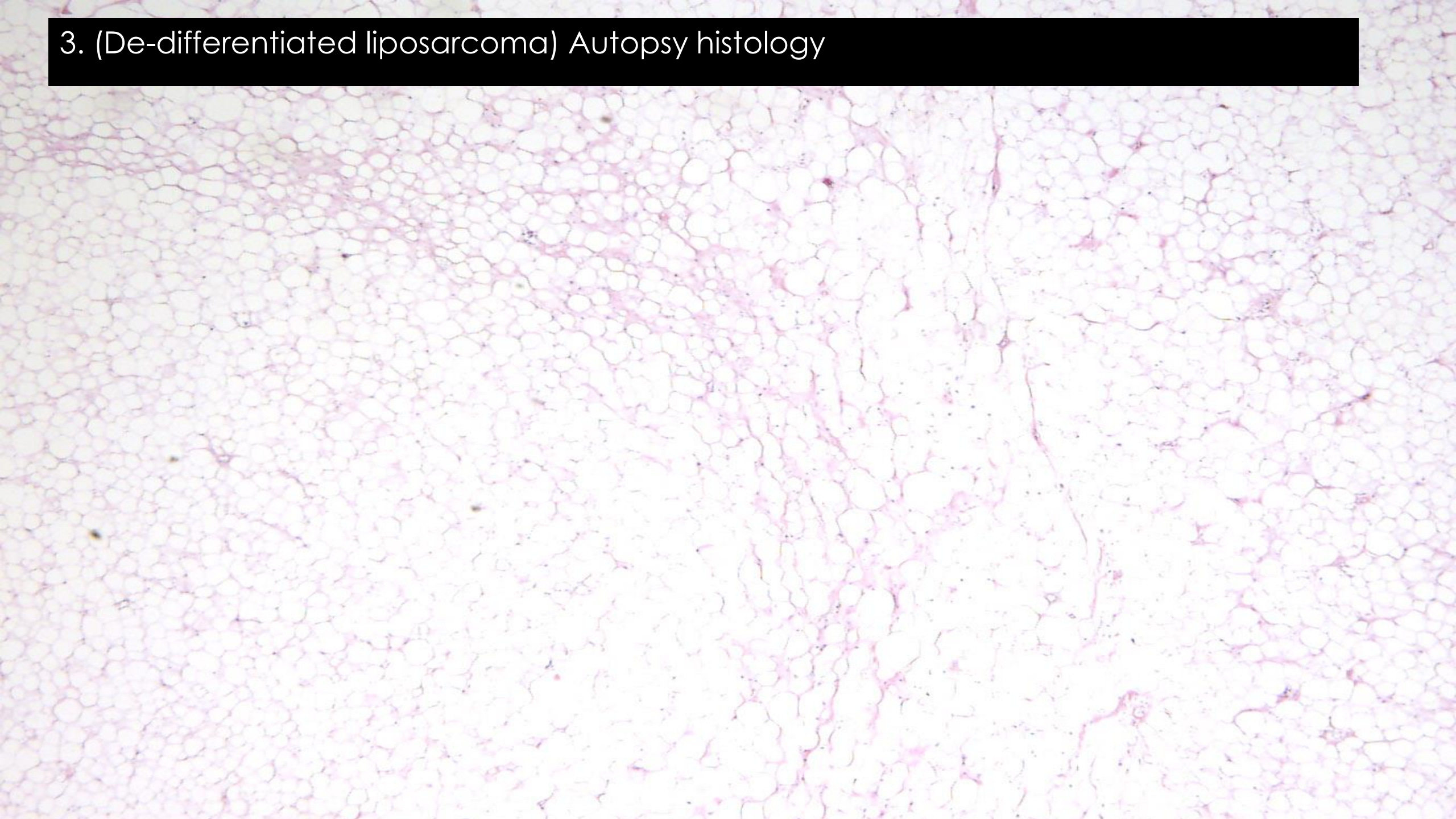
3. (De-differentiated liposarcoma) MDM2



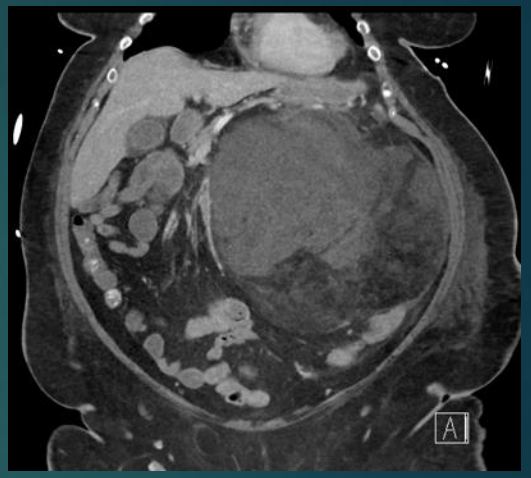
3. (De-differentiated liposarcoma) CDK4



3. (De-differentiated liposarcoma) Autopsy histology



Case 3: Discussion
Fatty RP mass



- Liposarcoma = most common fat containing primary RP mass
- Strategy: assess the location the mass is arising from
  - Fatty mass NOT arising from adrenal or kidney is liposarc until proven otherwise
  - If it's from the kidney: Renal angiomyolipoma (AML)
  - If it's from the adrenal: Adrenal myelolipoma
- Liposarcoma – usually seen in the extremities (75%), most common in the thigh. Also in the RP or groin.
  - Contains both fatty and soft tissue elements and is often sizeable at presentation. They characteristically displace, rather than infiltrate adjacent structures.

End of case

Case 4:

27 YEAR OLD WOMAN WITH MONTHS OF LOW BACK PAIN, RADIATING TO THE THIGHS

Case 4: MRI

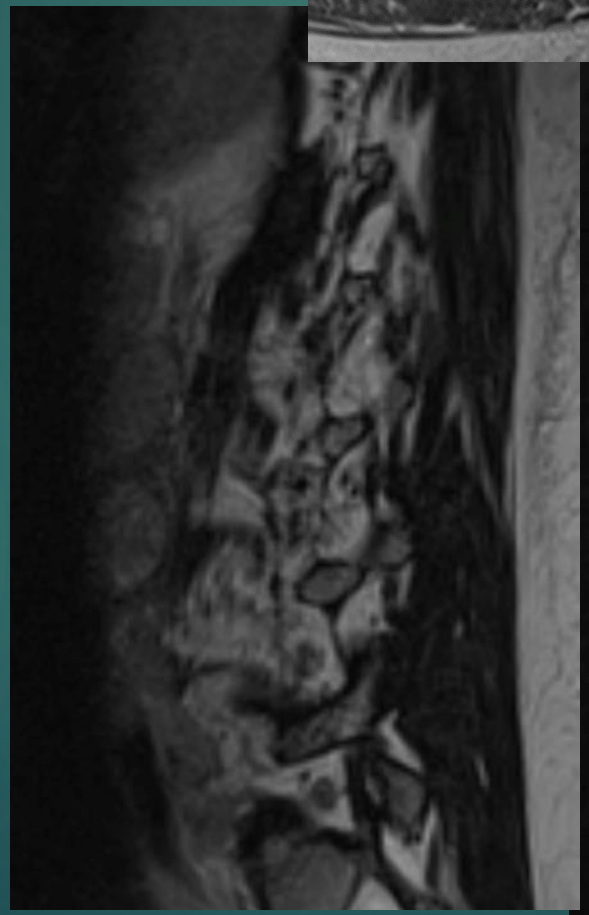
T1

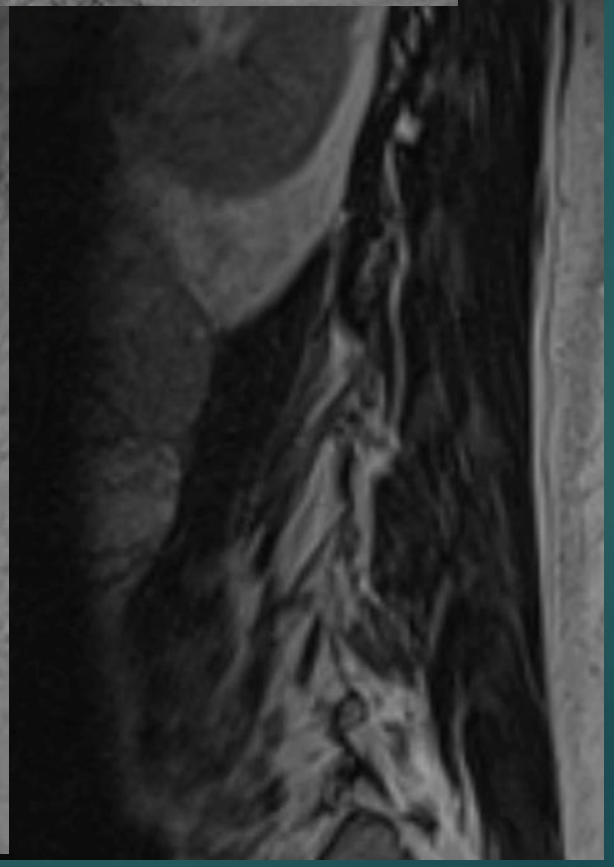
T2 Fat-Sat

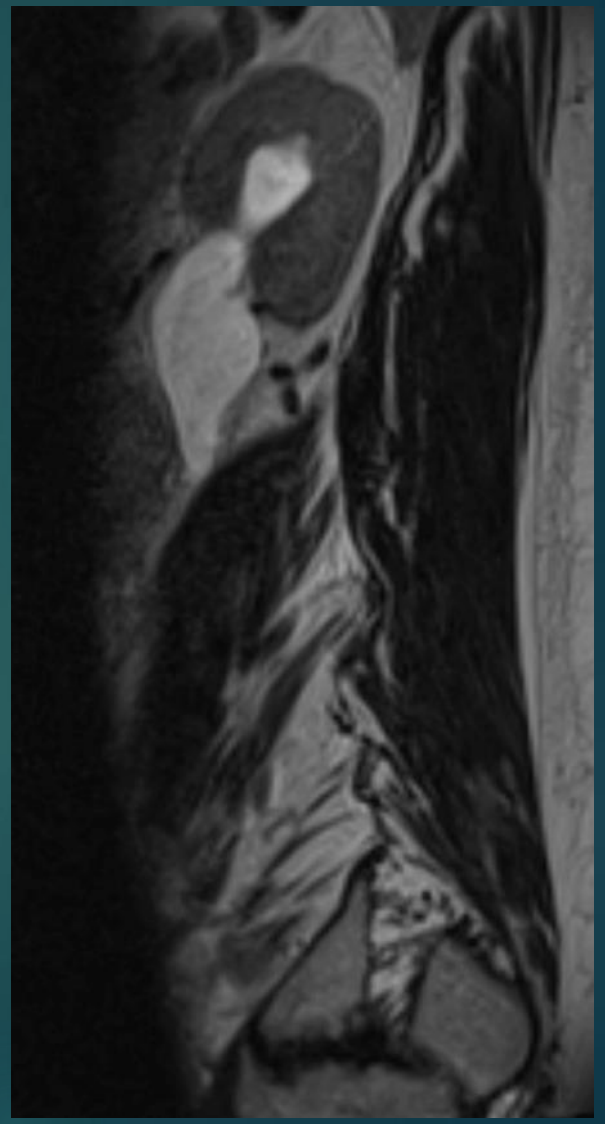
3D Space

Case 4: MRI

Axial T1

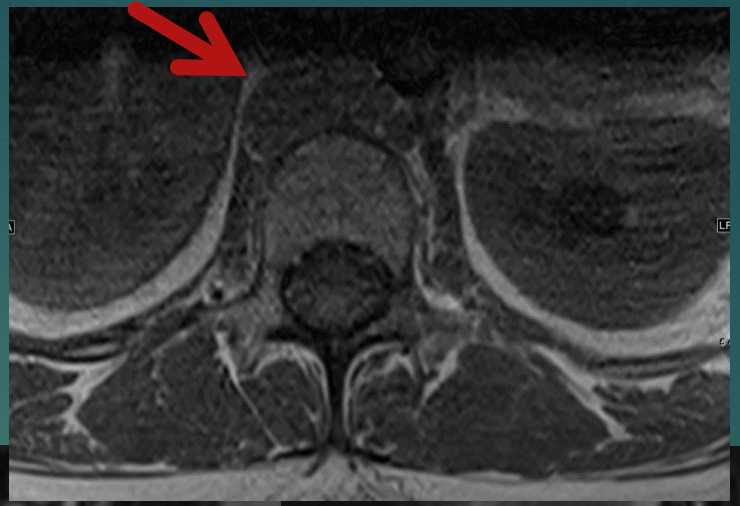




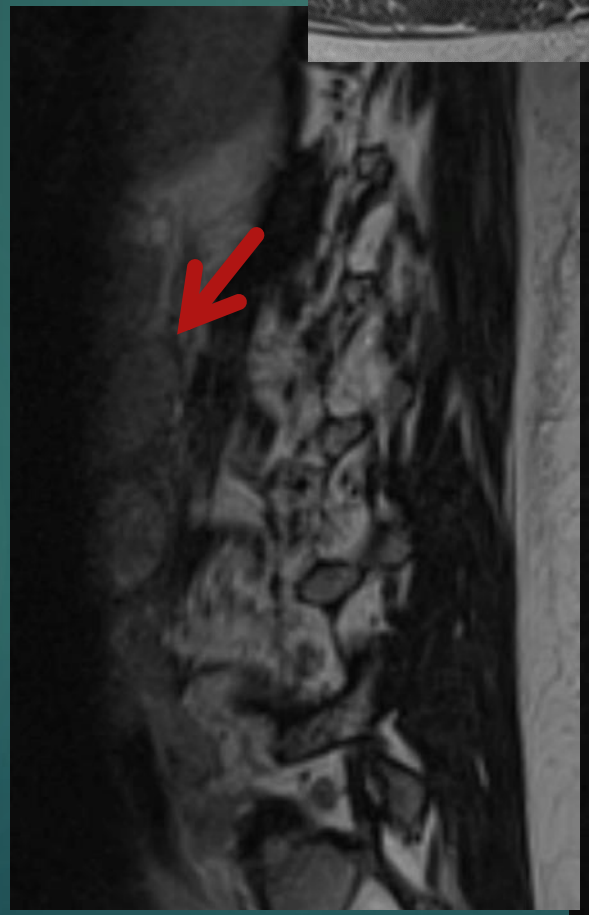


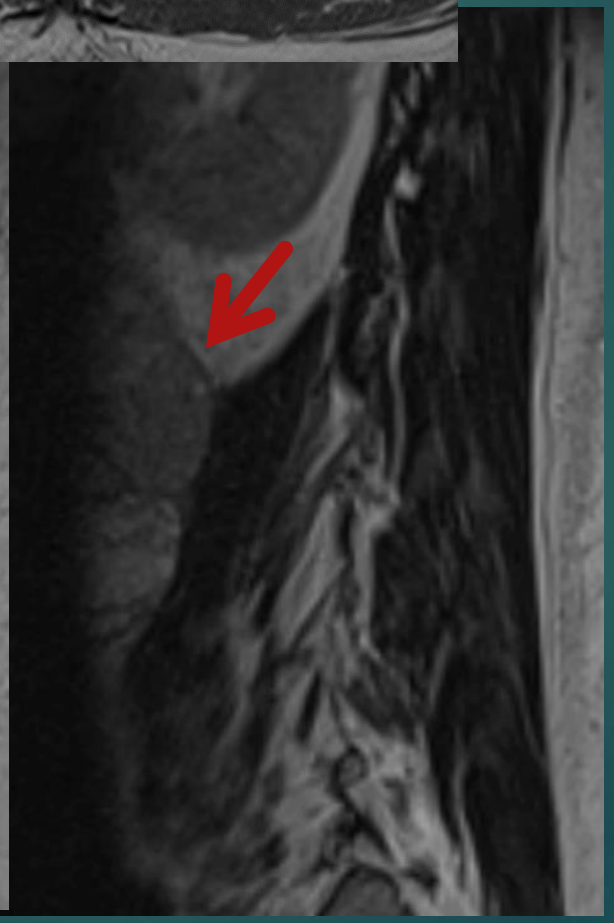
3D Space

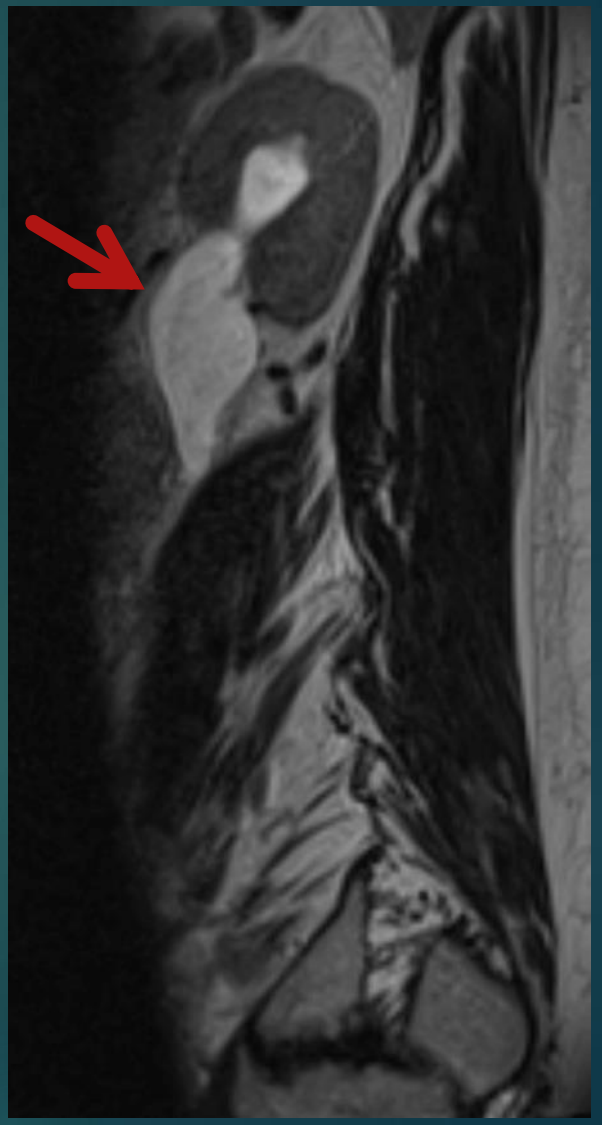
Case 4: MRI



Axial T1

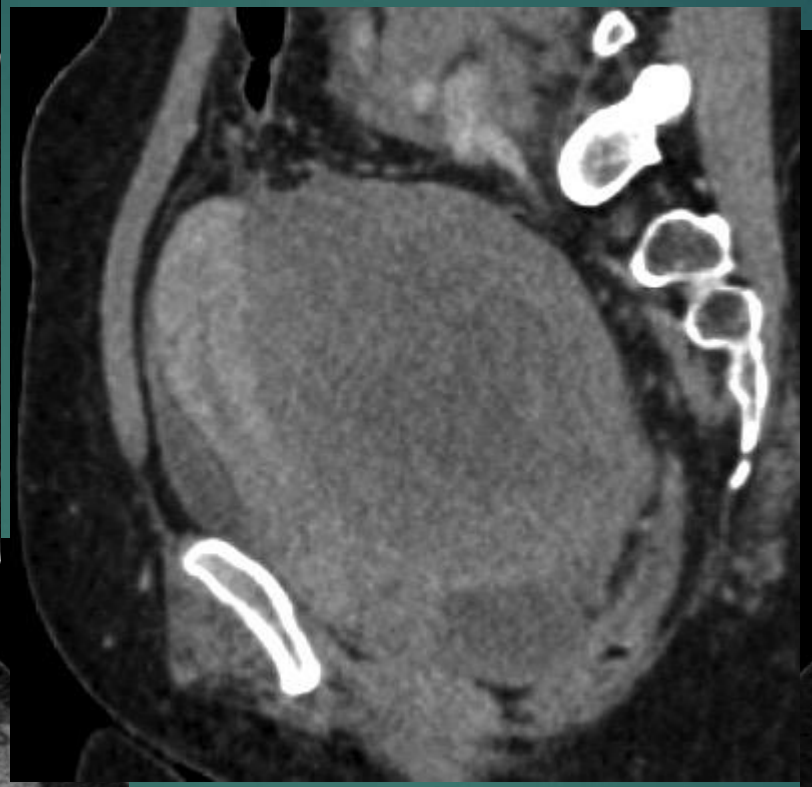




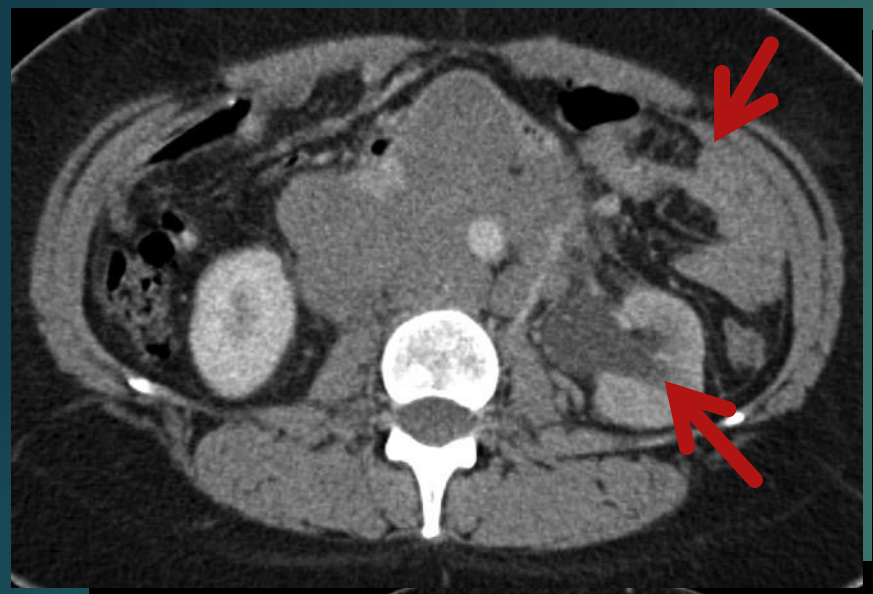


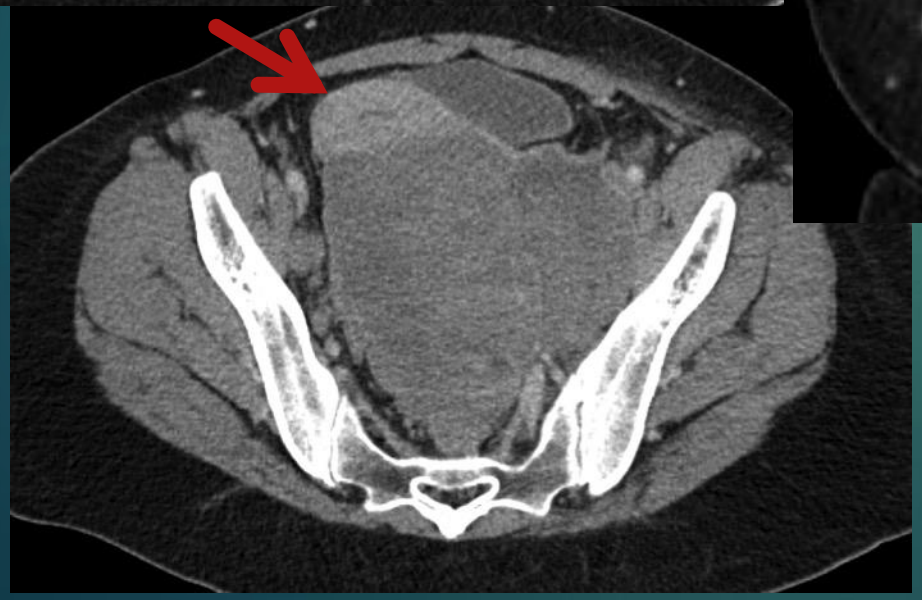
3D Space

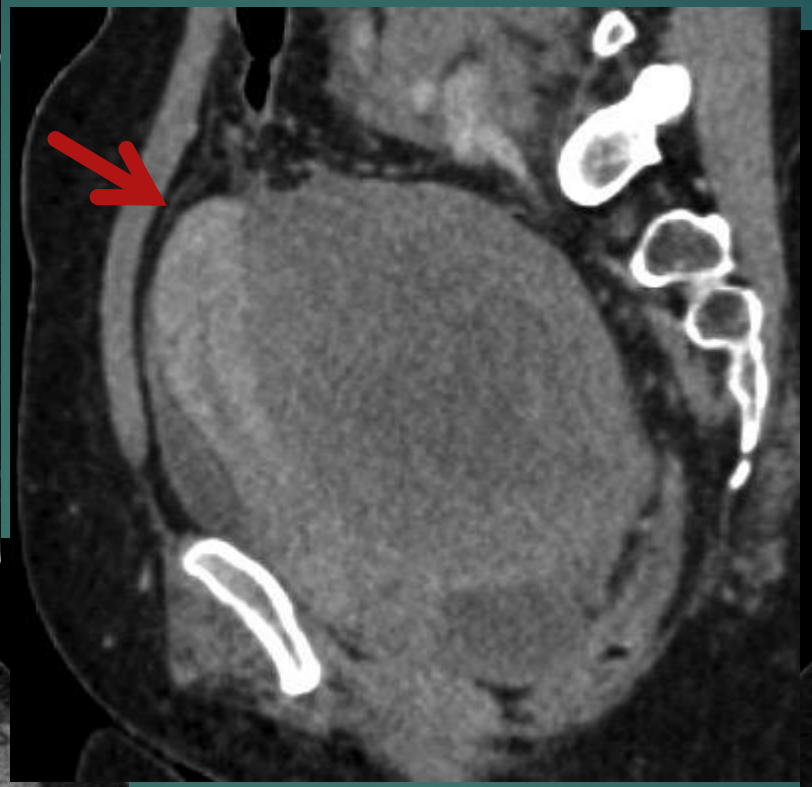
Case 4: CT Abd/Pelvis (next day)



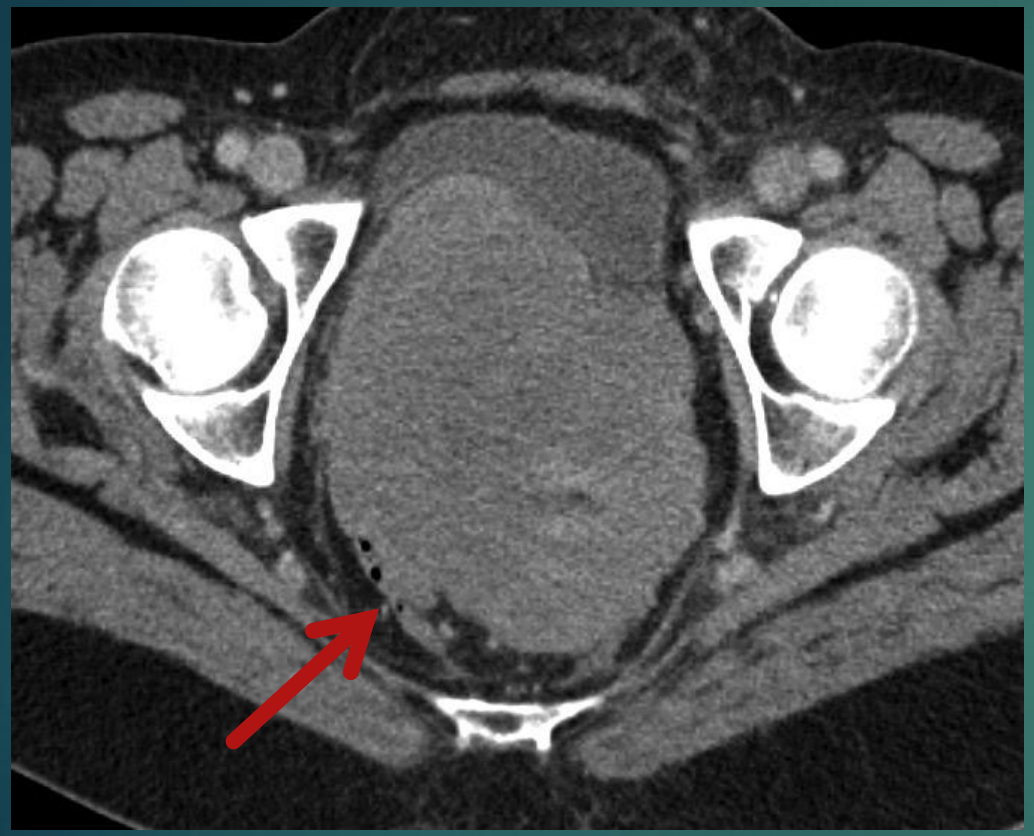
Case 4: CT Abd/Pelvis (next day)

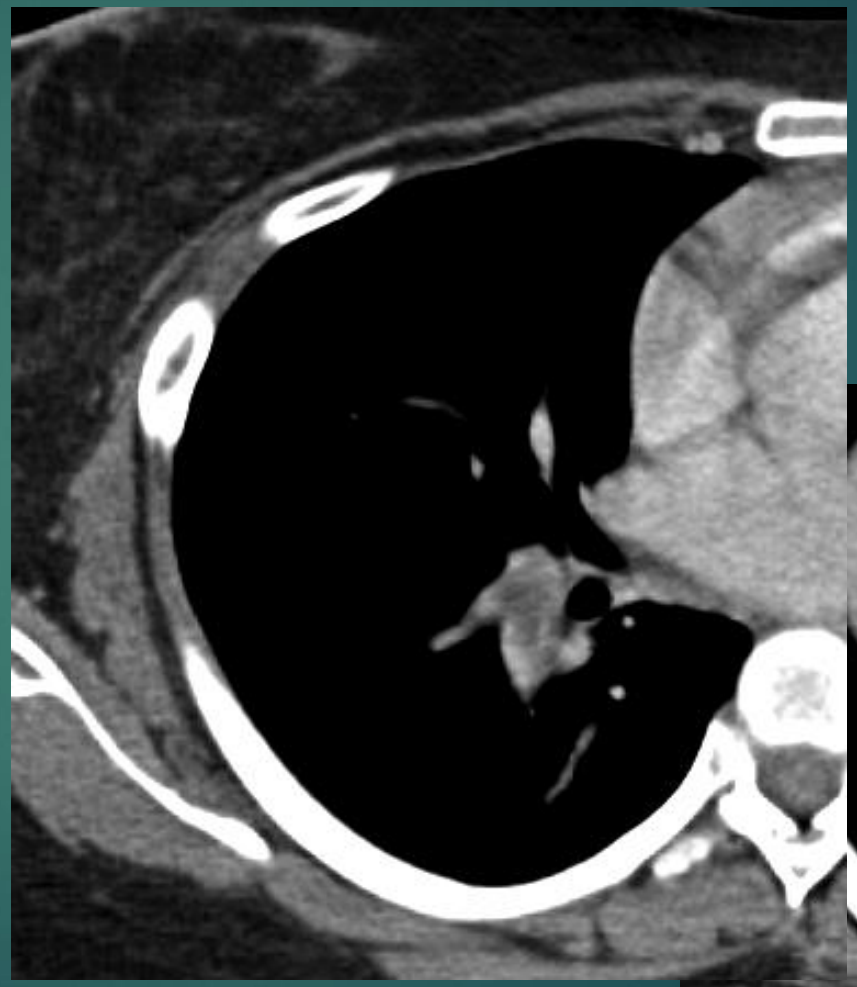


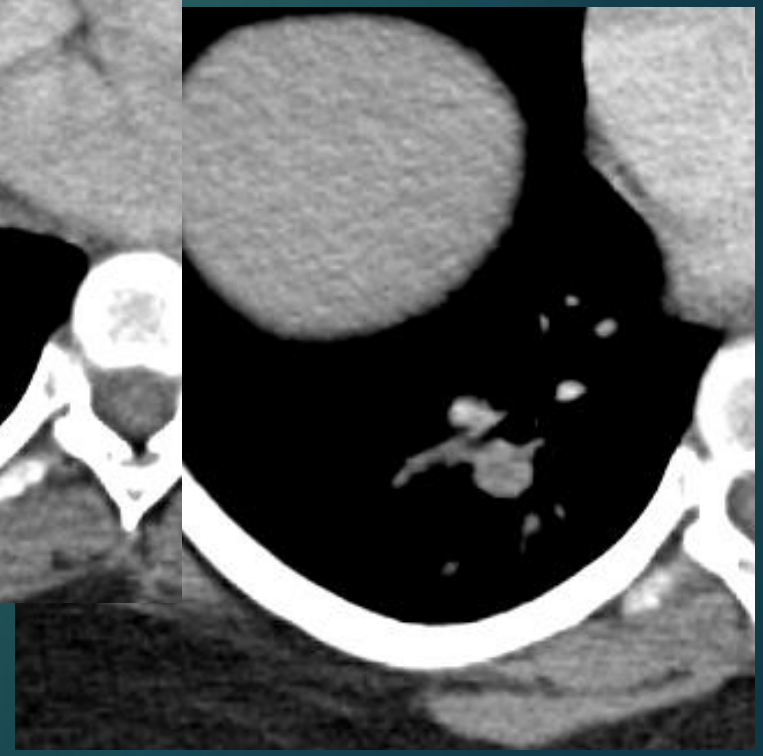




Case 4: CT Abd/Pelvis (next day)





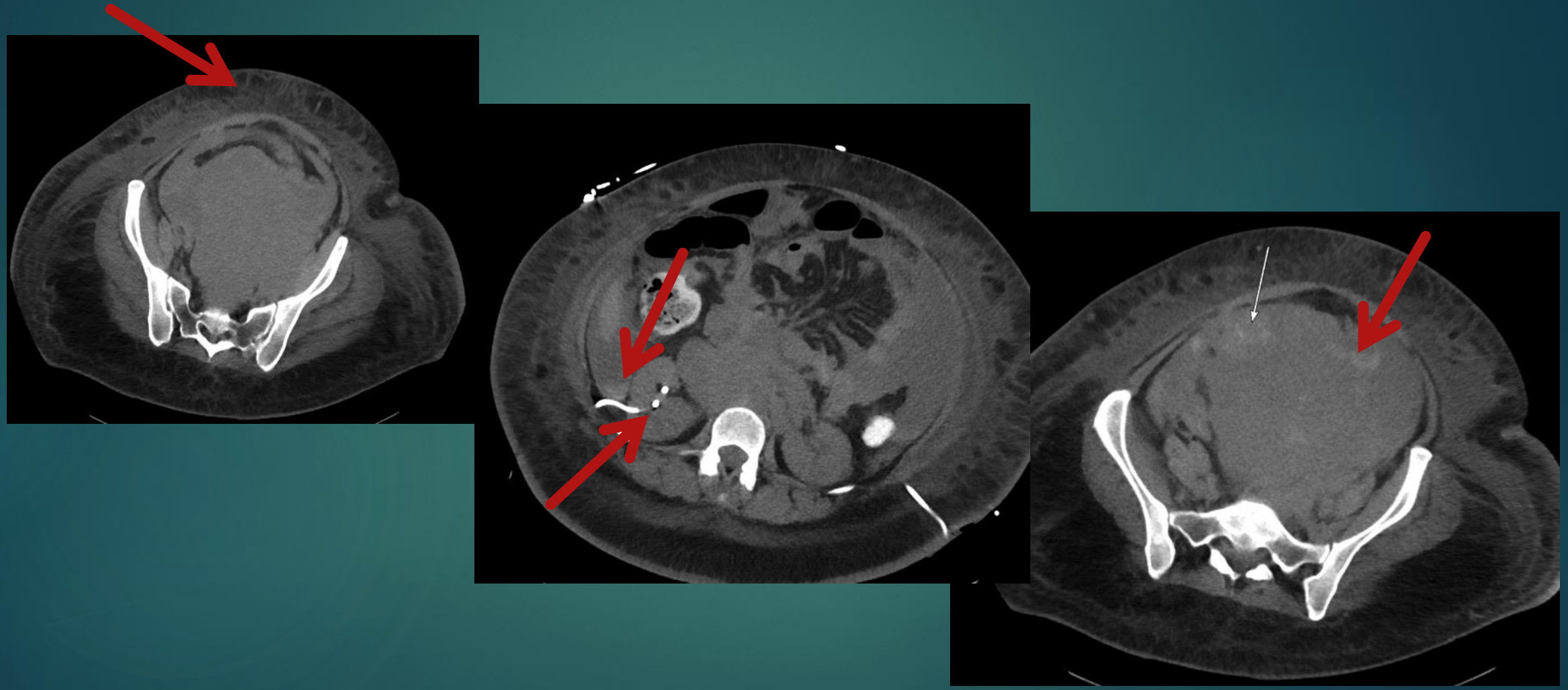


DDX?

Case 4: DDX

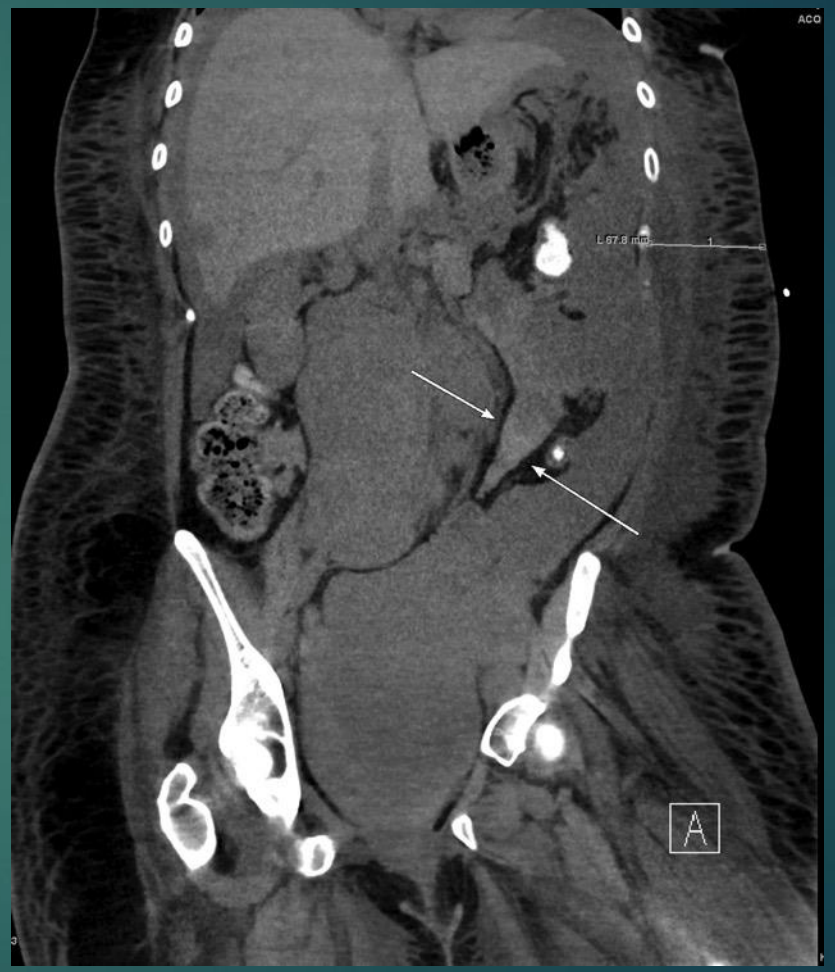
- **DDX for pelvic mass, with LAD, peritoneal disease, and PE's**
  - Ovarian cancer
  - Cervical/uterine cancer
  - Lymphoma with mets to the ovary
  - Other mets to the ovary

Case 4: CT Abd/Pelvis (3 weeks later)



Case 4: Comparison

1/26/17

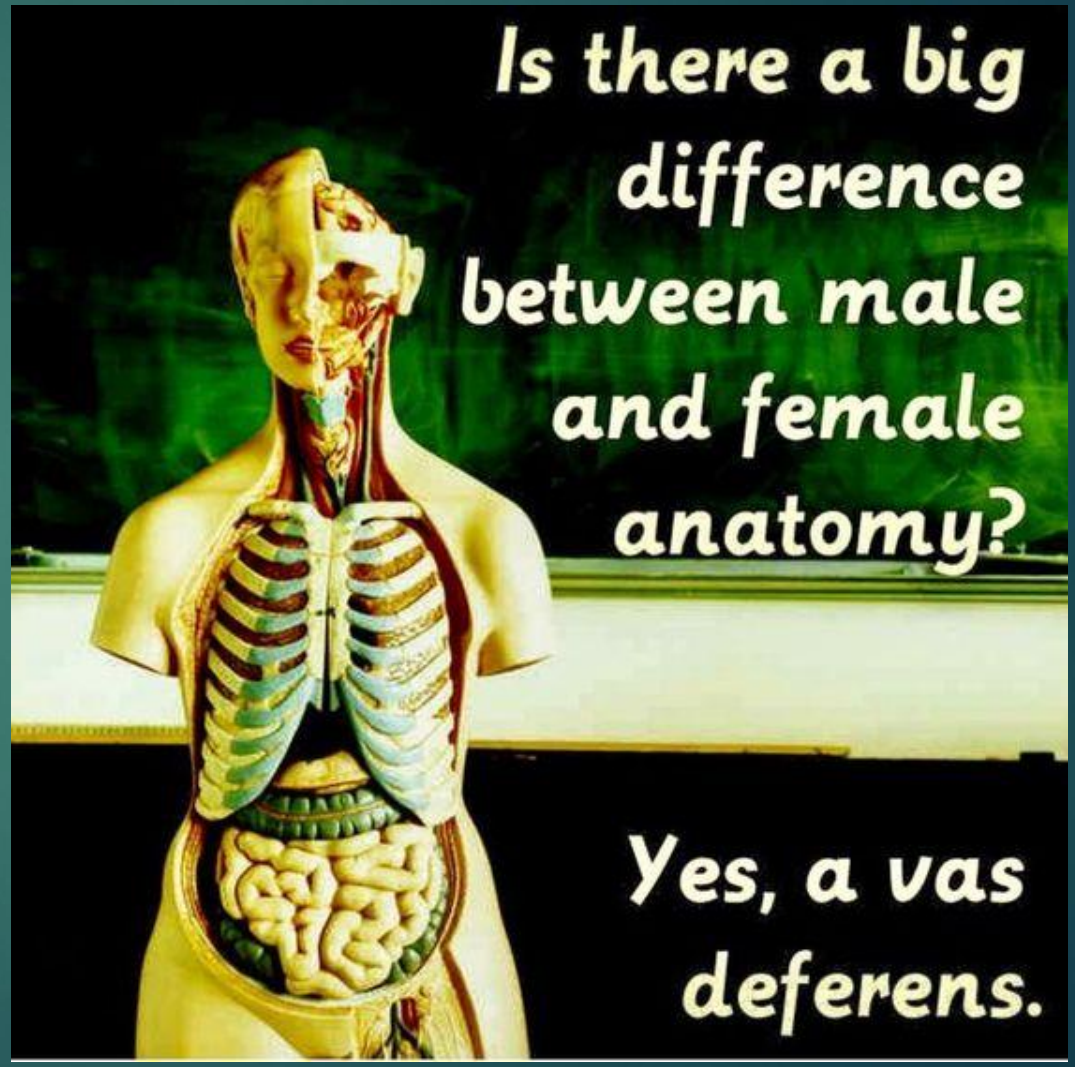


2/19/17

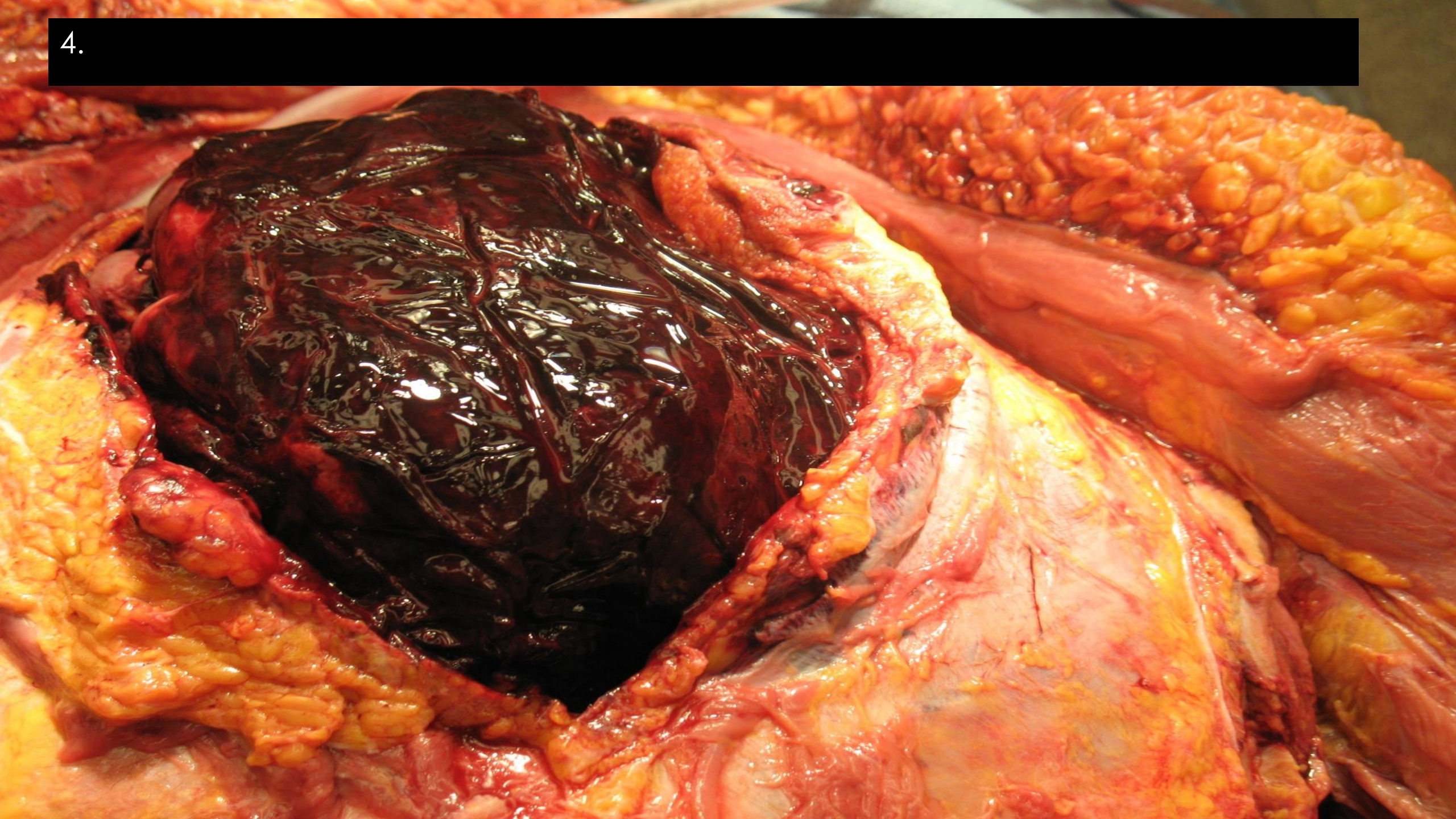
Path is next.

Case 4:

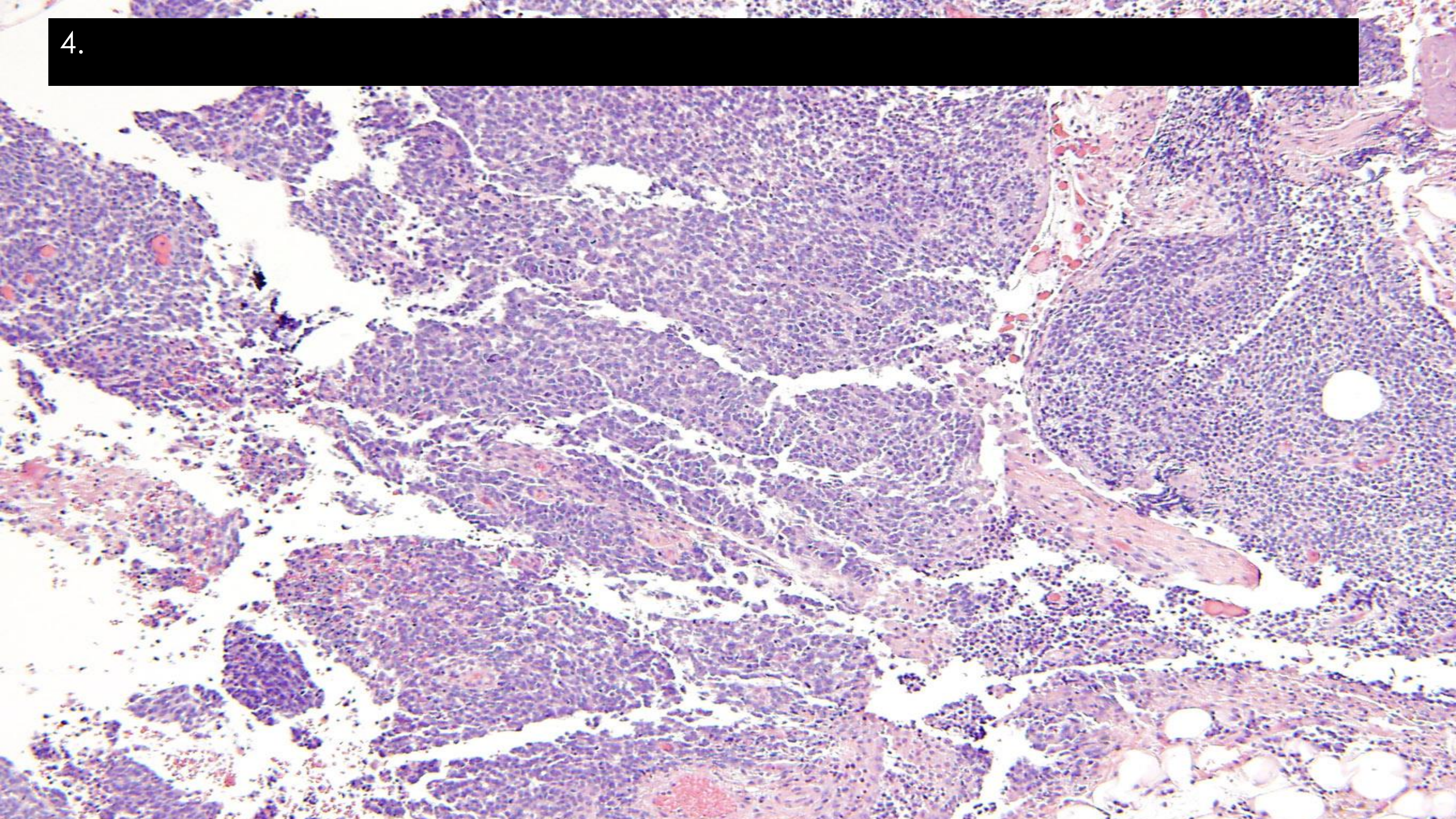
Pathology time!



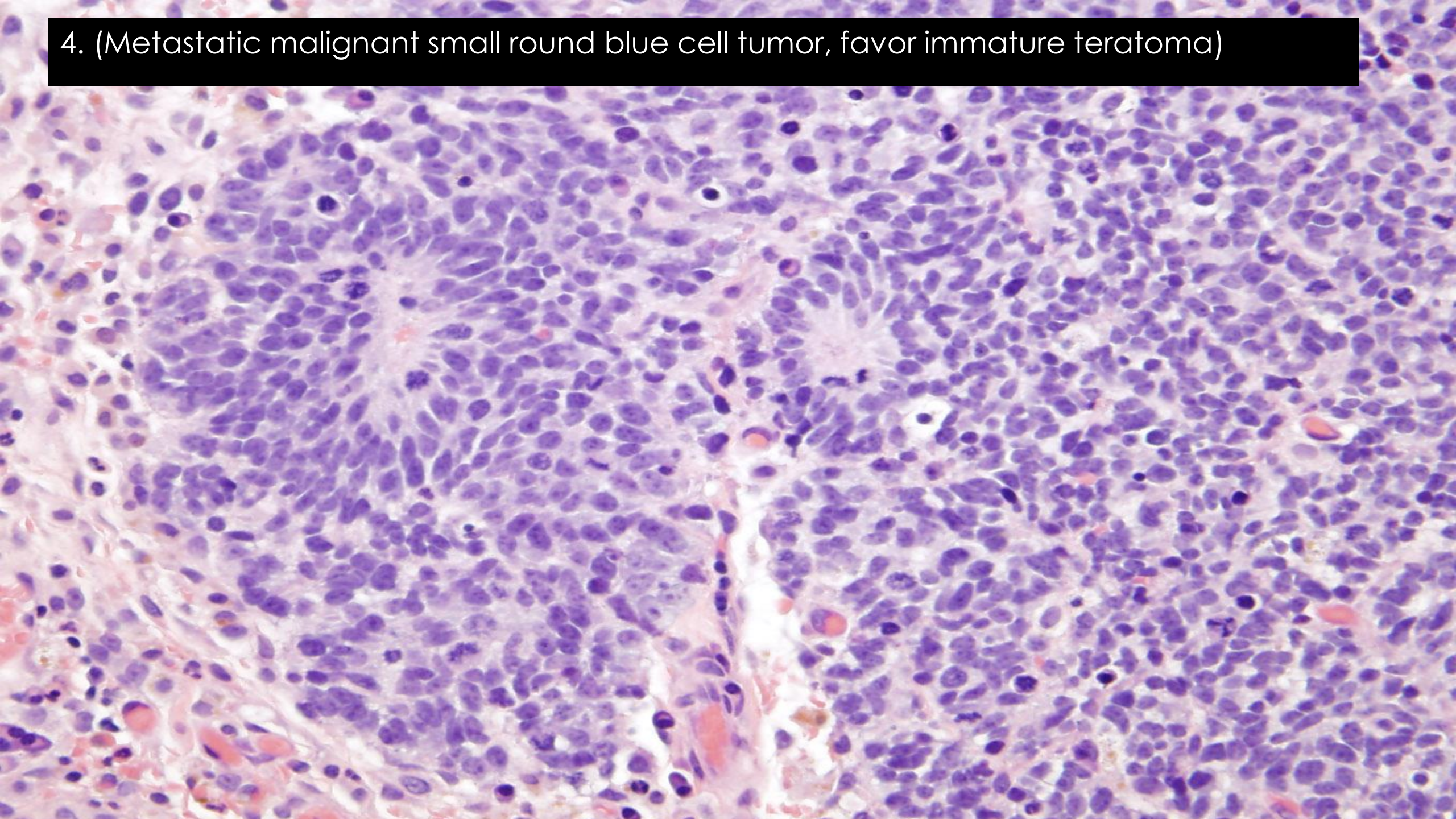
4.



4.



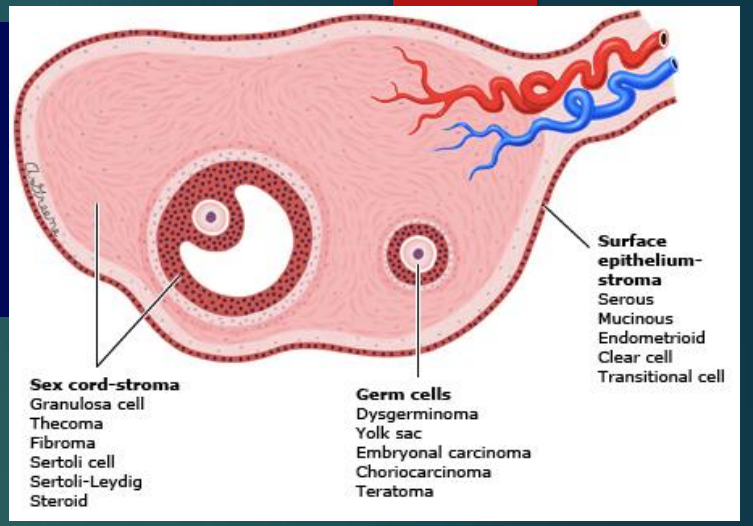
4. (Metastatic malignant small round blue cell tumor, favor immature teratoma)



Case 4: Discussion
DDX

- **DDX for pelvic mass, with LAD, peritoneal disease, and PE's**
  - Ovarian cancer
    - Epithelial = 2/3 of all ovarian neoplasms (serous or mucinous cystadenocarcinoma, endometrioid carcinoma, clear cell carcinoma)
    - Malignant germ cell tumors (dysgerminoma, endodermal sinus tumor, teratoma)
    - Sex-cord stromal (fibroma, thecoma, granulosa cell, Sertoli-Leydig)
  - Cervical/uterine cancer – Less likely because uterus looks intact, not enlarged
  - Lymphoma with mets to the ovary – Could explain LAD and pelvic mass but wouldn't explain peritoneal disease
  - Other mets to the ovary – gastric/colon/pancreas, breast cancer, or melanoma. Would explain peritoneal disease. But no history of CA in this patient.

Uptodate.com



Case 4: Question

- An IMMATURE teratoma is usually _____ and more often seen in _____.
  (benign/malignant) (men/women)
- A MATURE teratoma is usually _____ and more often seen in _____.
  (benign/malignant) (men/women)

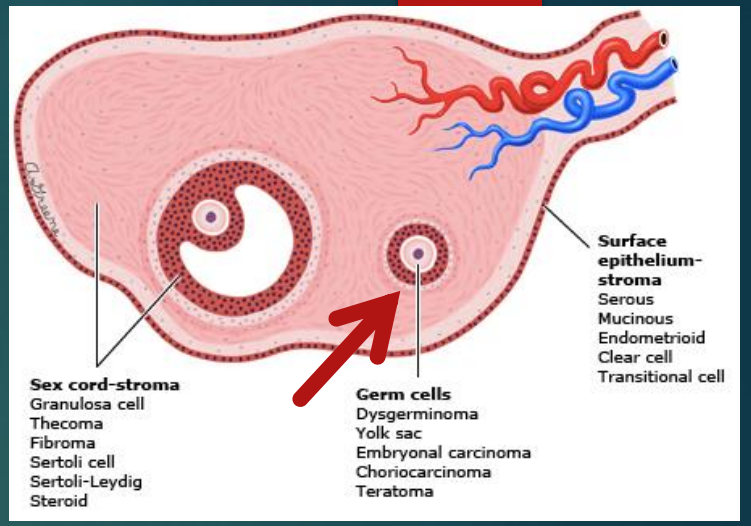
Case 4: Question

- An IMMATURE teratoma is usually _MALIGNANT_ and more often seen in _MEN_.
  (benign/malignant) (men/women)

- A MATURE teratoma is usually __BENIGN__ and more often seen in __WOMEN__.
  (benign/malignant) (men/women)

Case 4: Discussion

What is a teratoma?



Uptodate.com

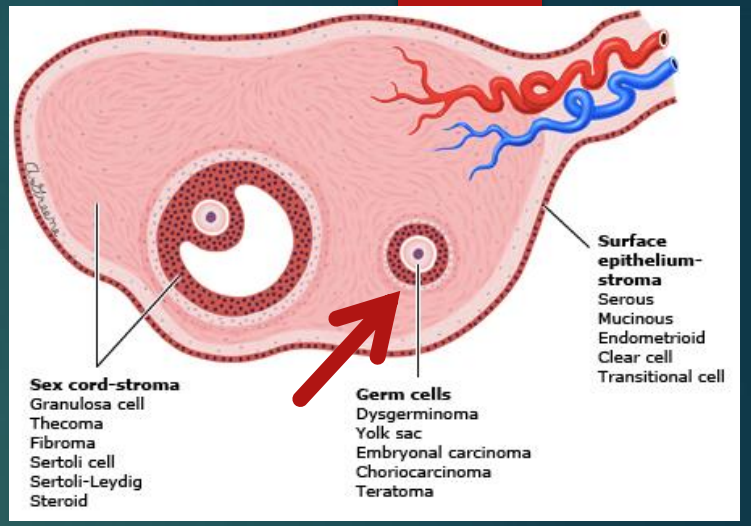
- Abnormal development of pluripotent cells, which are either:
  - 1. Embryonal cells
    - Congenital. Occur on the midline (usually).
      - In the brain, skull, nose, tongue, neck (cervical teratoma), mediastinum, retroperitoneum, coccyx
  - 2. Germ cells
    - May or may not be congenital (not known).
      - In the testes in men, and ovaries in women
    - Classified using Gonzalez Crussi system:
      - 0 = mature, benign
      - 1 = immature, probably benign
      - 2 = immature, possible malignant
      - 3 = immature, frankly malignant

Uptodate.com

Teratoma
Immature (solid, cystic, both)
Mature
Solid
Cystic
Mature cystic teratoma (dermoid cyst)
Mature cystic teratoma (dermoid cyst) with malignant transformation
Monodermal
Struma ovarii
Carcinoid
Struma ovarii and carcinoid

Case 4: Discussion

Ovarian tumor → teratoma → immature teratoma



Uptodate.com

- Ovarian immature teratomas are rare.
  - Germ cell tumors make up
    - = 30% ovarian tumors, but
    - = 5% ovarian CANCERS b/c most germ cell tumors are teratomas, and most teratomas are benign (uptodate.com)
  - Immature teratomas make up < 1% of all ovarian malignant tumors (Statdx.com)
- Usually discovered as incidental adnexal mass, or for abdominal enlargement or pain. Usually mostly solid mass, with some fatty elements, calcifications, and cysts.
  - Peak incidence between 15-19 years old (rare after menopause)
  - 30% of ovarian cancer deaths in women < 20
- Treatment for immature teratomas is SURGERY
  - +/- followed by chemotherapy

Case 4 Surprise:

Case 4 Surprise:

J Neuropathol Exp Neurol

Case 4 Surprise:

Seth Lummus, MS, DO
Bette Kay Kleinschmidt-DeMasters, MD
The University of Colorado
School of Medicine

Methylene Blue "Avatar" Brain

Methylene blue is a safe and effective therapeutic agent used in a variety of different clinical settings, including as treatment for methemoglobinemia, reversing ifosfamide-induced encephalopathy, severe hepatopulmonary syndrome, and as a pressor during catecholamine-refractory septic shock (1). Of more relevance to neuropathologists, it has recently been experimentally tested as a dye in multimodal confocal imaging of brain tumors for intraoperative detection of brain tumors (2), for ischemic/reperfusion injury (3), and, because it seems to prevent aggregation of tau and β-amyloid, as a potential therapeutic agent for neurodegenerative disorders such as Alzheimer disease (4) and Huntington disease (5, 6). As such, neuropathologists may encounter patients at autopsy treated with methylene blue.

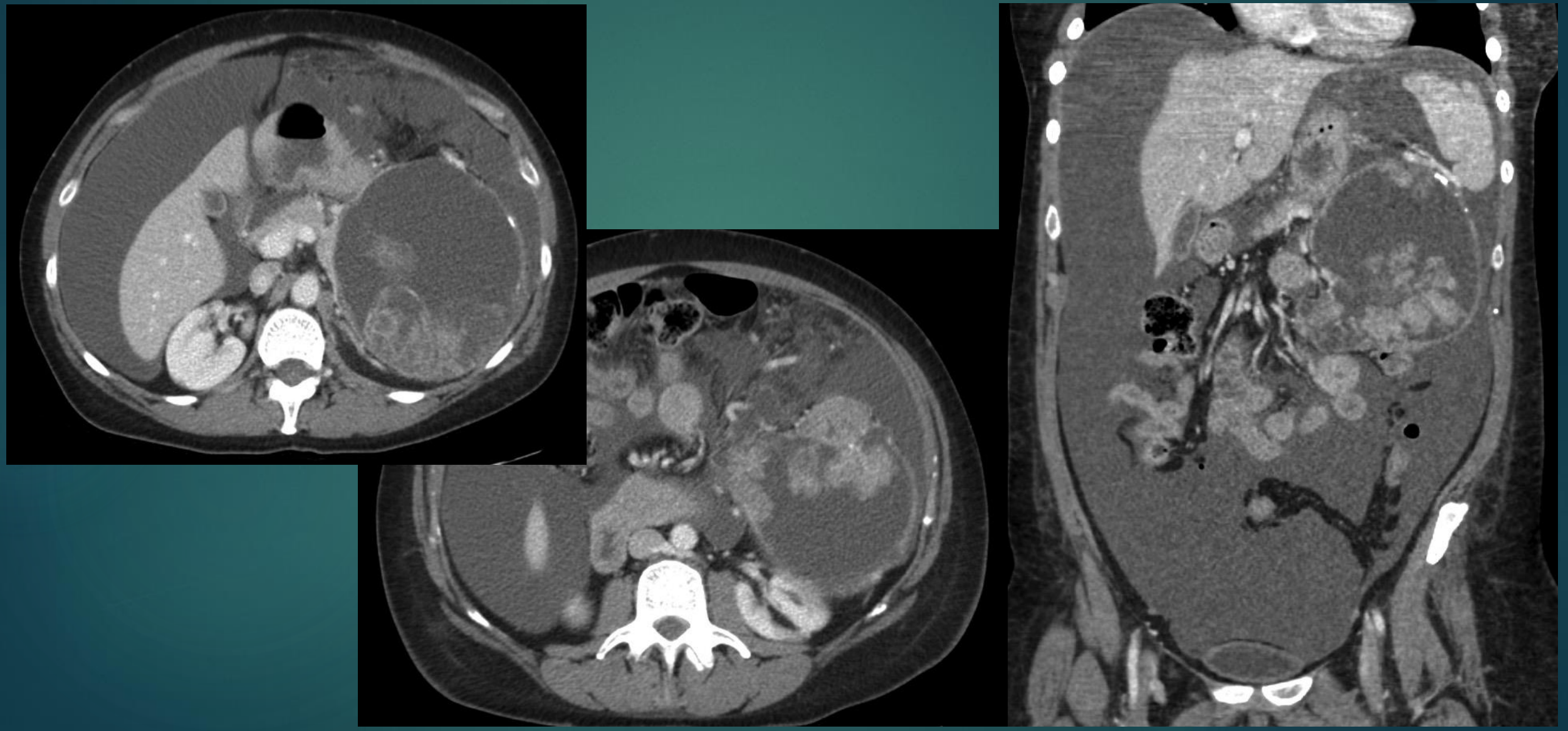
Methylene blue generates a clinically innocuous, self-limiting, but striking blue-green discoloration to the urine, skin, and mucosa of treated individuals as a by-product of its use (1, 7, 8). This systemic tissue discoloration is more well known than is discoloration of brain tissues, which, to our knowledge, has only been reported once previously (9). The tis-

End of case.

Case 5:

49 YEAR OLD WOMAN. HISTORY WITHHELD.

Case 5: CT Abdomen/Pelvis

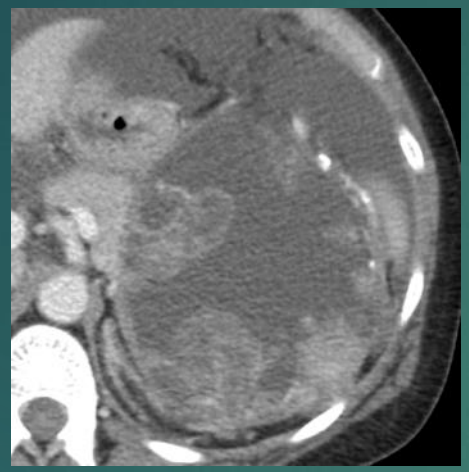


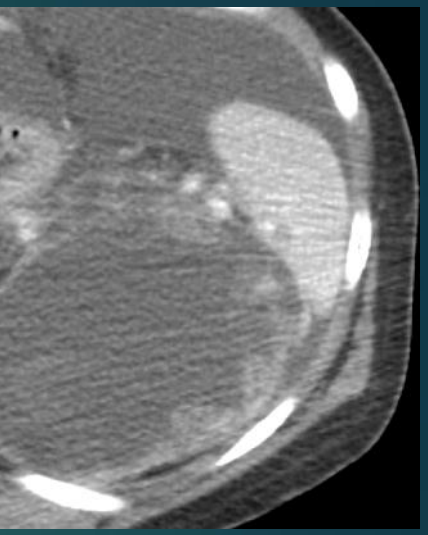
Case 5: Question

- Where is this mass coming from?
  - A) Adrenal gland
  - B) Pancreas
  - C) Kidney
  - D) Stomach
  - E) Spleen
  - F) Metastasis

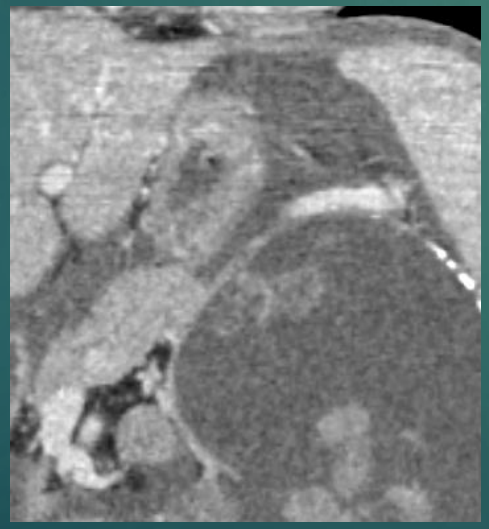
Case 5: CT Abdomen/Pelvis

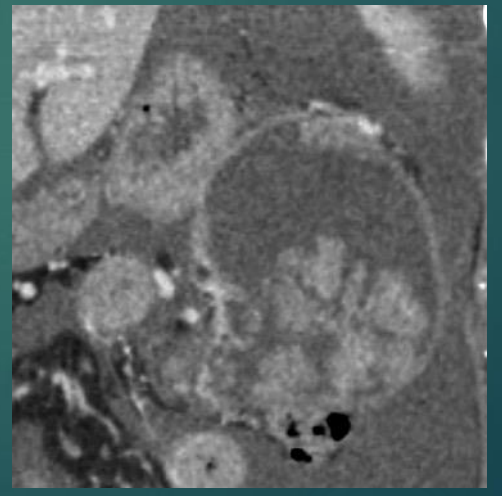
Axial





Coronal





Adrenal

Pancreas

Kidney

Stomach

Spleen

Case 5: DDX

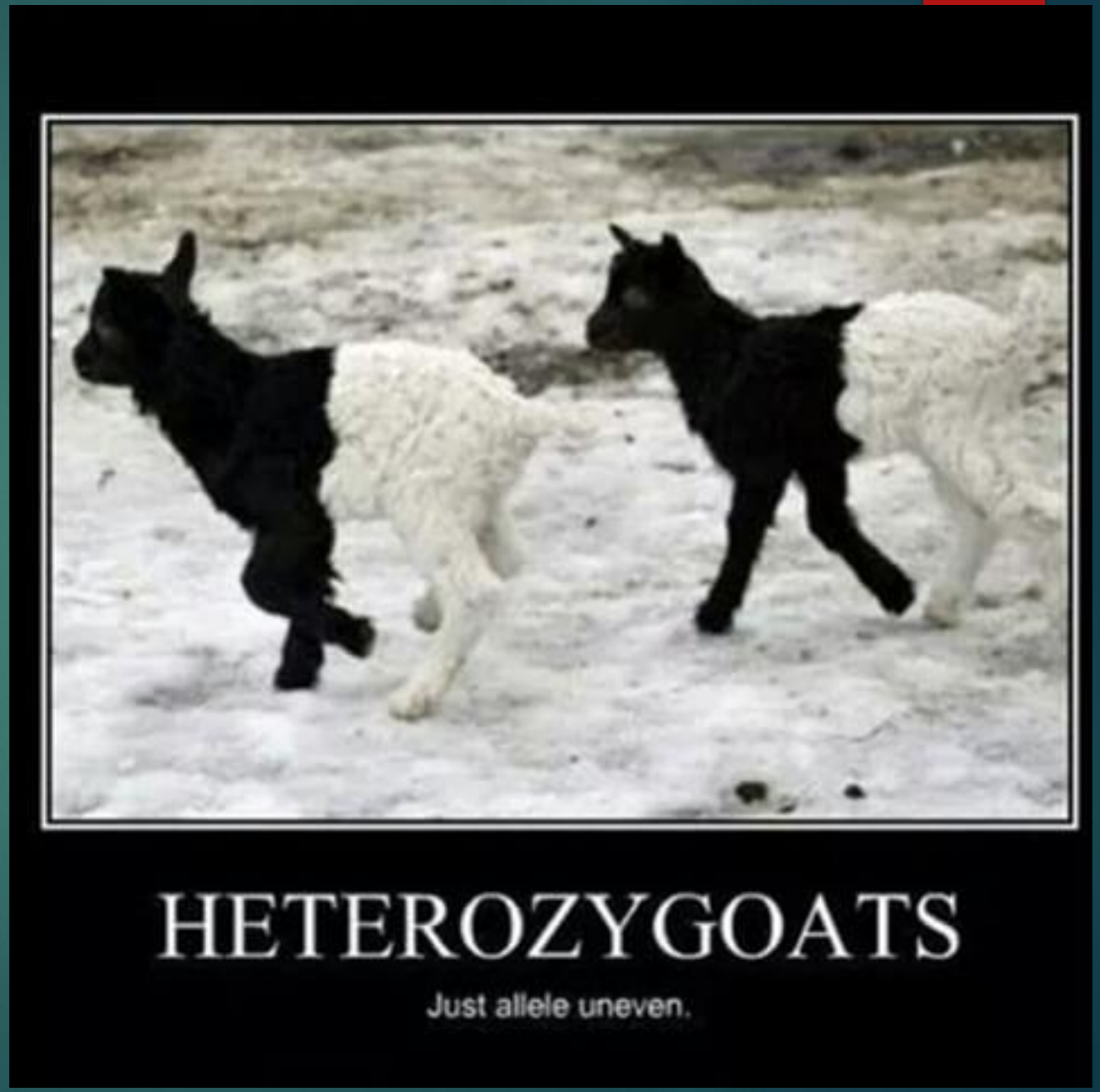
- Large volume ascites. Very large retroperitoneal mass in the LUQ. Displaces spleen, kidney, adrenal, and pancreas. No clear fat planes between the organs.
- "Mass does not appear to arise from any of these organs. Mass predominantly cystic with many solid elements and calcifications within mass.
- Appearance suggestive of
  - Teratoma, although location highly unusual for teratoma,
  - Ovarian cancer in DDx, along with
  - Mucinous carcinoma,
  - Sarcoma"
- "Cannot exclude possibility of pancreatic origin of lesion, although appearance atypical for pancreatic lesion."

Borders of mass:
Superior - Spleen
Inferior - Left kidney
Lateral - Spleen
Medial - Pancreas
Posterior - Left kidney

Path is next.

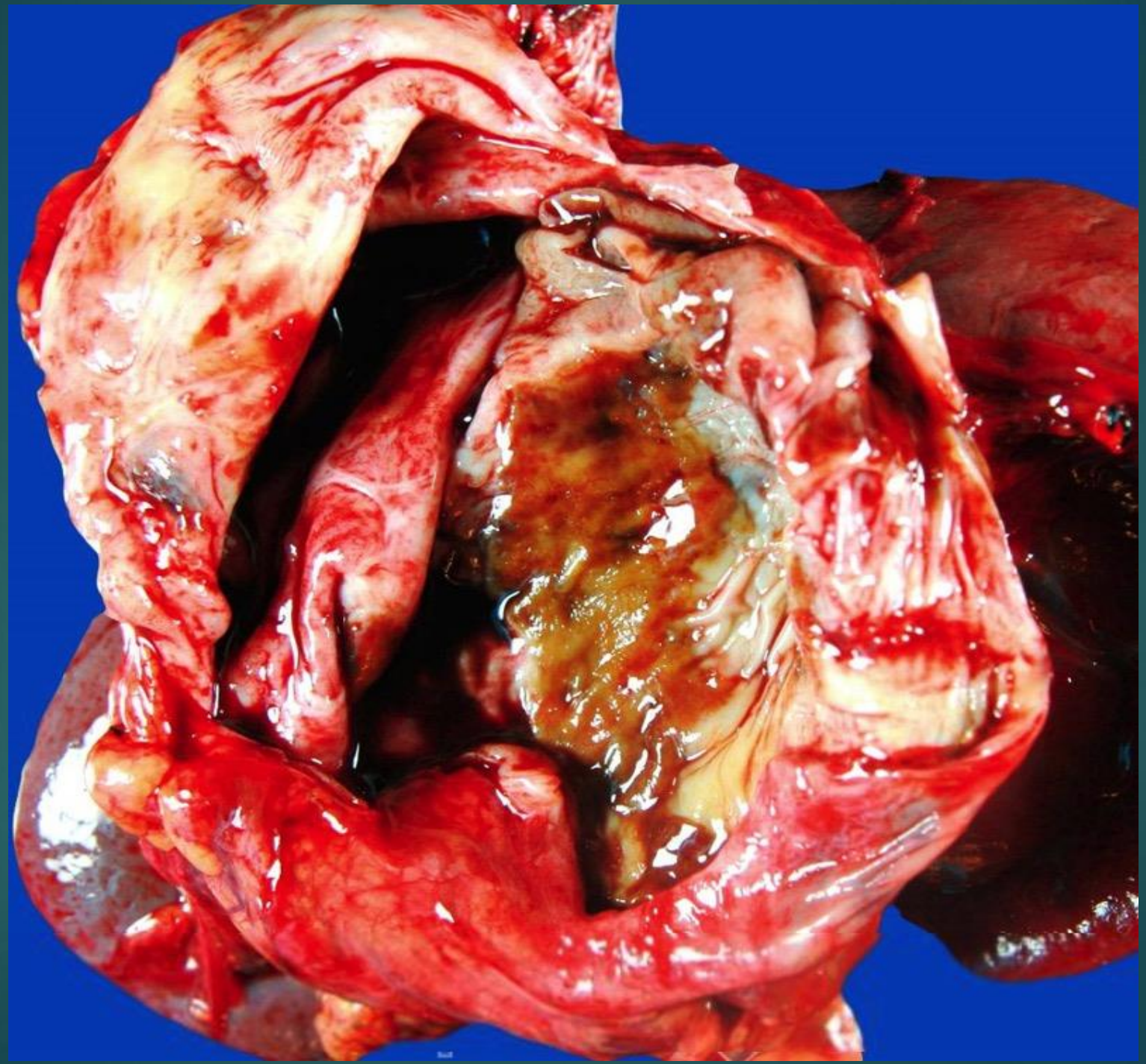
Case 5:

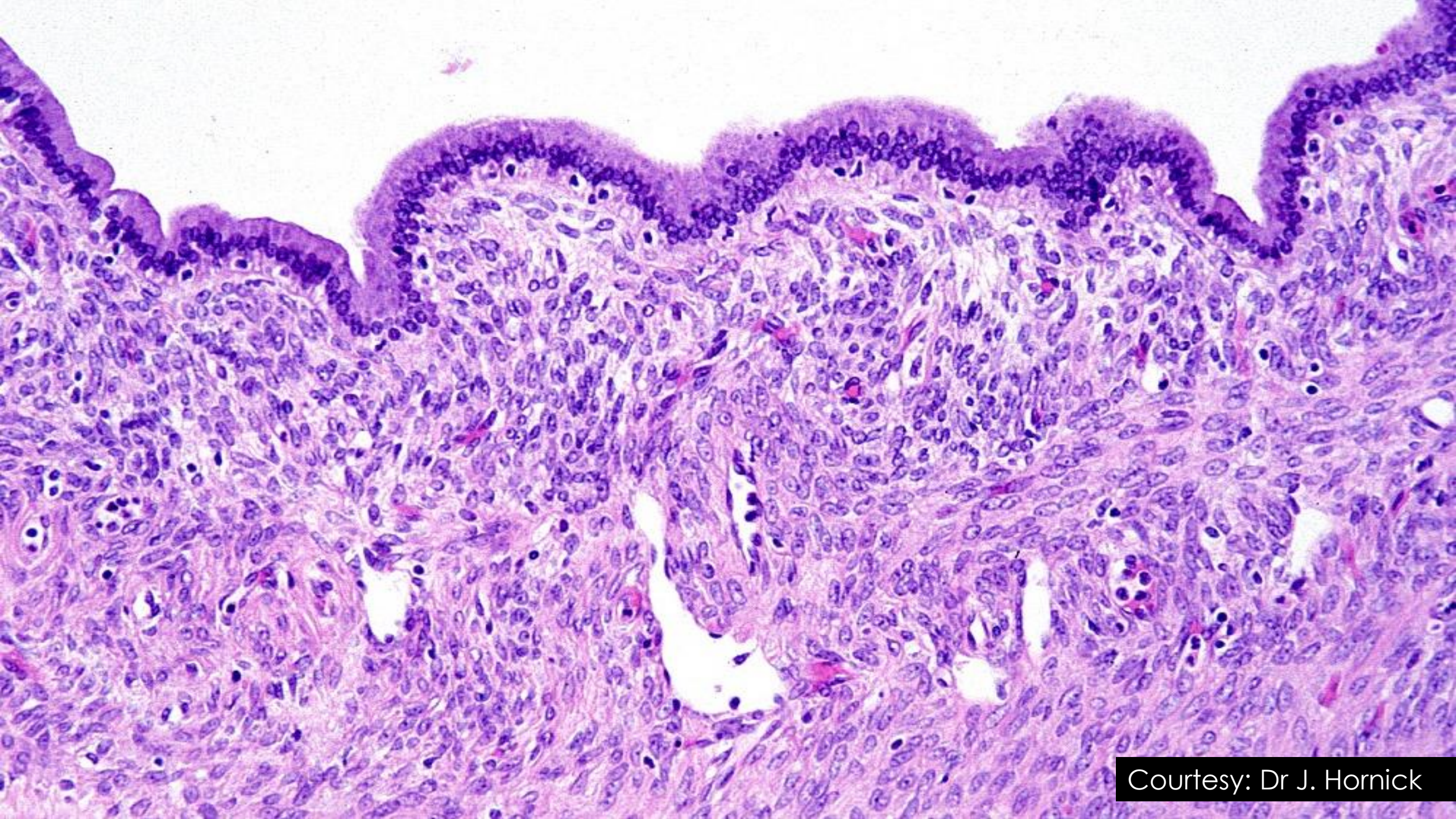
Pathology time!

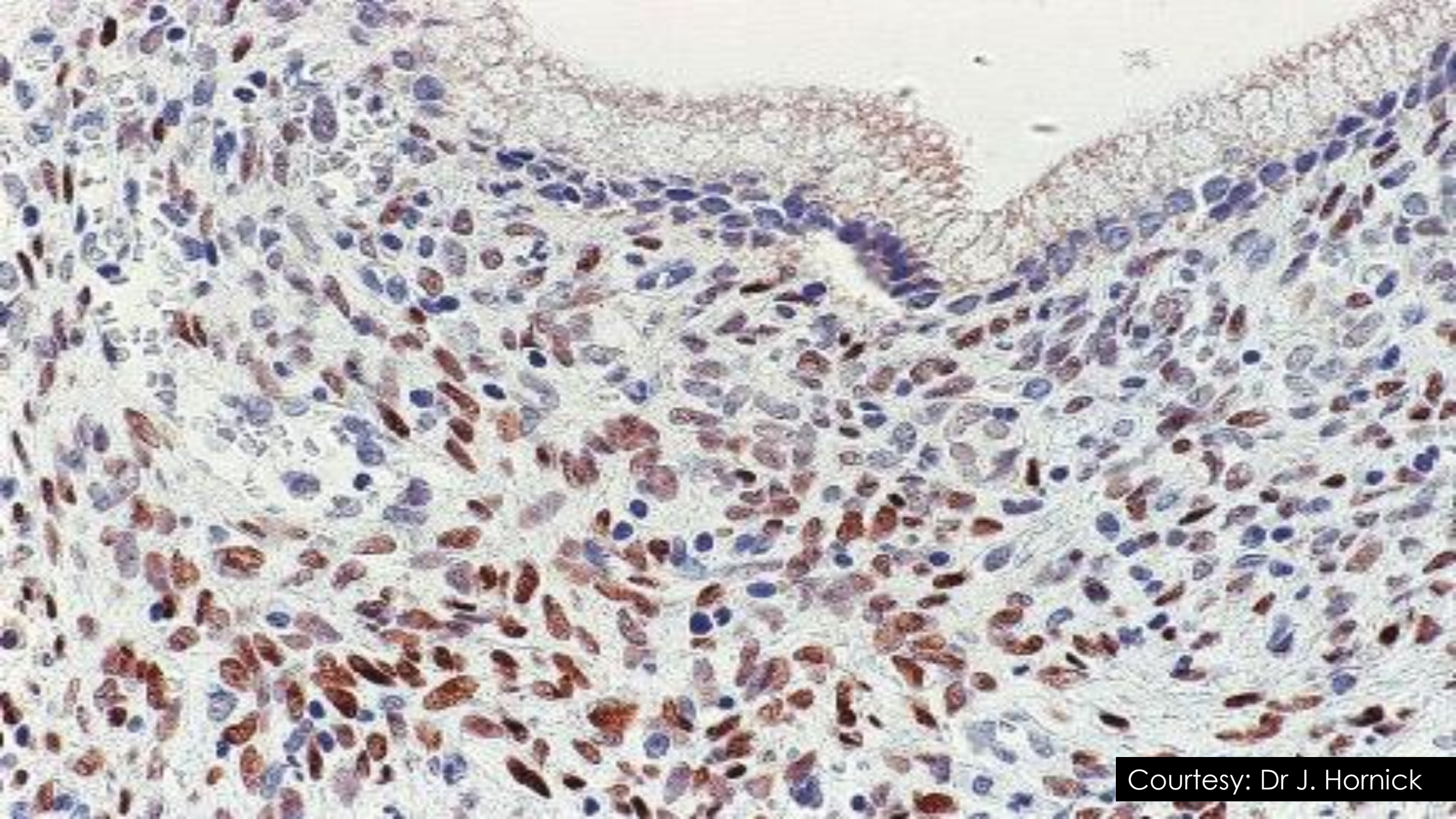


Case 5: Path

- **1.Paracentesis, revealing malignant cells consistent with metastatic adenocarcinoma, not specific for elucidating tumor origin, possible primaries include upper GI and pancreaticobiliary.**
- **2. Upper EUS biopsy:** Luminal bulge in gastric fundus. Large 13 x 12 cm anechoic cystic collection with multiple intracystic intensely hyperechoic nodular tissue mass projections noted in pancreas tail and abutting pancreas tail, intra-cystic solid mass 4-6 cm each. **FNA of solid component positive for adenocarcinoma. FNA of cyst fluid and solid component positive for adenocarcinoma in background of mucinous cyst. DFCI/BWH path review c/w metastatic adenocarcinoma with necrosis.**




Courtesy: Dr J. Hornick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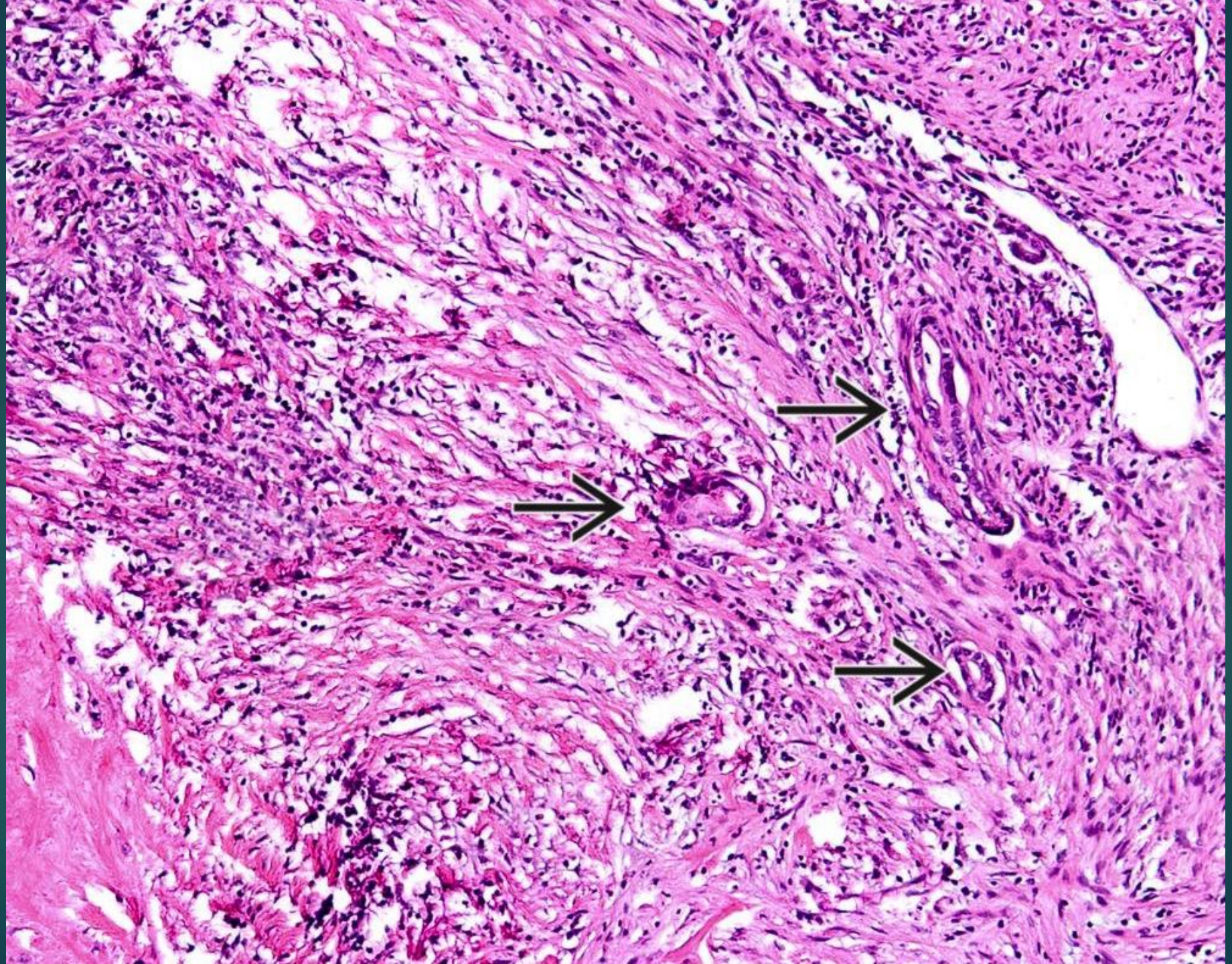

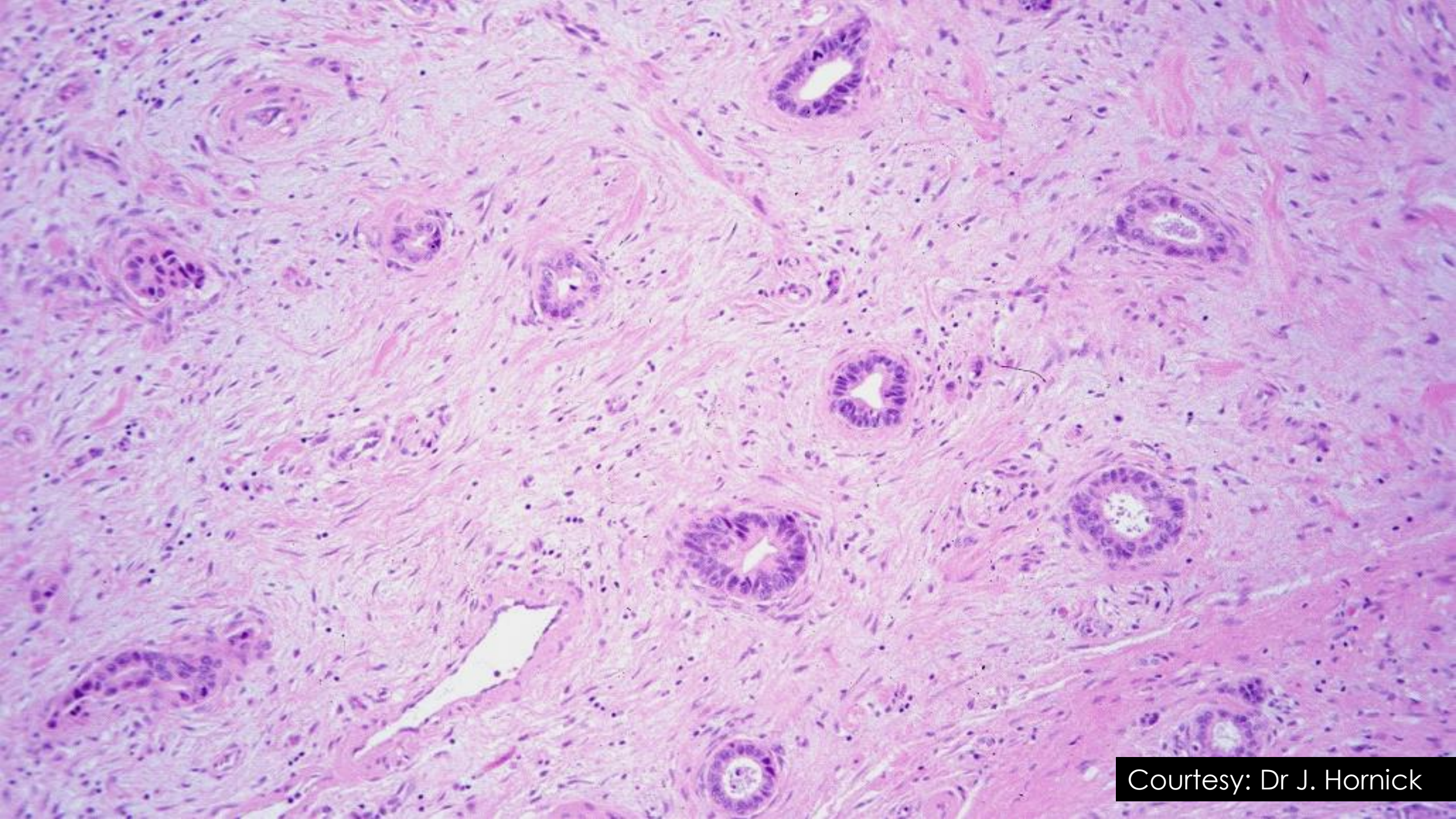
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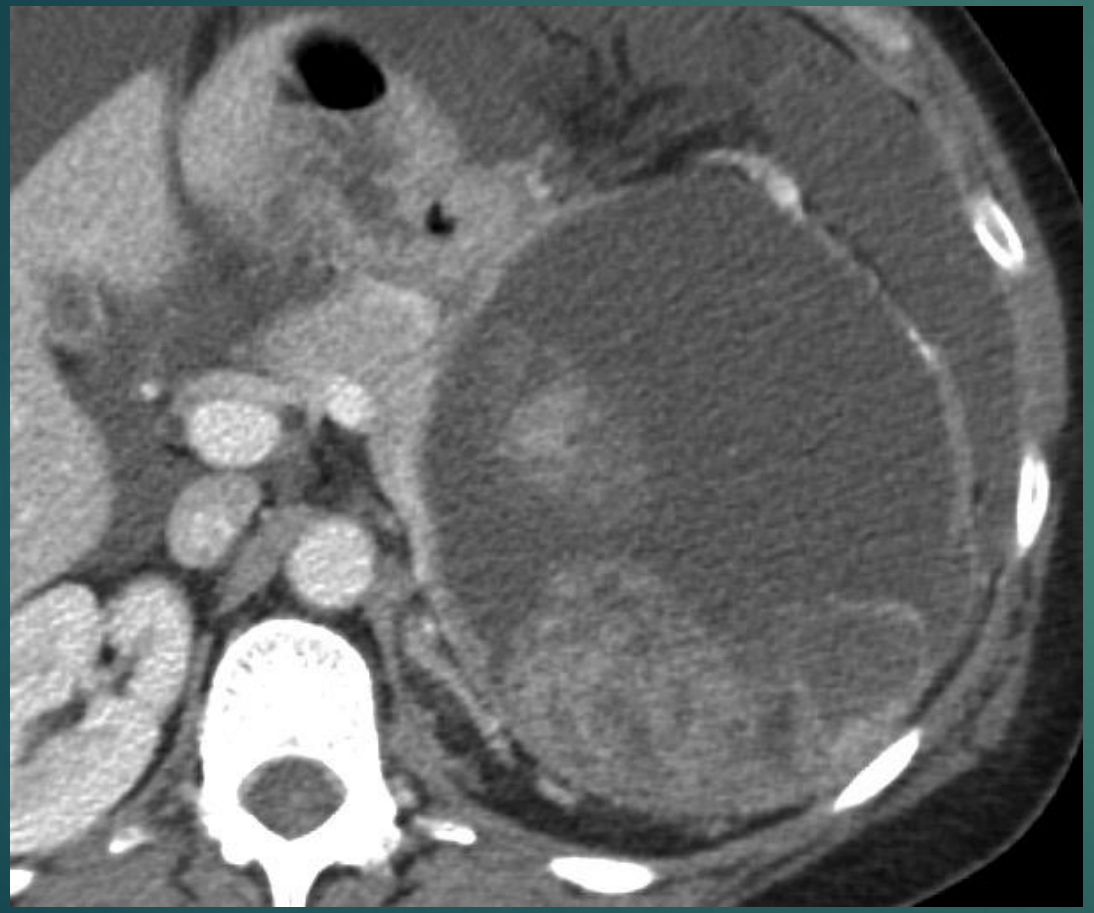
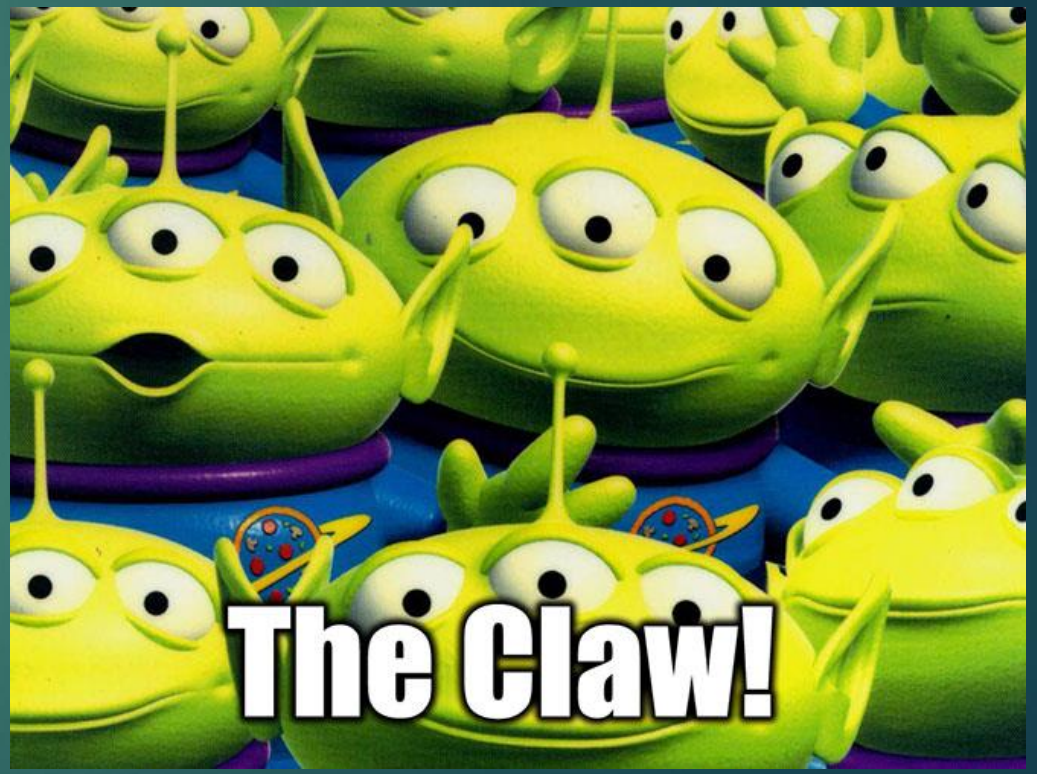
Case 5: Discussion

- “Given the atypical presentation and radiographic description of the retroperitoneal mass, plus her young age and normal CA19-9, we spent a considerable amount of time reviewing the findings with the radiologist.
- Ultimately, they did agree that the mass **seemed to be emanating from the tail of the pancreas**, and is likely a **mucinous tumor evolved from a previous mucinous/cystic neoplasm**. Moreover, our **subspecialist gastrointestinal pathologists also agree that the biopsies are consistent with an adenocarcinoma of likely pancreatobiliary or upper GI tract origin**. Of note, the tumor is clearly **not coming from the stomach**.
- Unfortunately, there is evidence of disseminated disease in the form of cytology-confirmed malignant ascites and likely peritoneal carcinomatosis as evidenced by some stranding seen in the omentum on CT scan.”

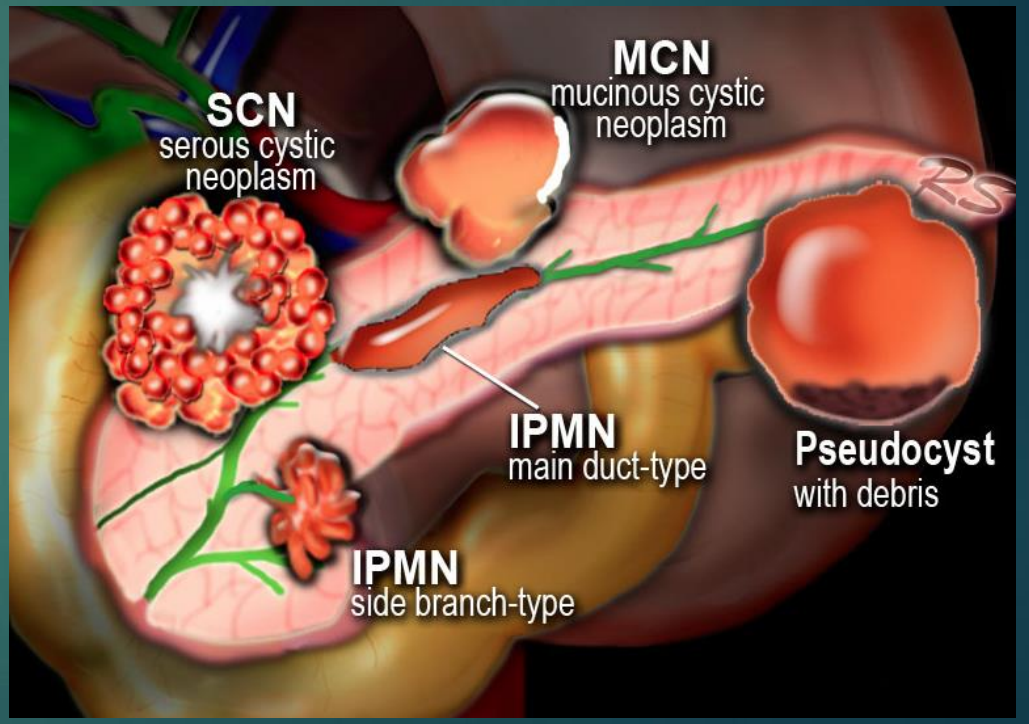
Case 5: Discussion





Case 5: Discussion: Cystic pancreatic tumors

- Pancreatic cysts can be categorized into the following groups:
  - **Pseudocysts** (pancreatitis/trauma)
  - Common cystic neoplasms:
    - **IPMN** - Intraductal papillary mucinous neoplasm
    - **SCN** - Serous cystic neoplasm
    - **MCN** - Mucinous cystic neoplasm
  - Uncommon cystic neoplasms:
    - **SPEN** - Solid pseudopapillary epithelial neoplasm
    - **Tumors with cystic degeneration**: adenocarcinoma or neuroendocrine tumor



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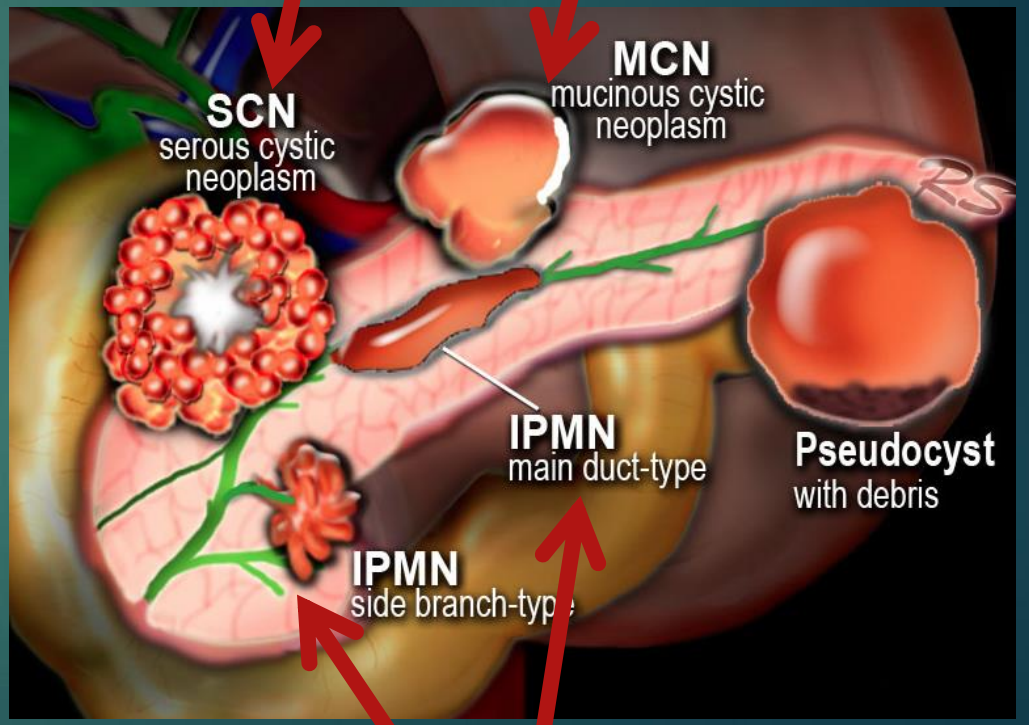
Microcystic, +/- scar. BENIGN

Unilocular, +/- wall calcification



Connects to pancreatic duct

Case 5: Question

- **Match the lesion to the age group:**
  - **A) Mucinous cystic neoplasm**
  - **B) Serous cystic neoplasm**
  - **C) Solid pseudopapillary epithelial neoplasm**
  - **1) 20-30 years old**
  - **2) 40-50 years old**
  - **3) 60-70 years old**

Case 5: Question

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  - **A) Mucinous cystic neoplasm**
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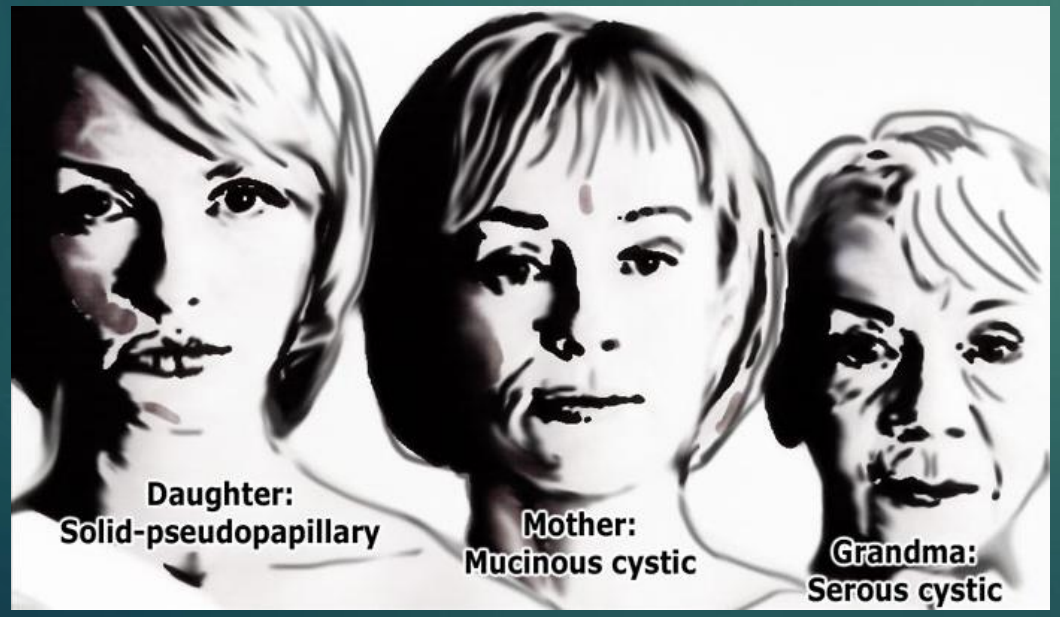
  - **1) 20-30 years old - Daughter**
  - **2) 40-50 years old – Mother**
  - **3) 60-70 years old - Grandmother**



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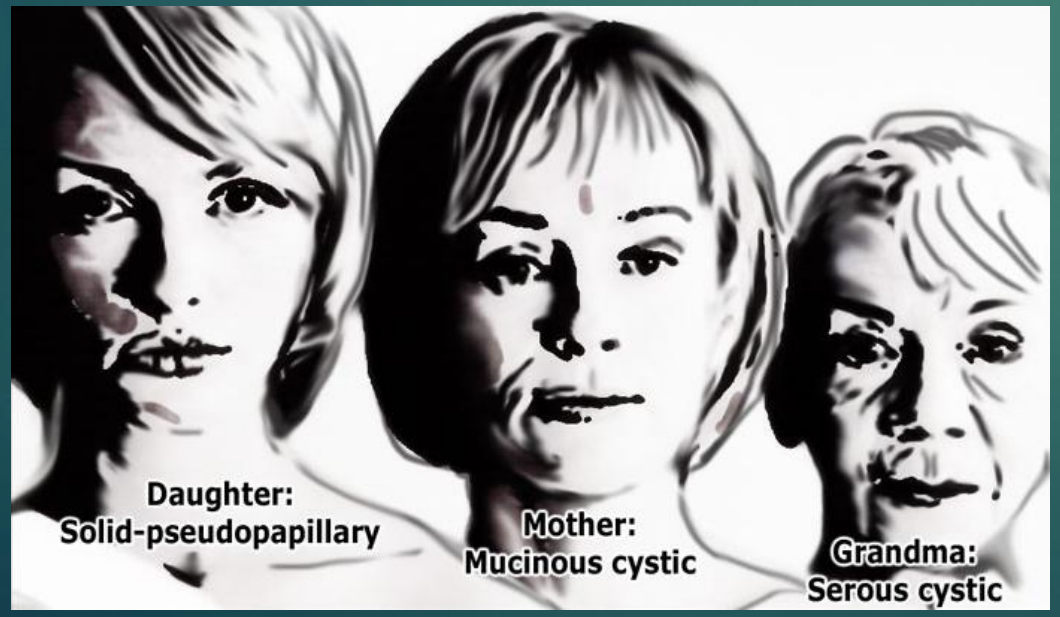


SPEN
SPIN

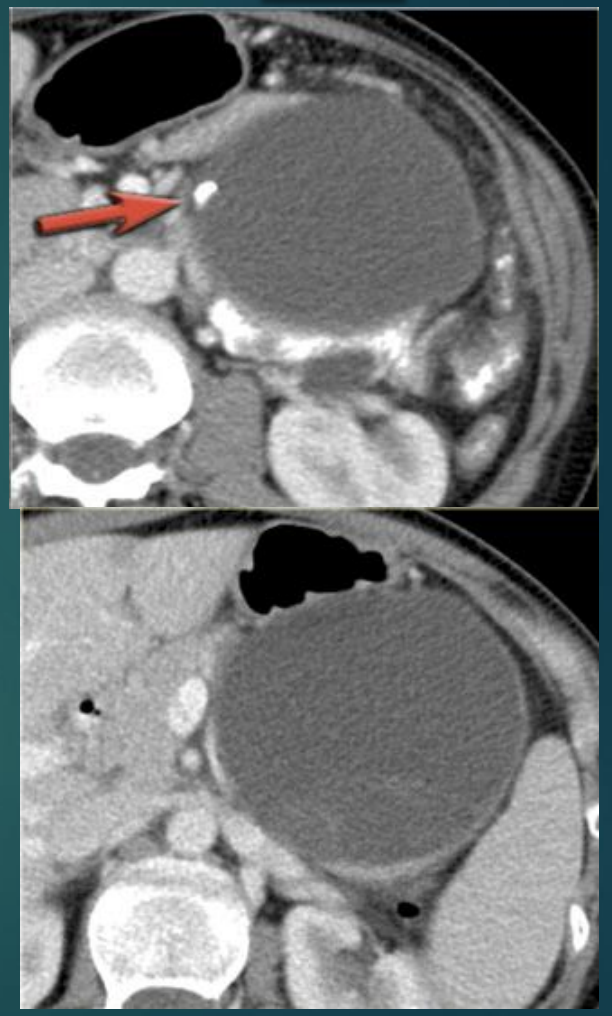
Mother
Mucinous

Grandmother is so
Serous (serious)

Case 5: Discussion

Mother
Mucinous

- Mucinous cystic pancreatic tumor
  - AKA: Mucinous cystic neoplasm (MCN), mucinous cystadenoma, mucinous cystadenocarcinoma
  - Thick walled, unilocular or multilocular pancreatic tumor with frequent internal septations
  - Usually in tail of pancreas
  - Usually a single lesion (not multifocal like IPMN)
  - Do NOT communicate with pancreatic duct (vs. IPMN communicate)
- Prognosis
  - Thick, irregular wall, internal mural nodularity, or thick septations suggest invasive malignancy
- Mother tumor (40-50 y/o). Less common than IPMN and serous cystadenomas. 25% of all resected pancreatic cysts (statDx)



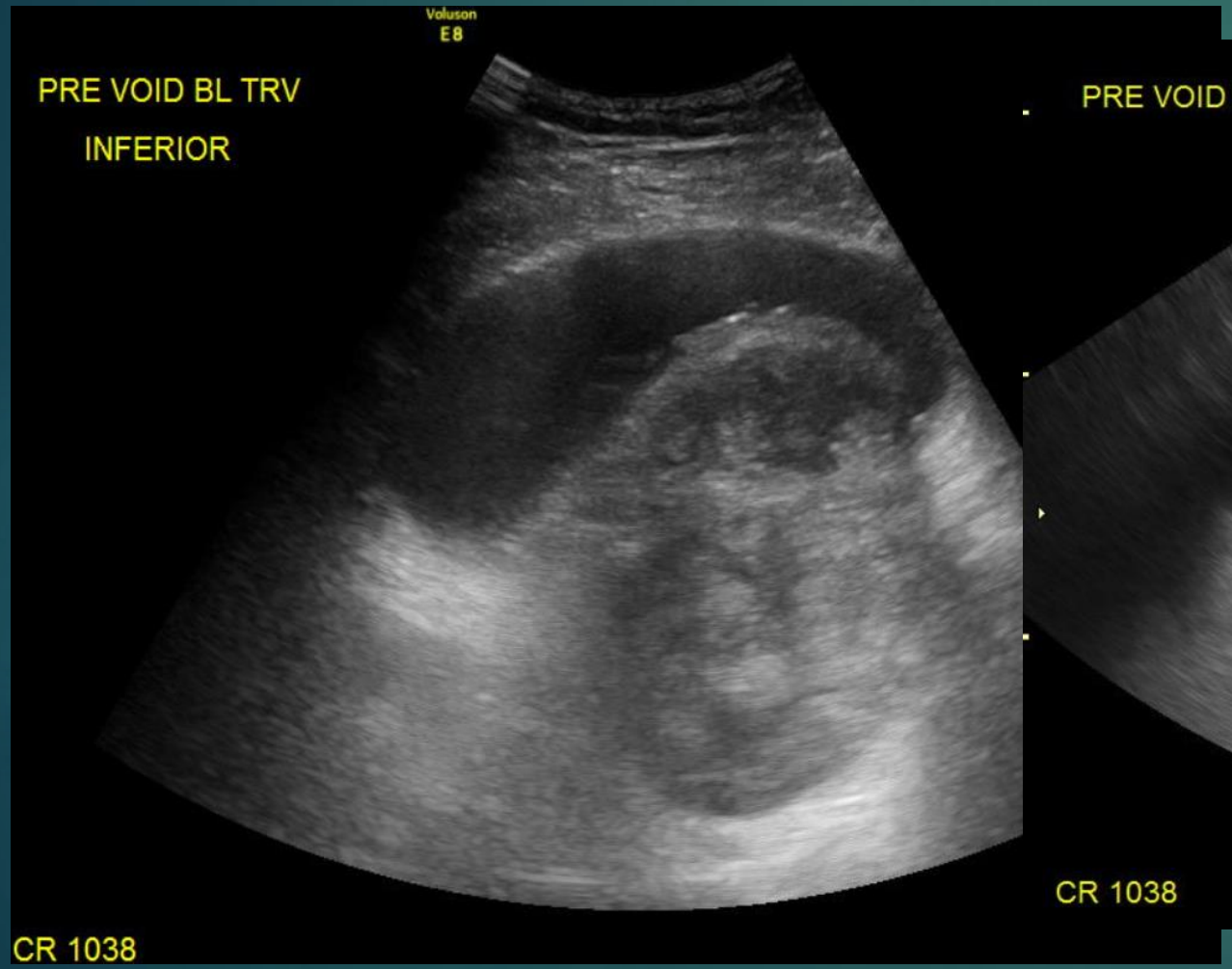
RadiologyAssistant.com

End of case.

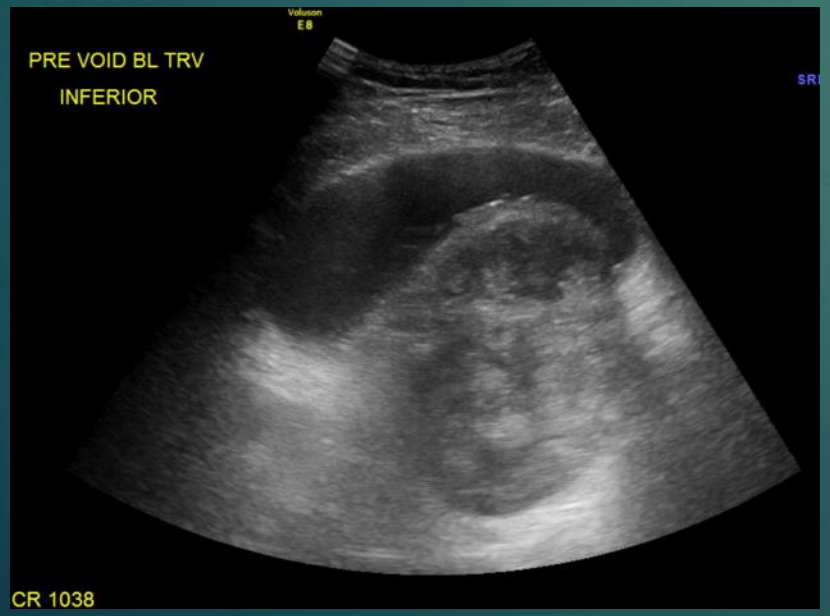
Bonus Case 6:

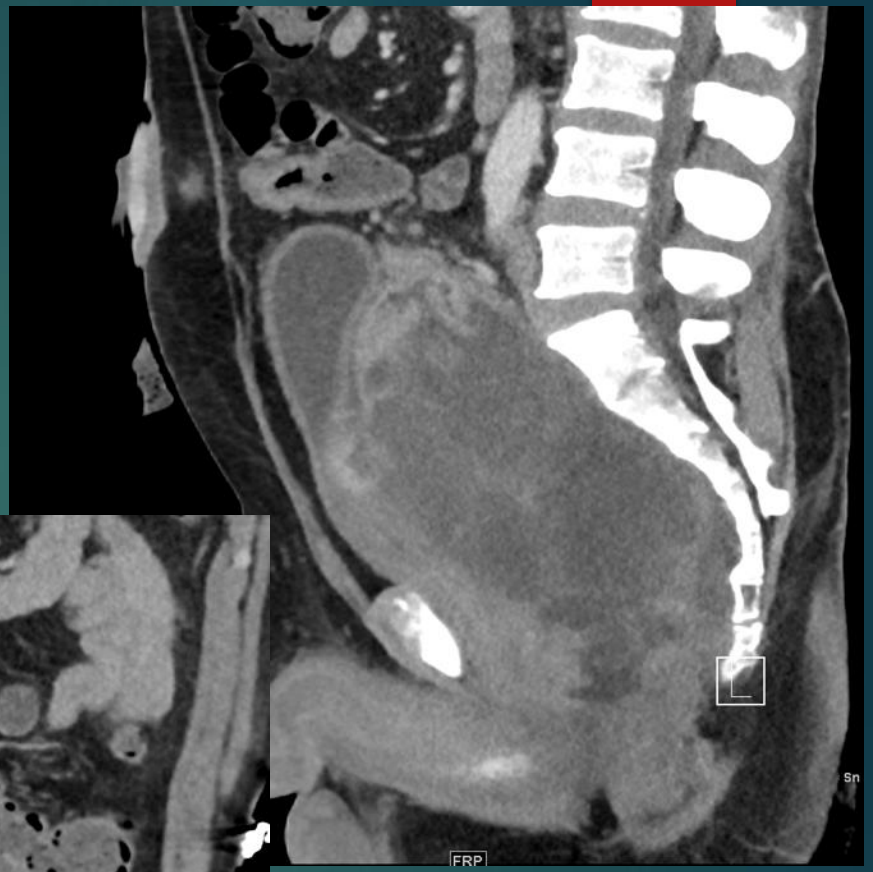
50 YEAR OLD MAN WITH URINARY RETENTION

Case 6: Imaging



Case 6: Imaging





Take Home Points

- Melanoma can metastasize anywhere.
- If a cystic liver mass has big solid components, think about cancer.
- Any fat containing RP mass is liposarcoma until proven otherwise.
  - If its from the kidney: Renal angiomyolipoma (AML)
  - If it's from the adrenal: Adrenal myelolipoma
- Mature teratomas are usually benign. Immature teratomas are more likely to be malignant.
- Most cystic pancreatic lesions have malignant potential.
  - The exception is serous cystic neoplasm – grandmother tumor (microcystic)

References

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