

Best Cases of the AIRP

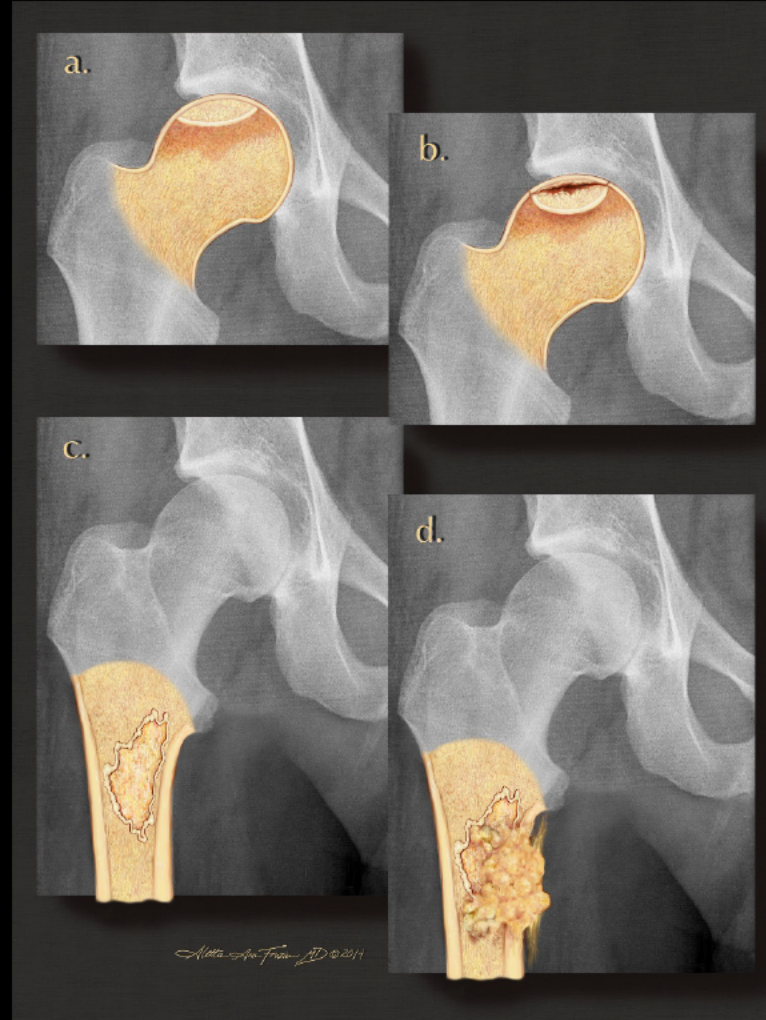
February-March, 2021

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Musculoskeletal Best Case



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CLINICAL INFORMATION

66-year-old male with bilateral knee and left hip total joint replacements presented with right thigh pain, swelling, and a limp for 4 weeks

**Right knee
radiographs
8 years prior**

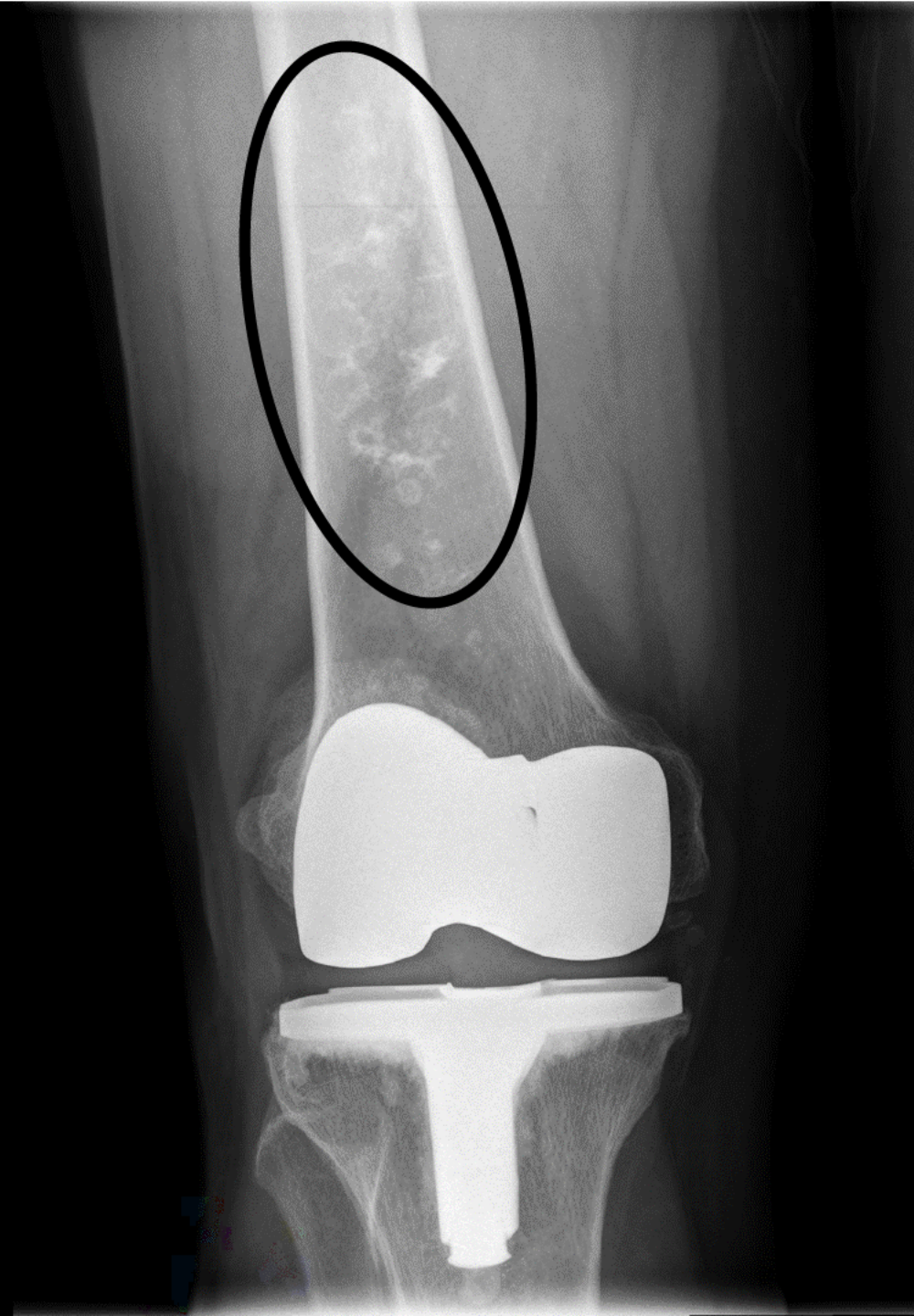


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**Right knee
radiographs
8 years prior**

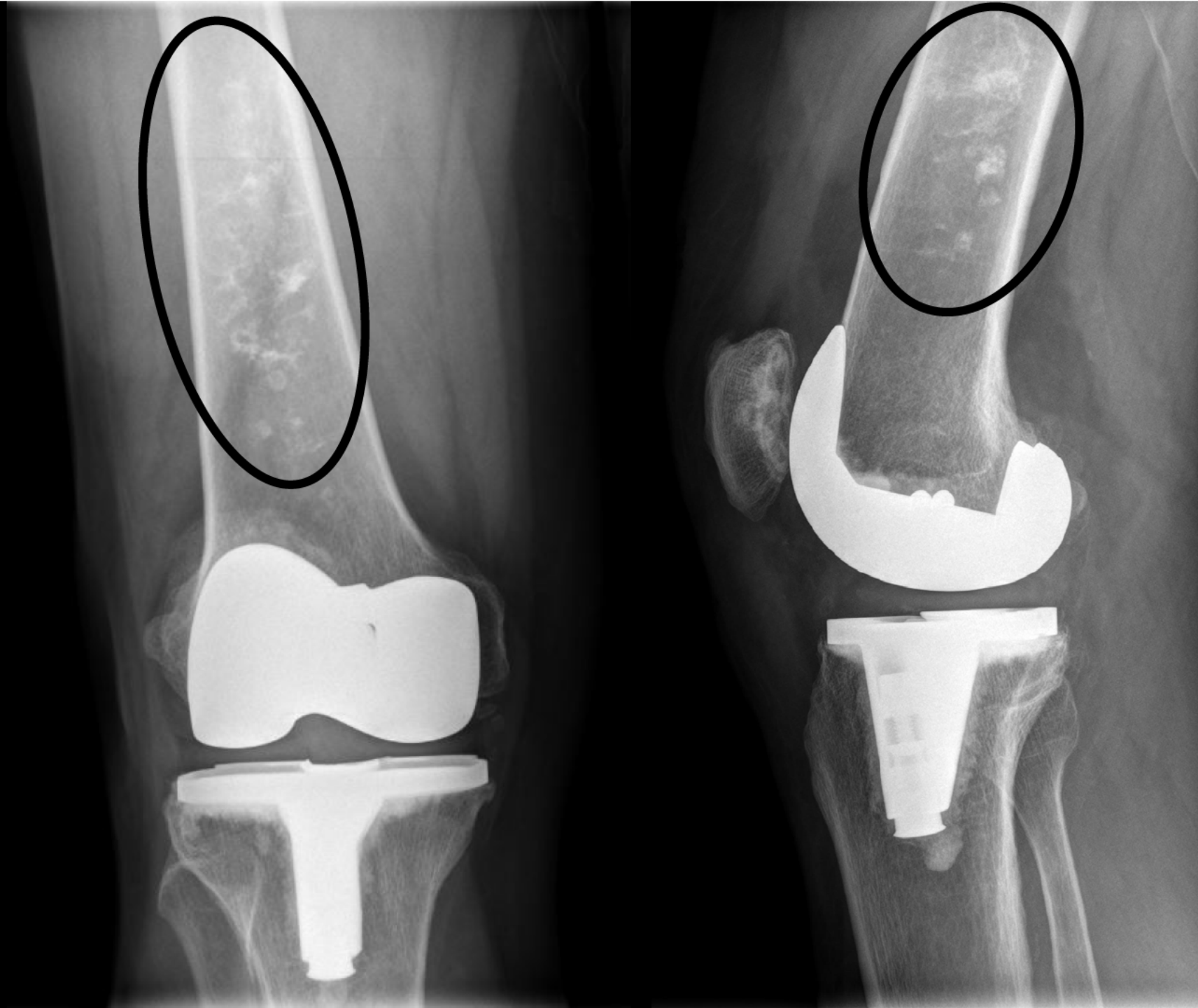


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**Right knee
radiographs
7 years prior**



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Current right knee radiographs



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**Current
right knee
radiographs**

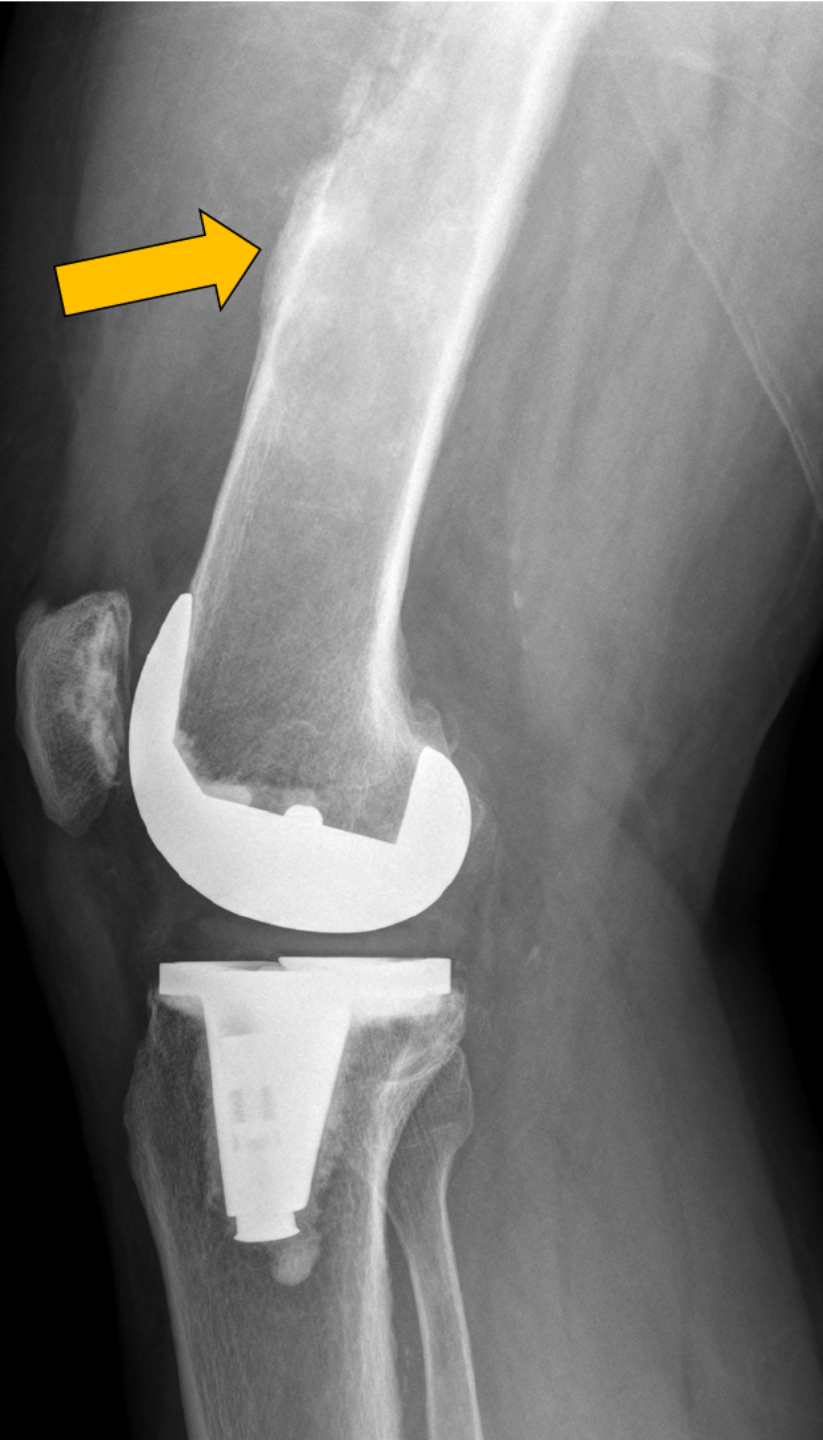


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**Current
right knee
radiographs**



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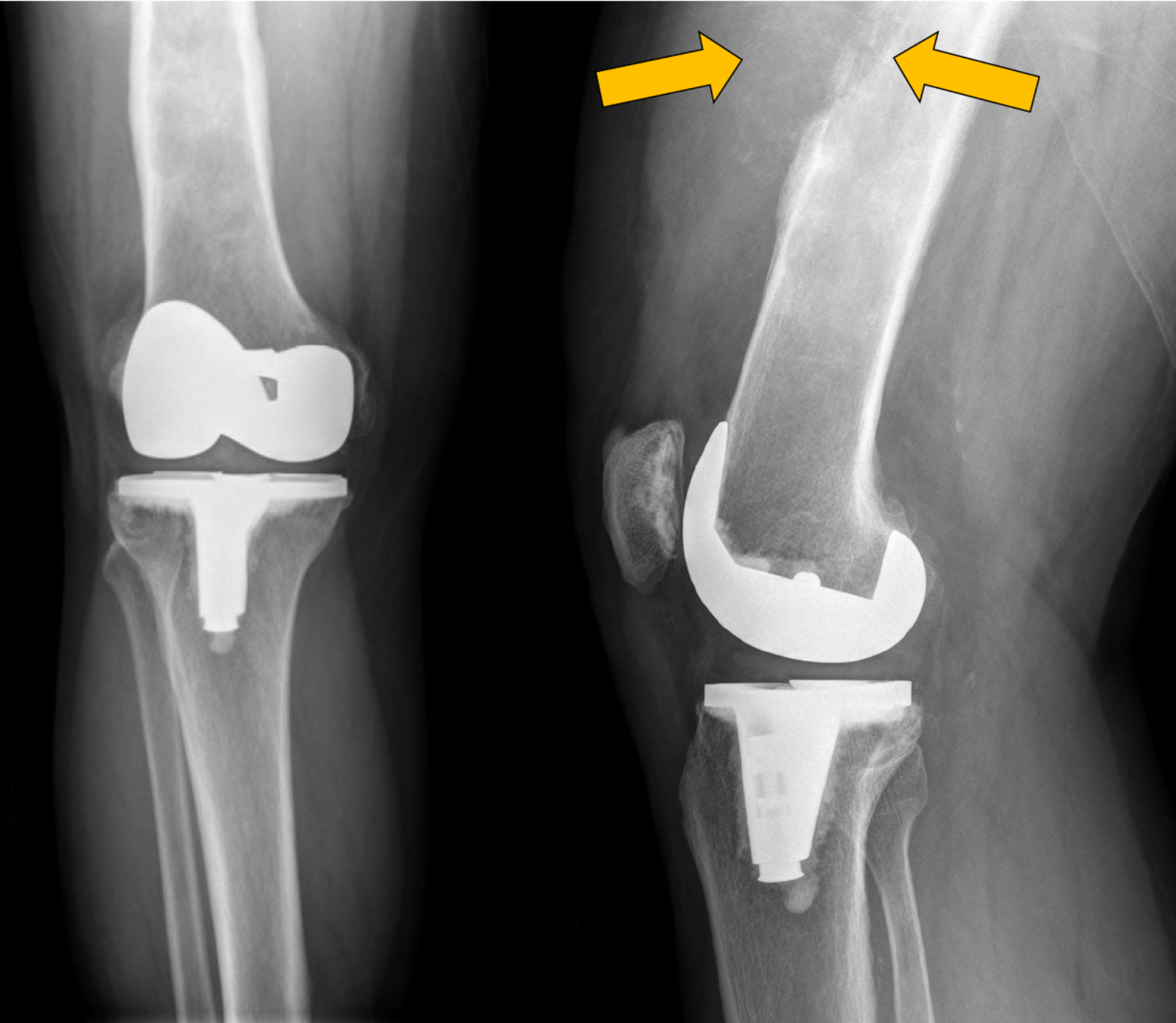
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**Current
right knee
radiographs**

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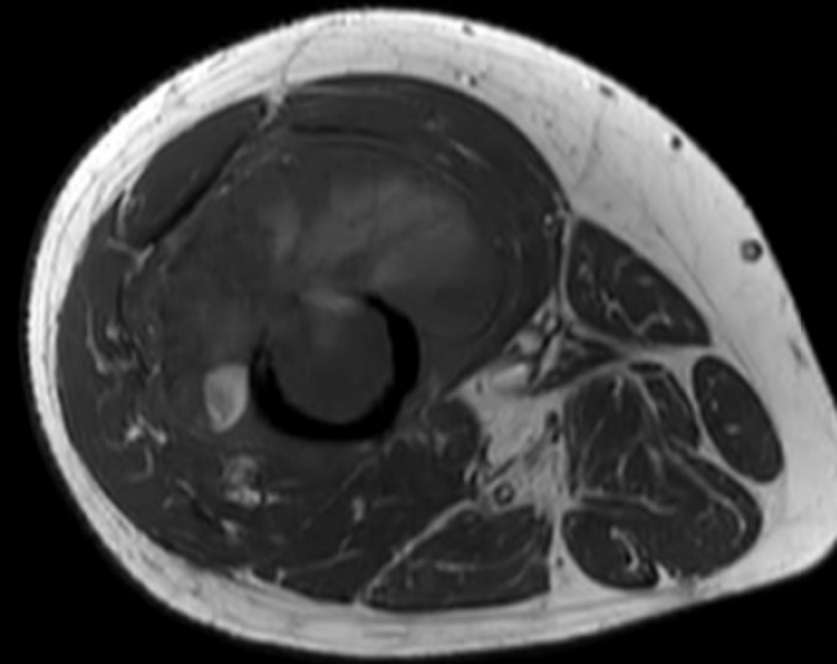
Current right femur radiographs

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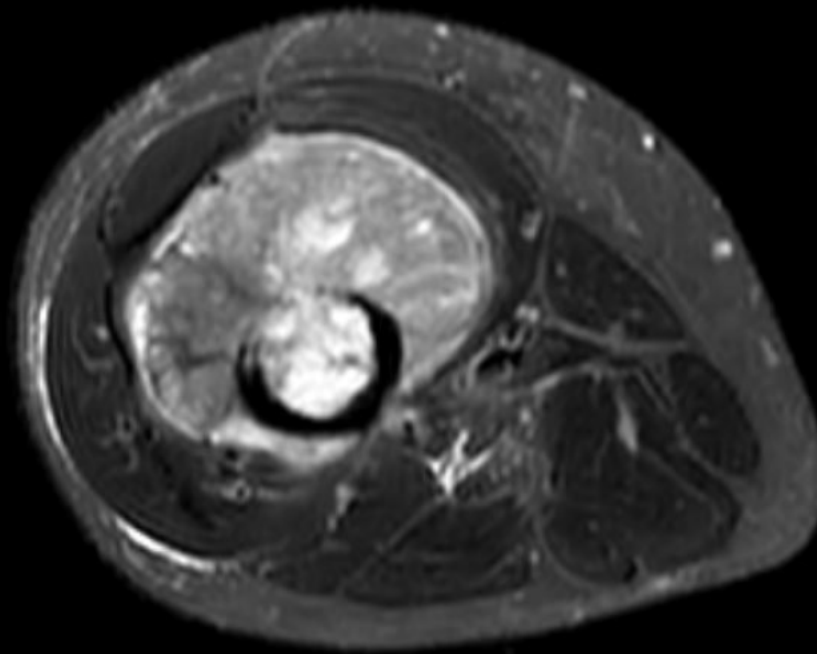
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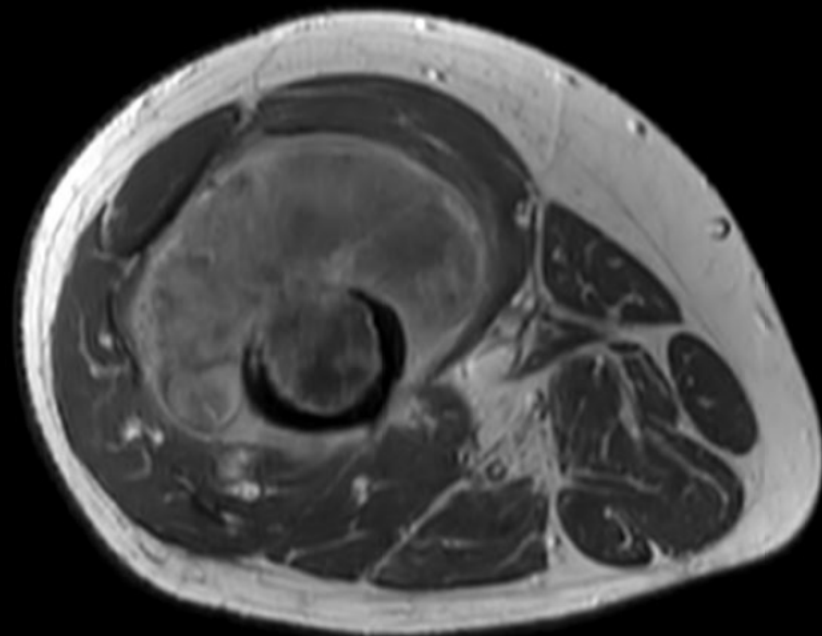




Axial T1



Axial STIR

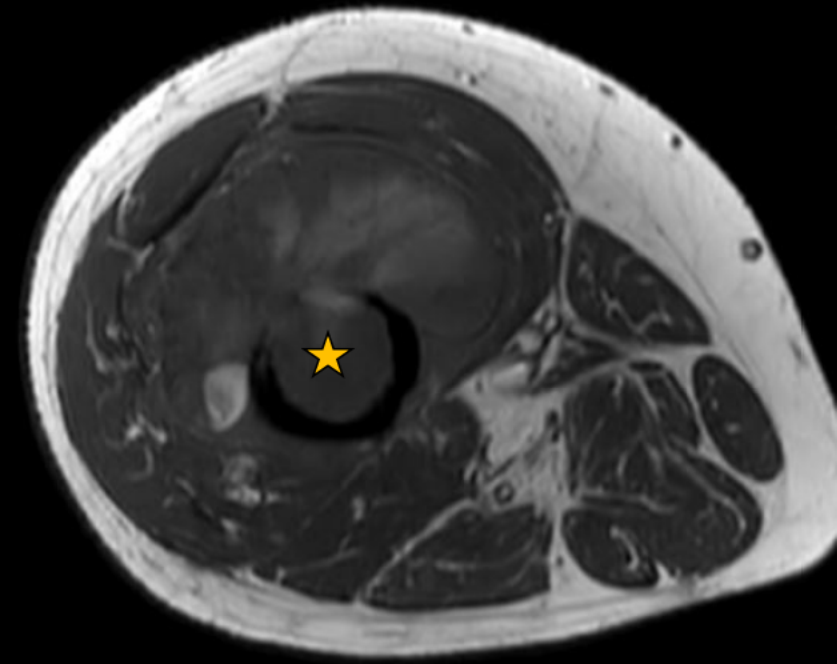


Axial T1 +C

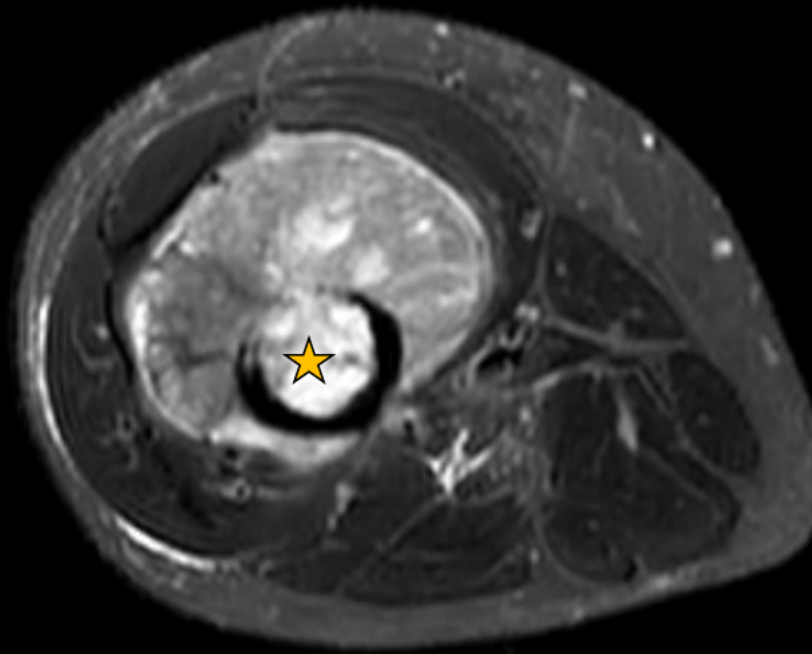
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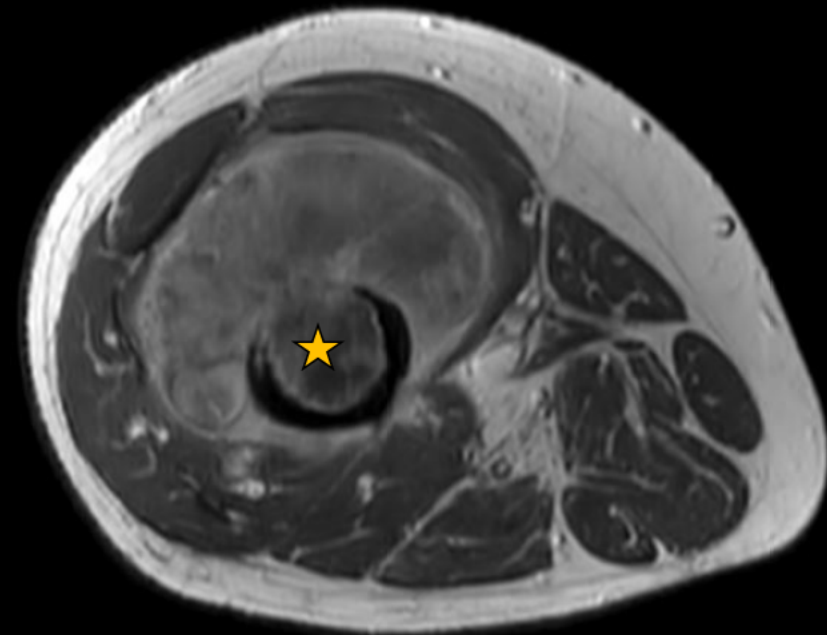
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Axial T1



Axial STIR

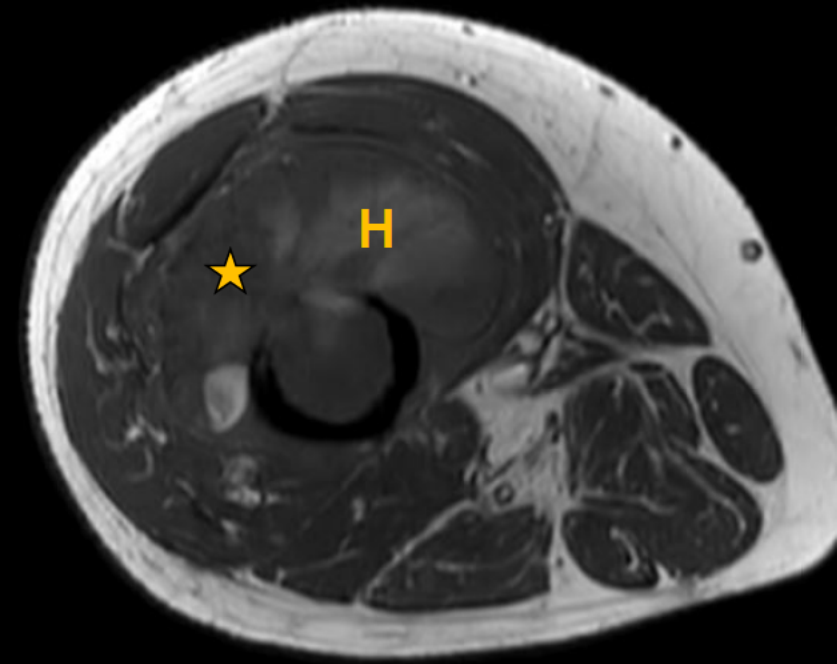


Axial T1 +C

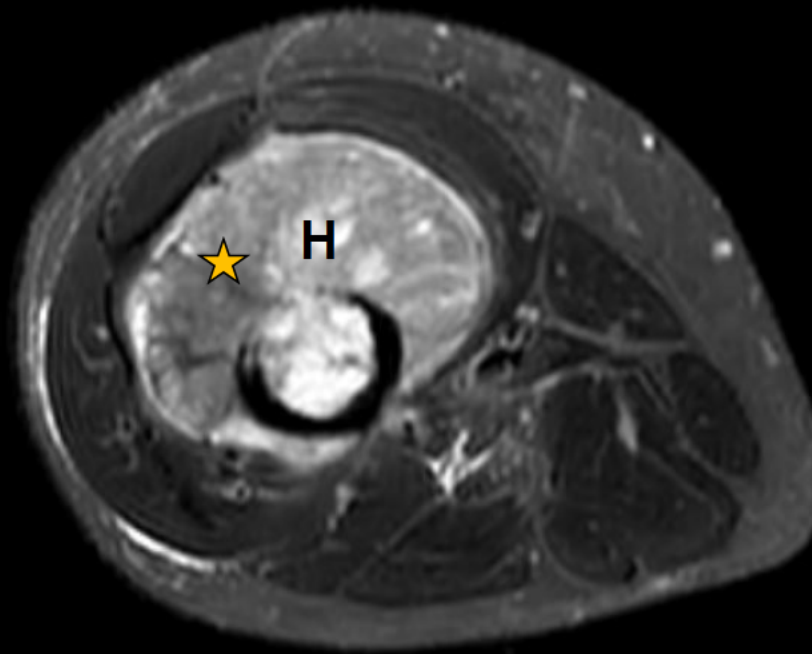
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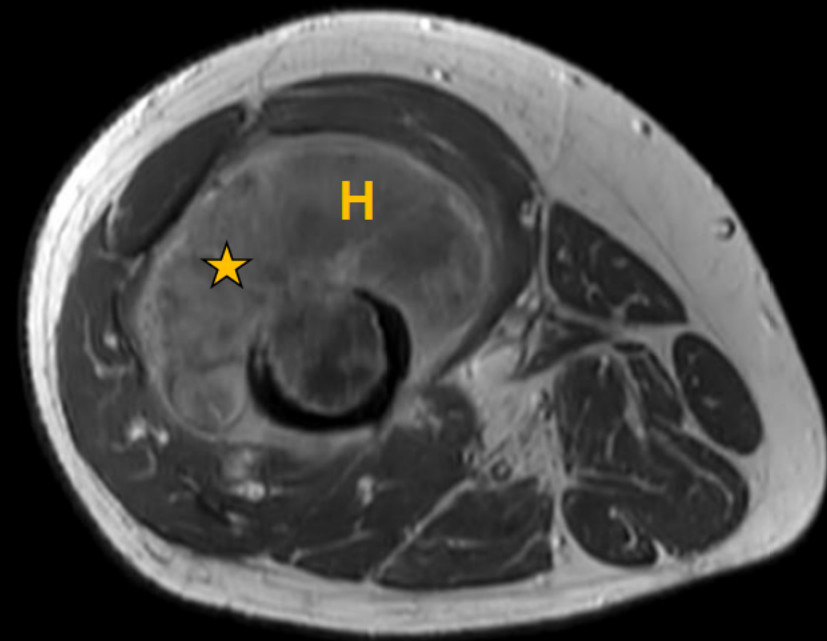
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Axial T1



Axial STIR



Axial T1 +C

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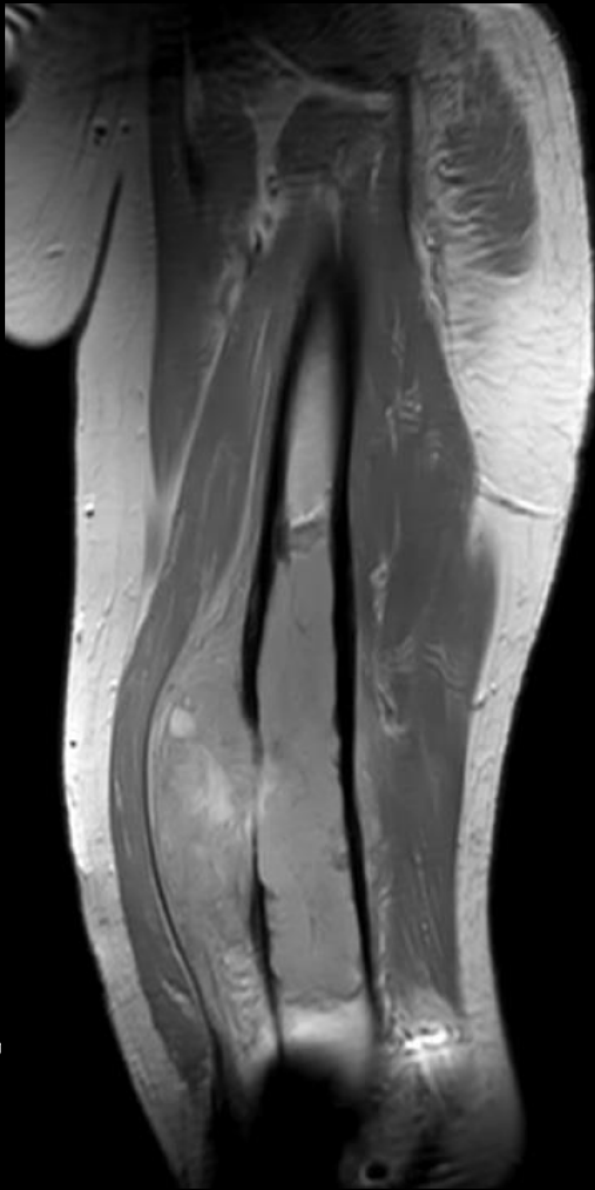
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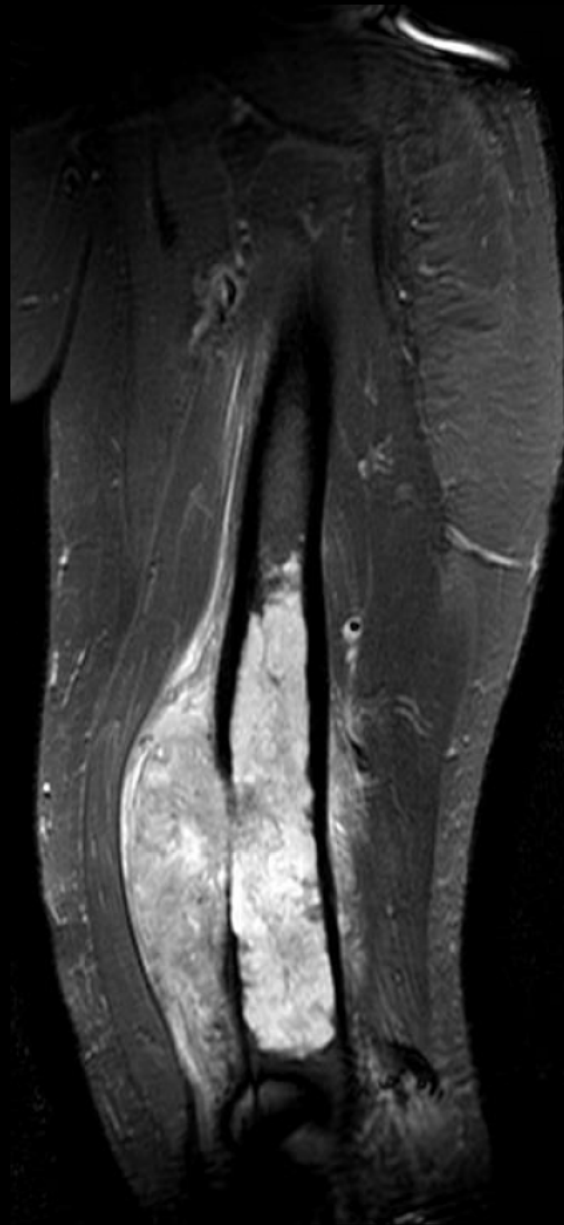
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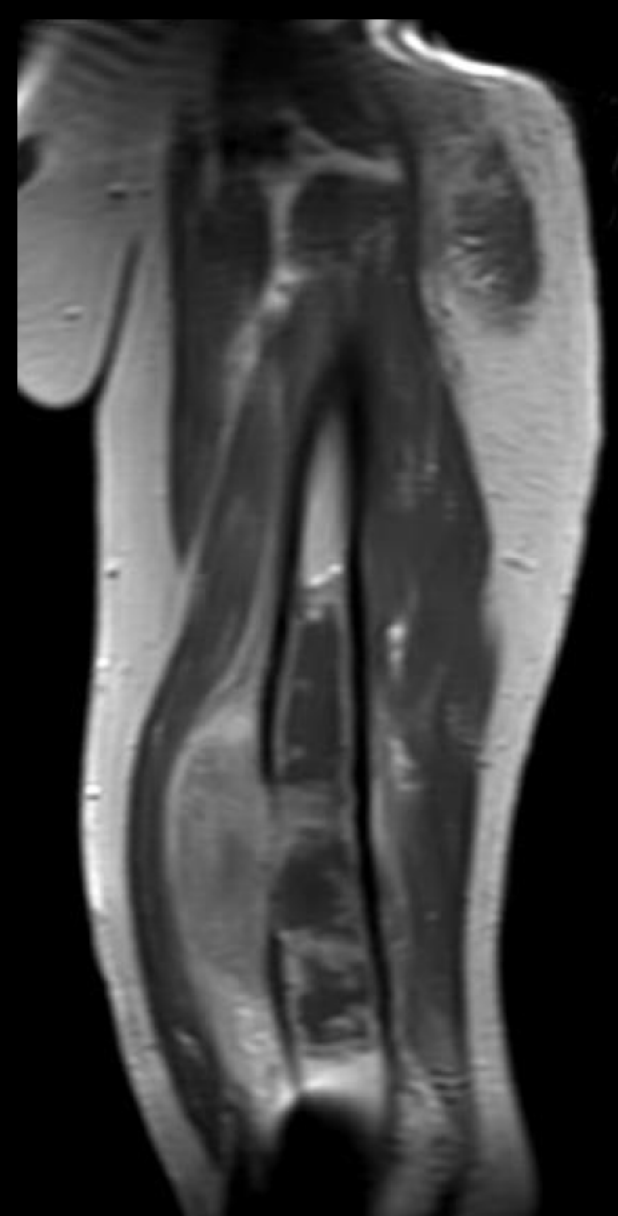
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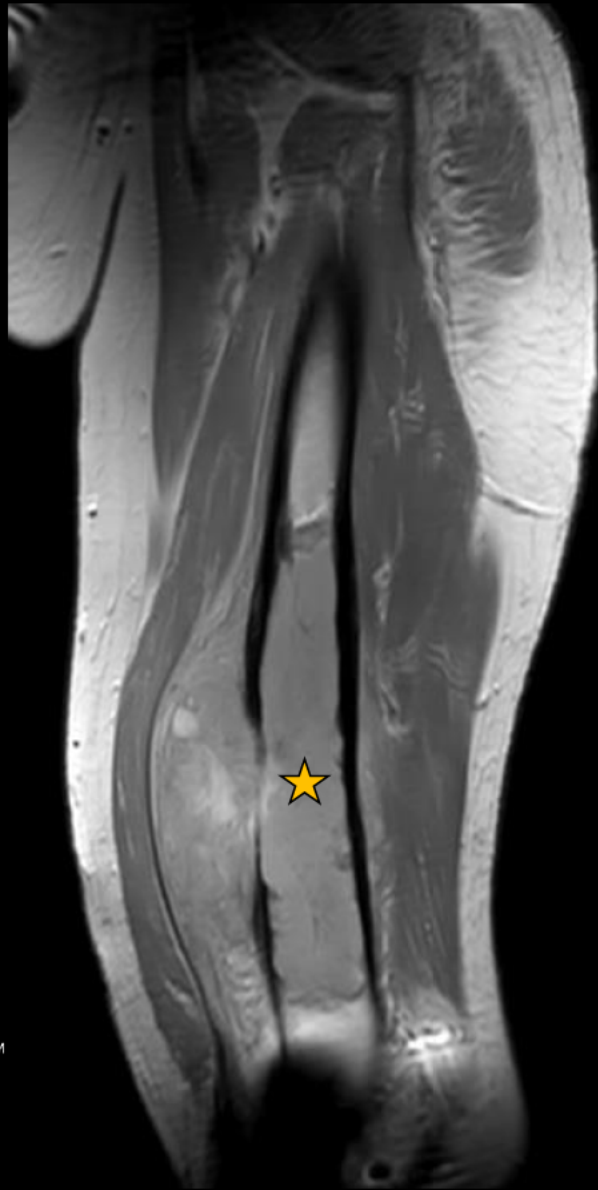
**Sagittal PD
MARS**



**Sagittal STIR
MARS**



**Sagittal T1 +C
MARS**



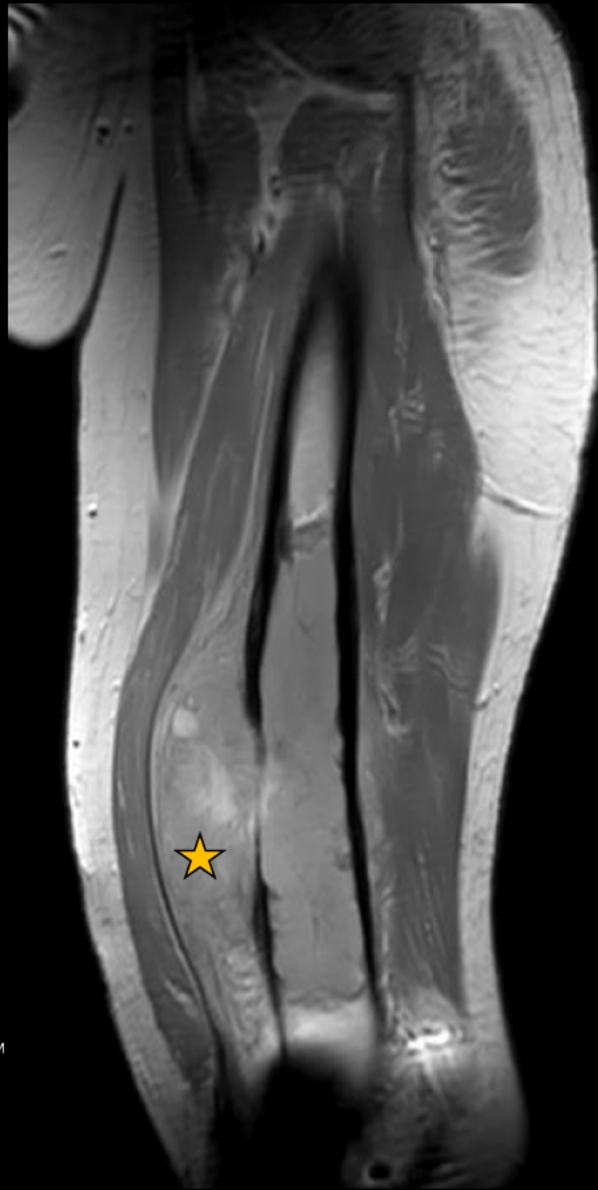
**Sagittal PD
MARS**



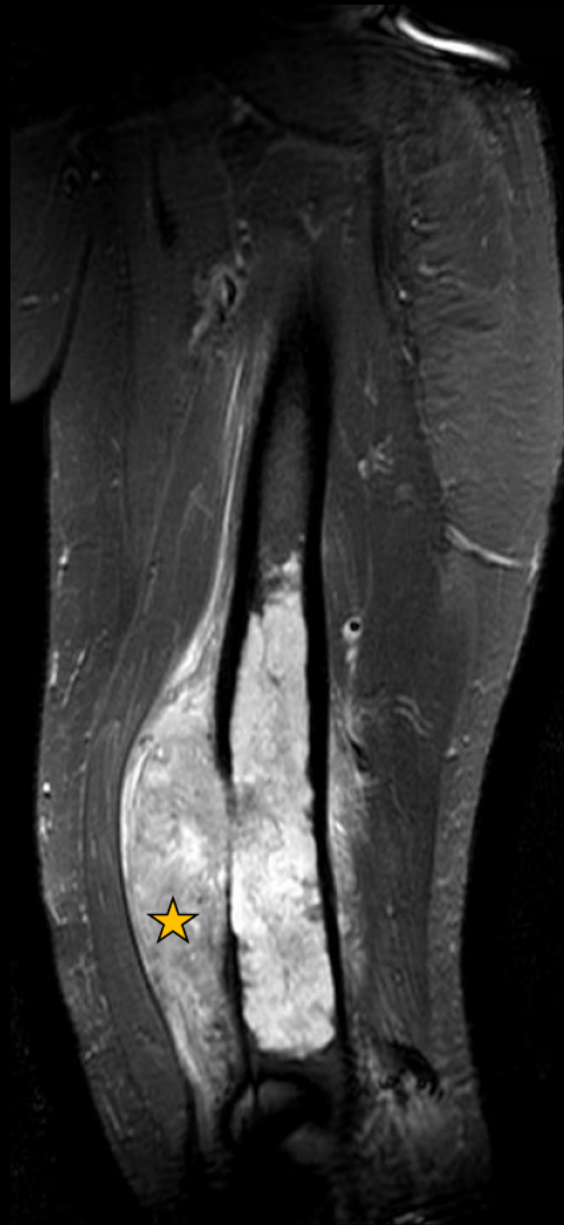
**Sagittal STIR
MARS**



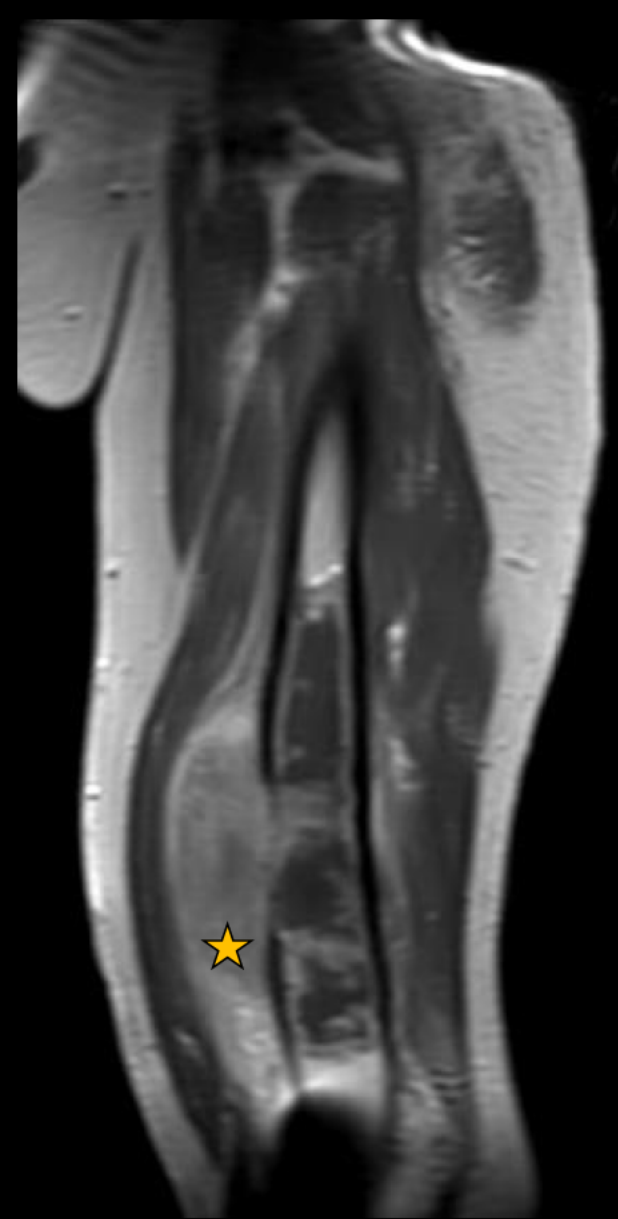
**Sagittal T1 +C
MARS**



**Sagittal PD
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**Sagittal STIR
MARS**



**Sagittal T1 +C
MARS**

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**Sagittal PD
MARS**



**Sagittal STIR
MARS**

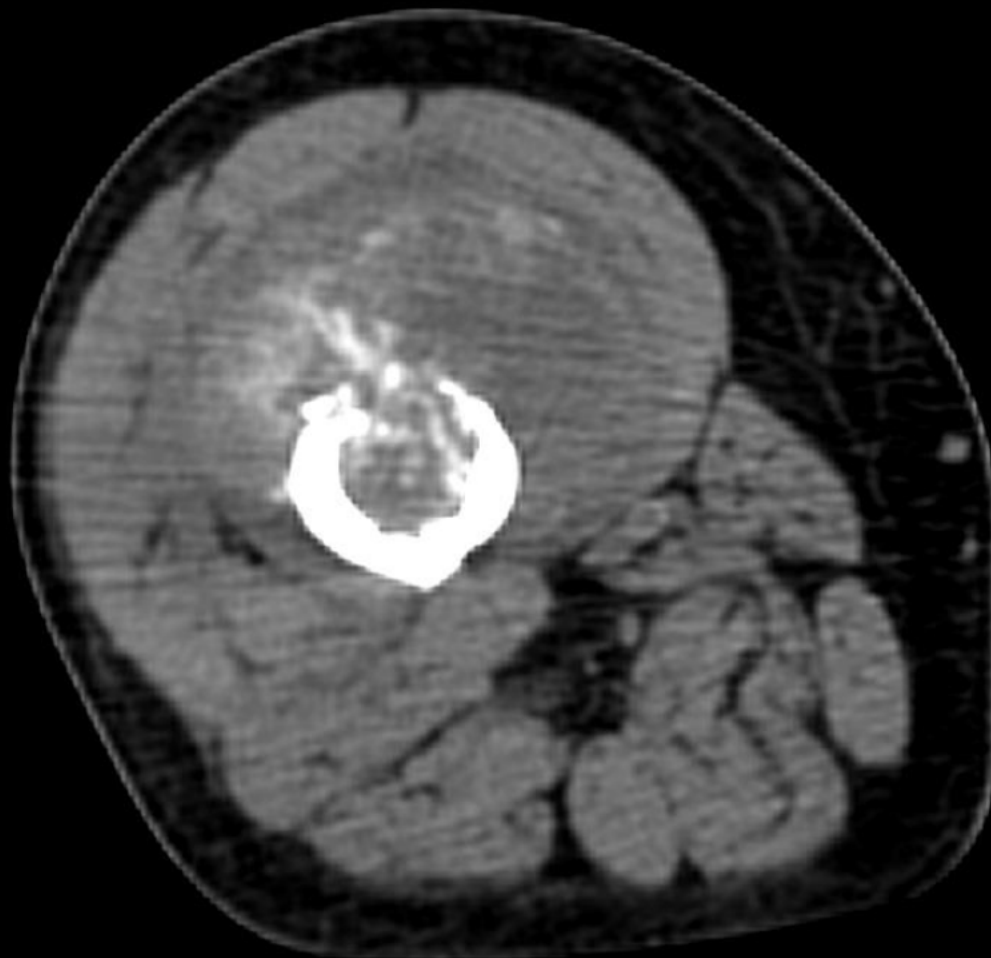


**Sagittal T1 +C
MARS**

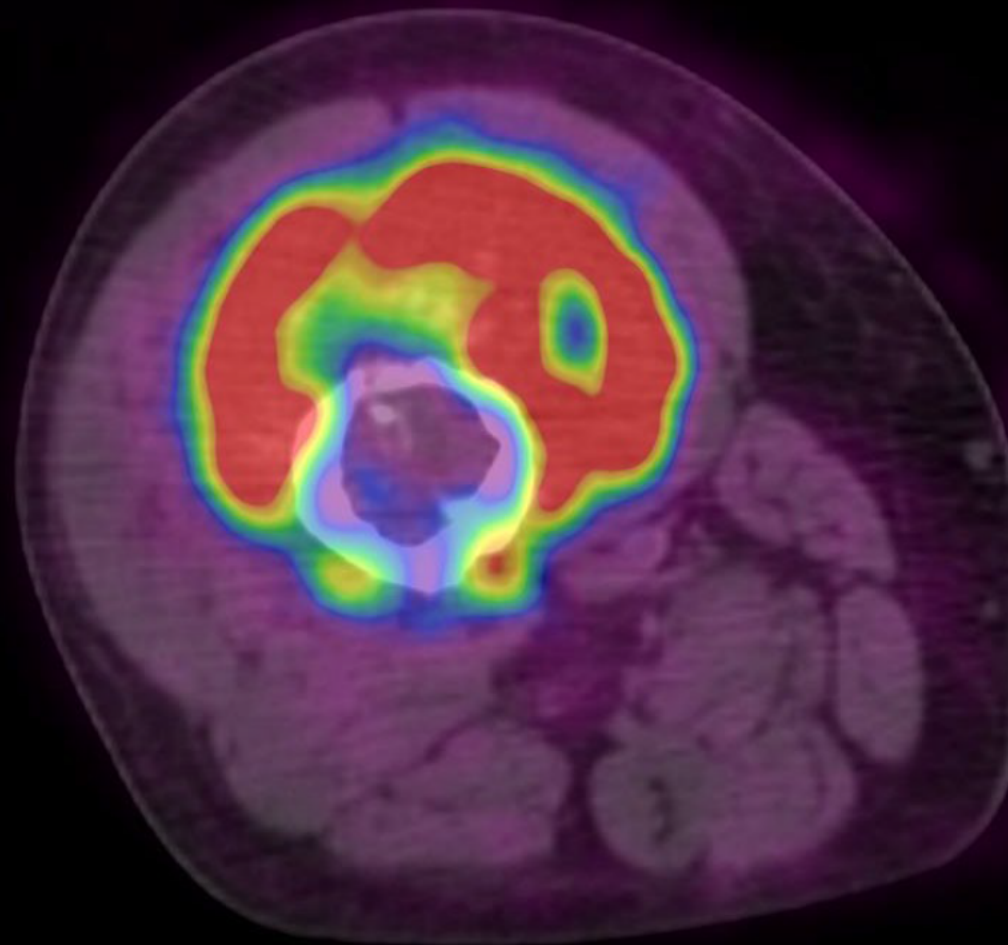
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**Axial
Noncontrast CT**

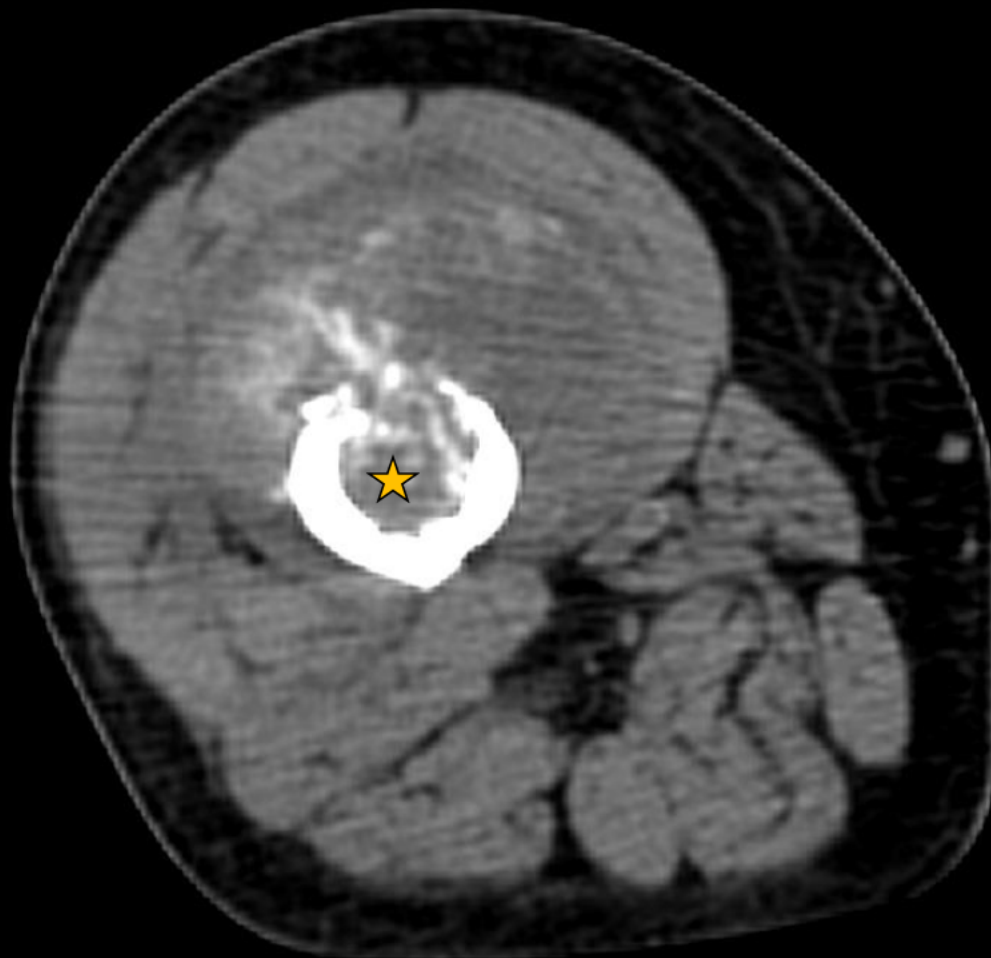


**Axial Fused
PET-CT**

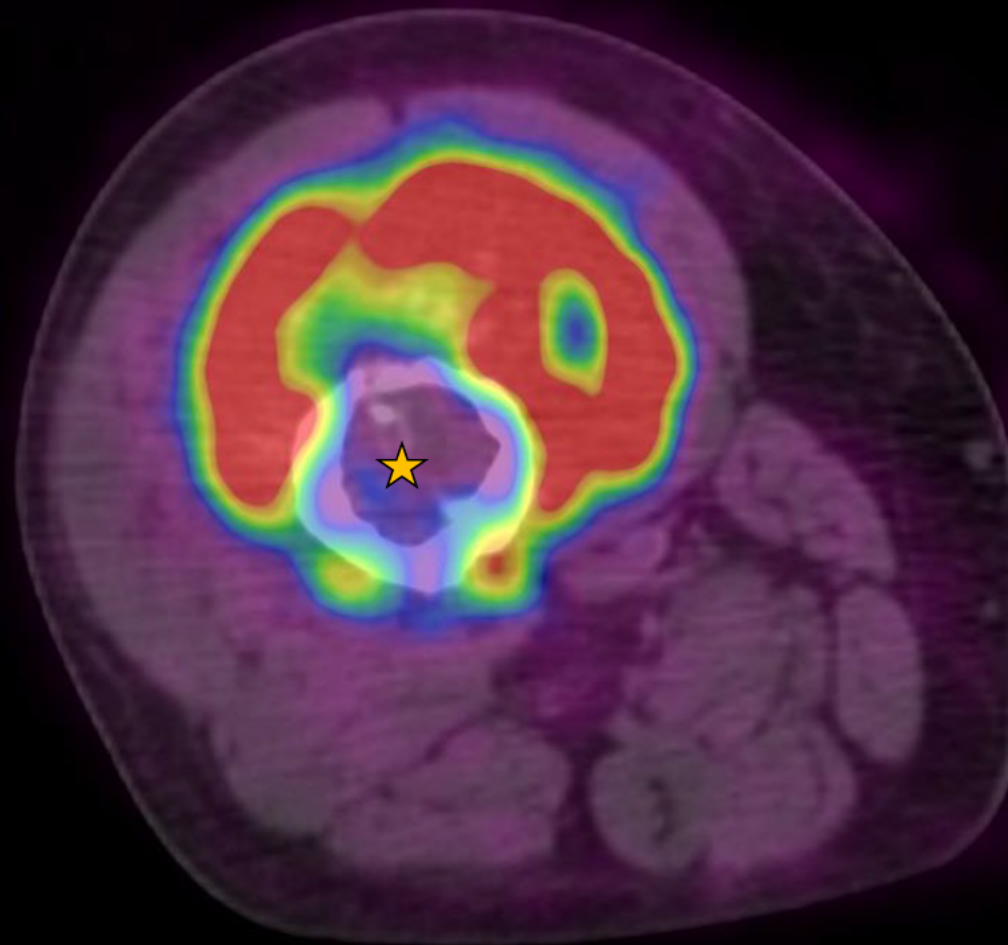
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**Axial
Noncontrast CT**

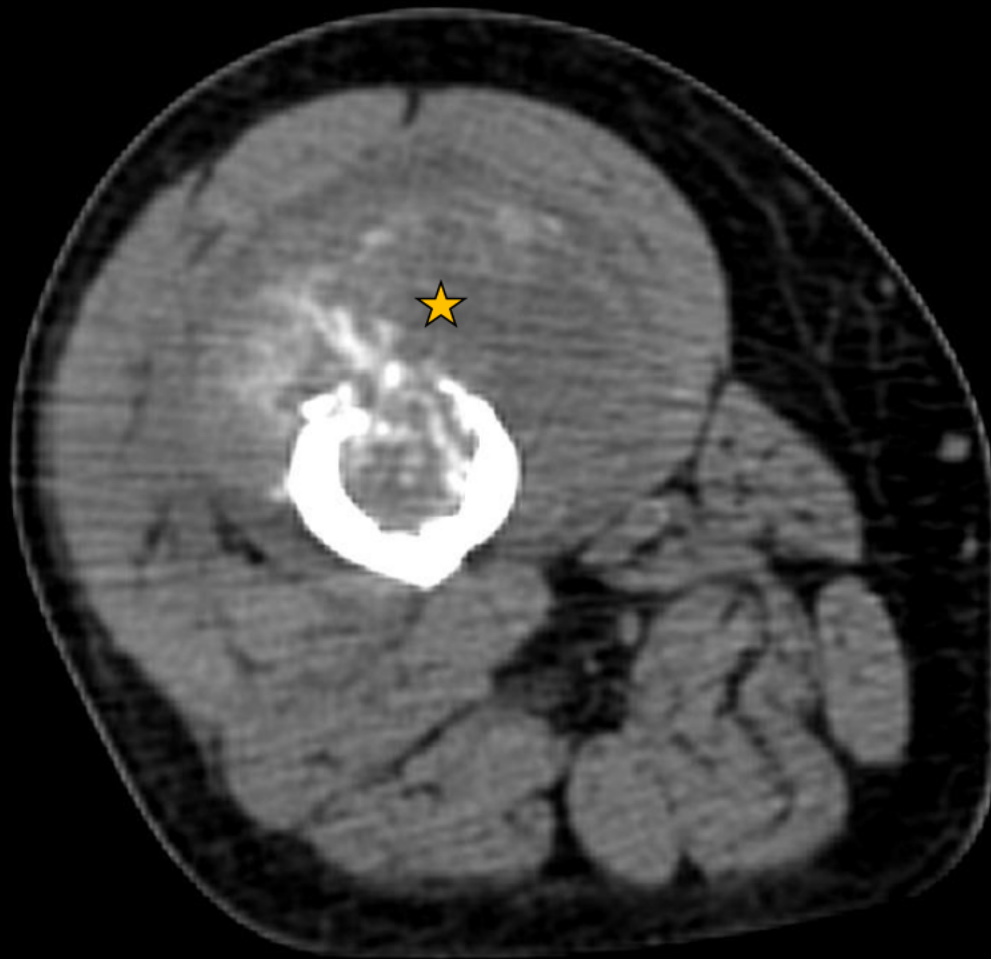


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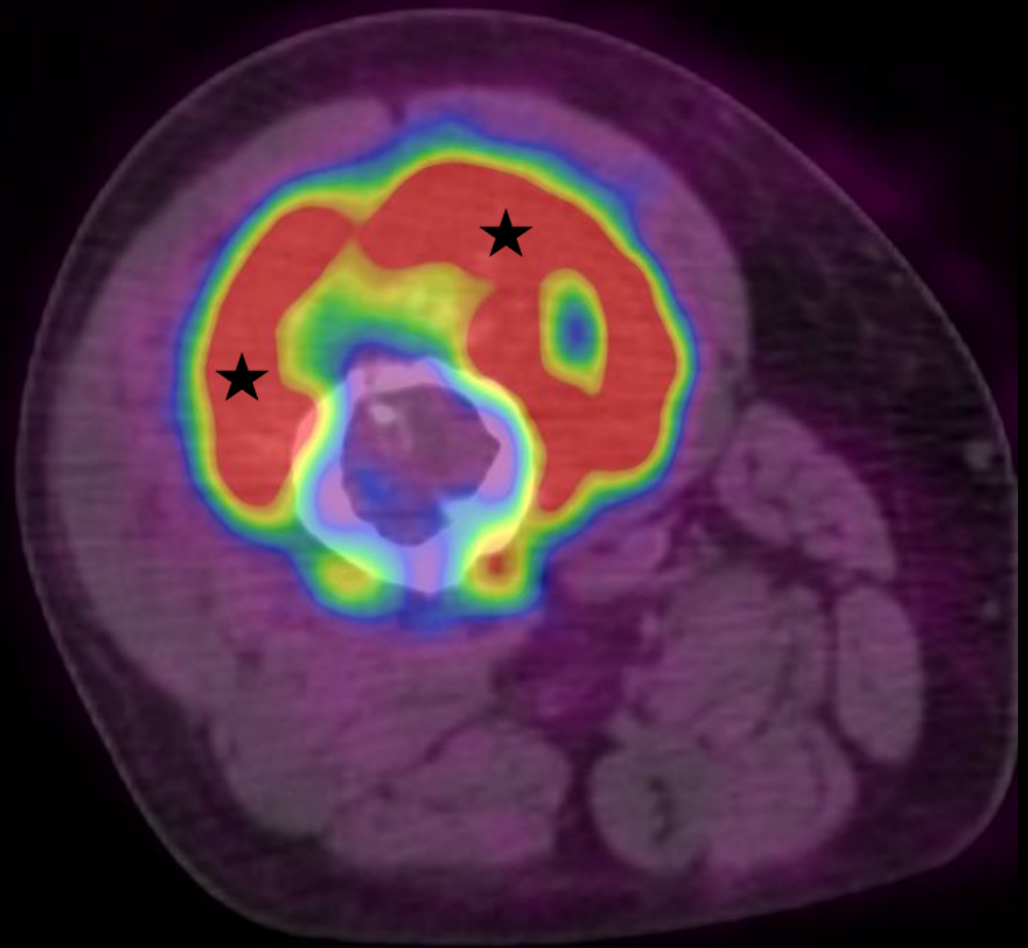
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Noncontrast CT**

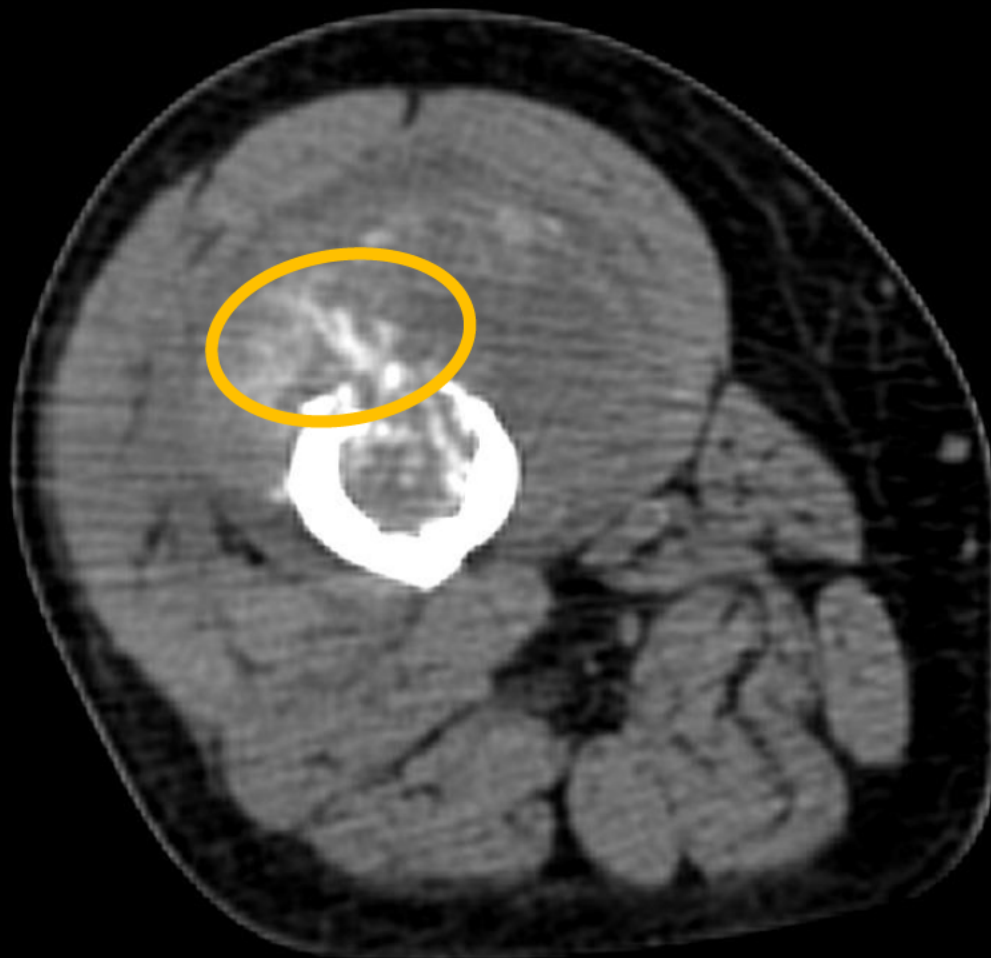


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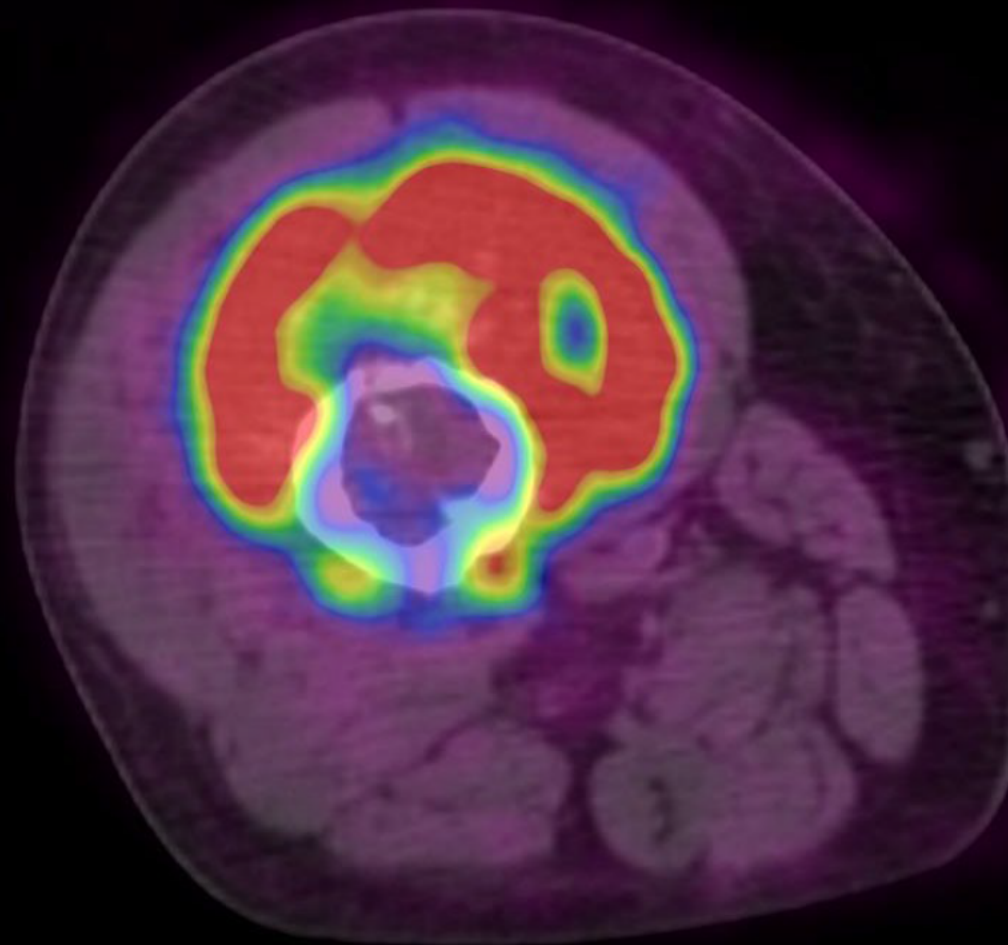
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**Axial
Noncontrast CT**



**Axial Fused
PET-CT**

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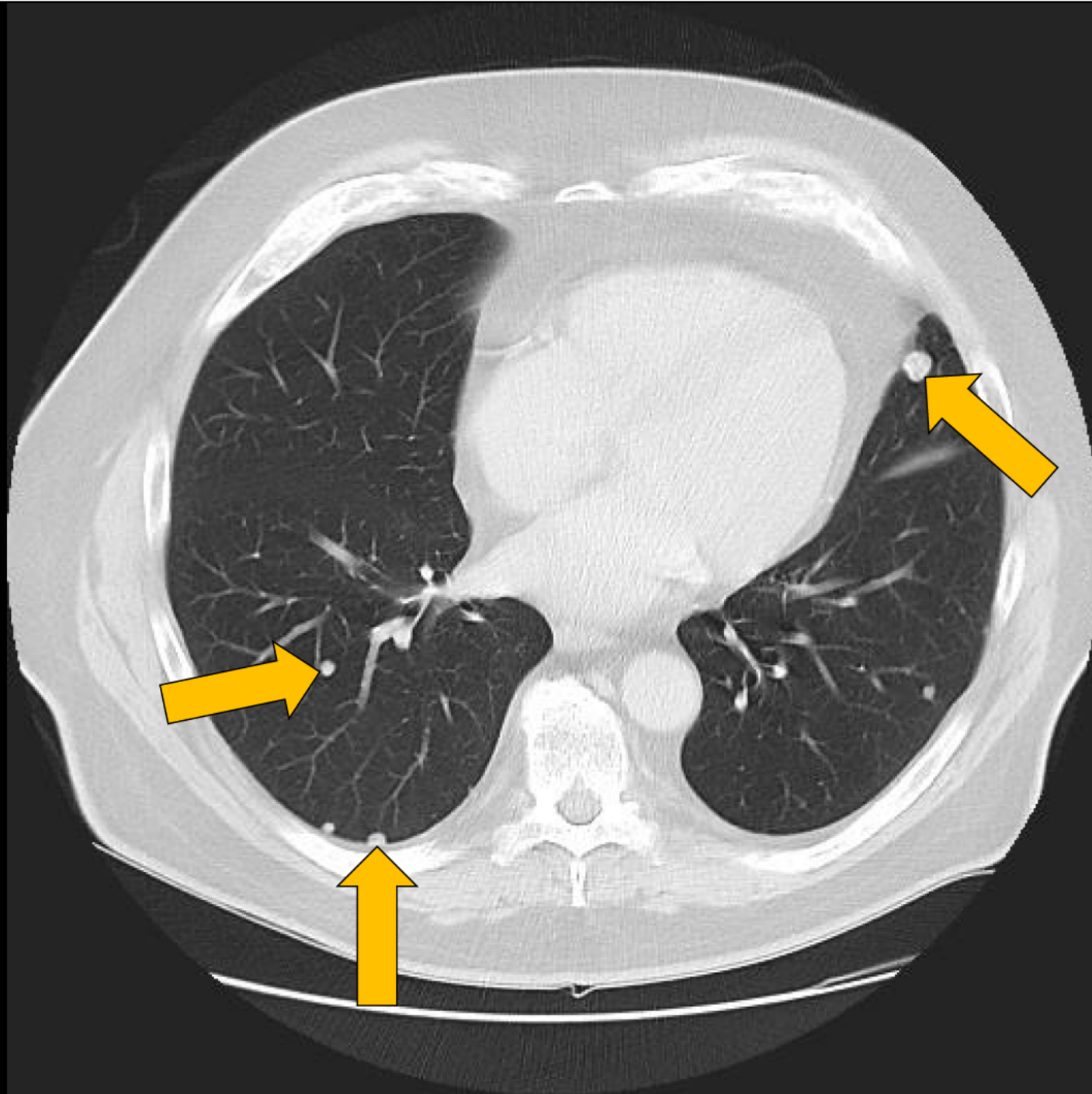
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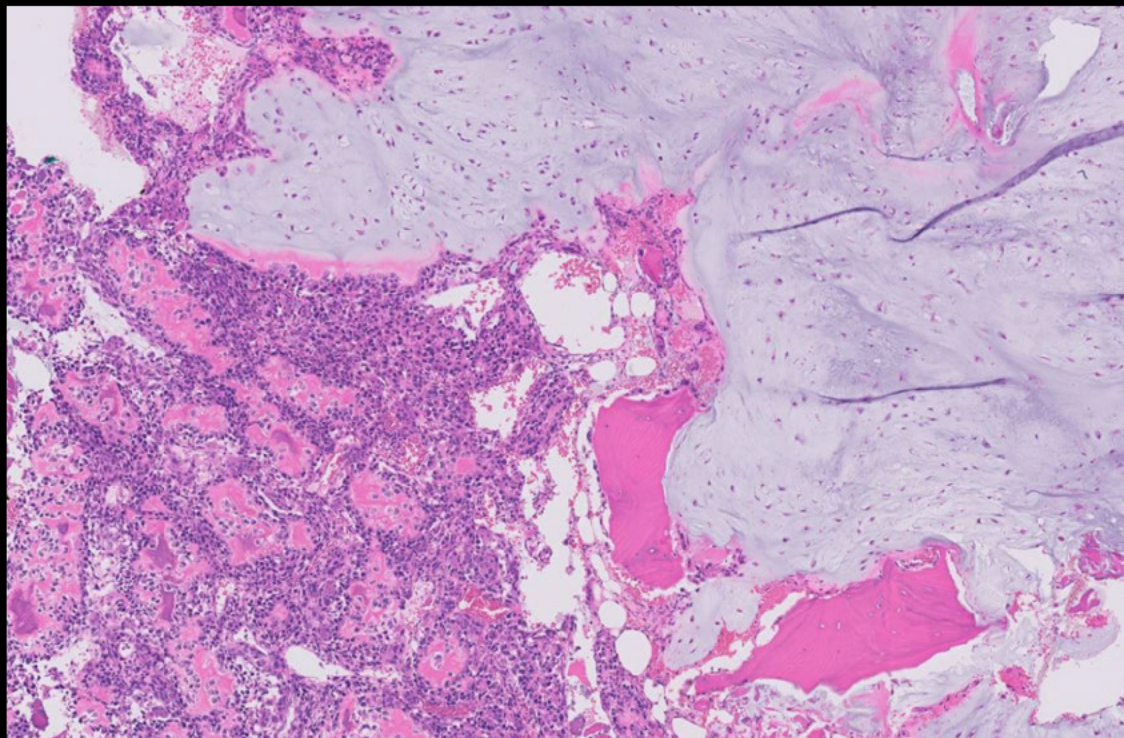
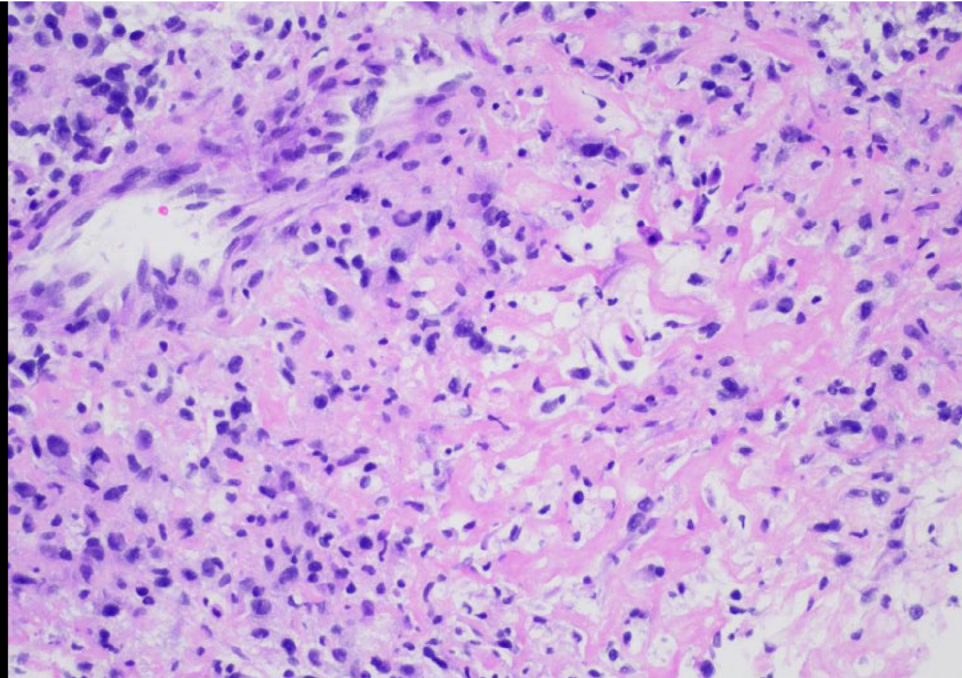
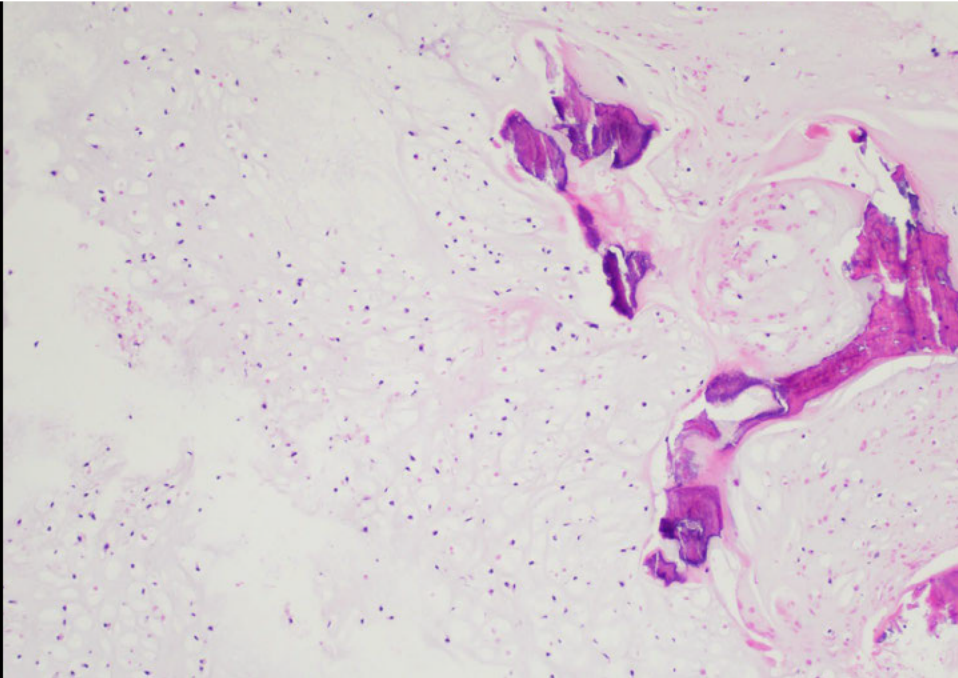
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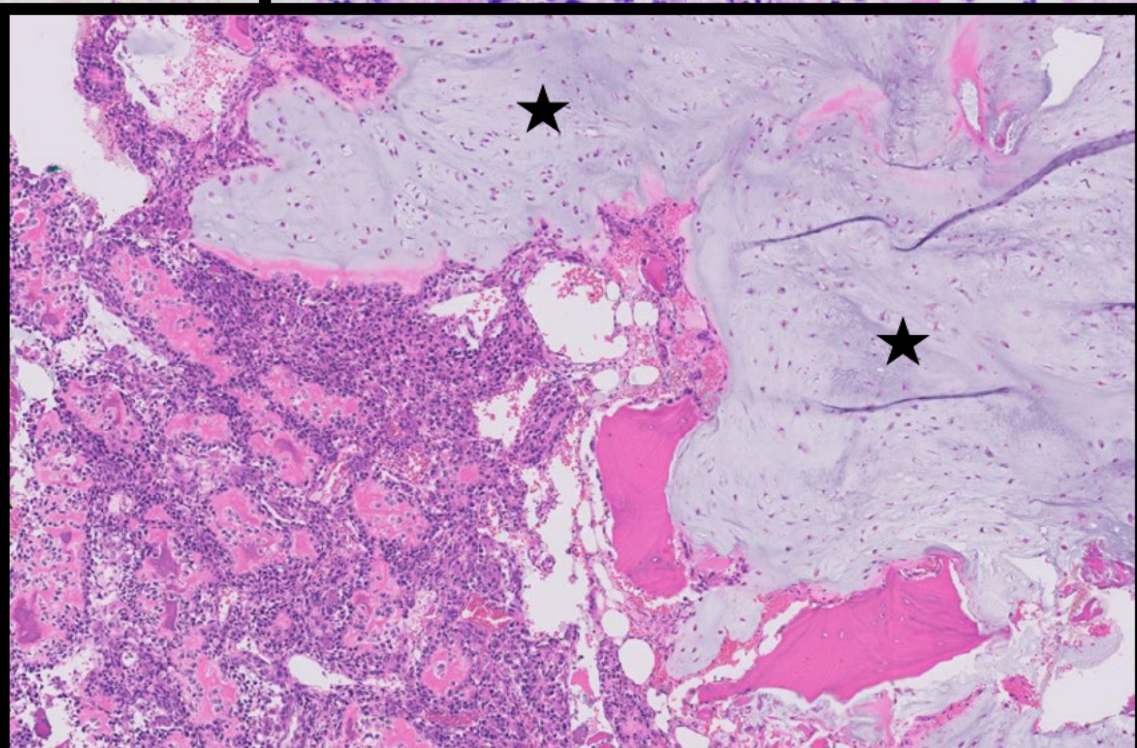
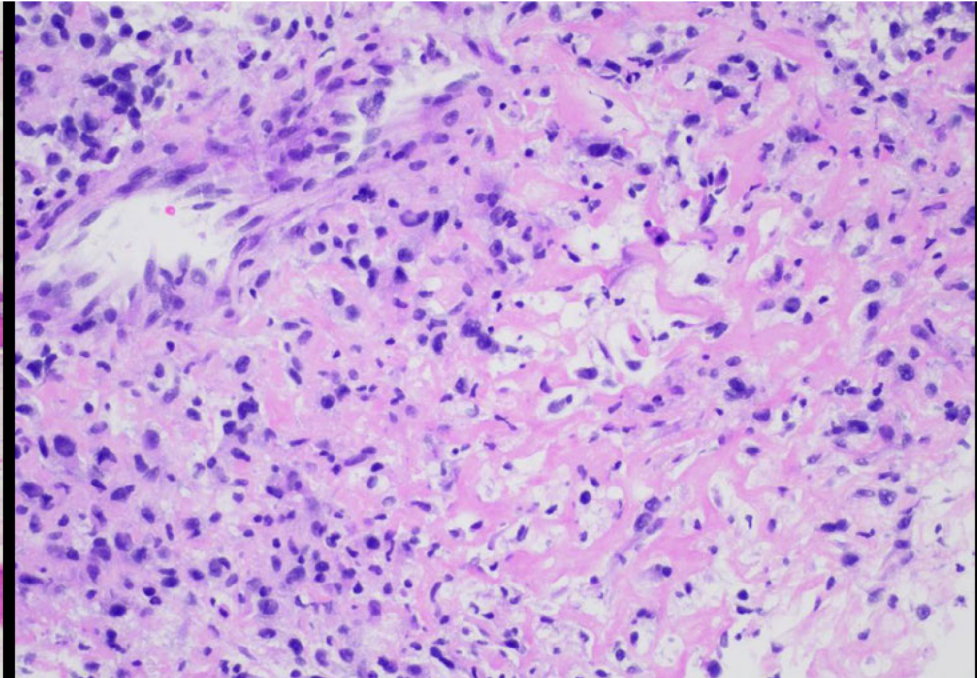
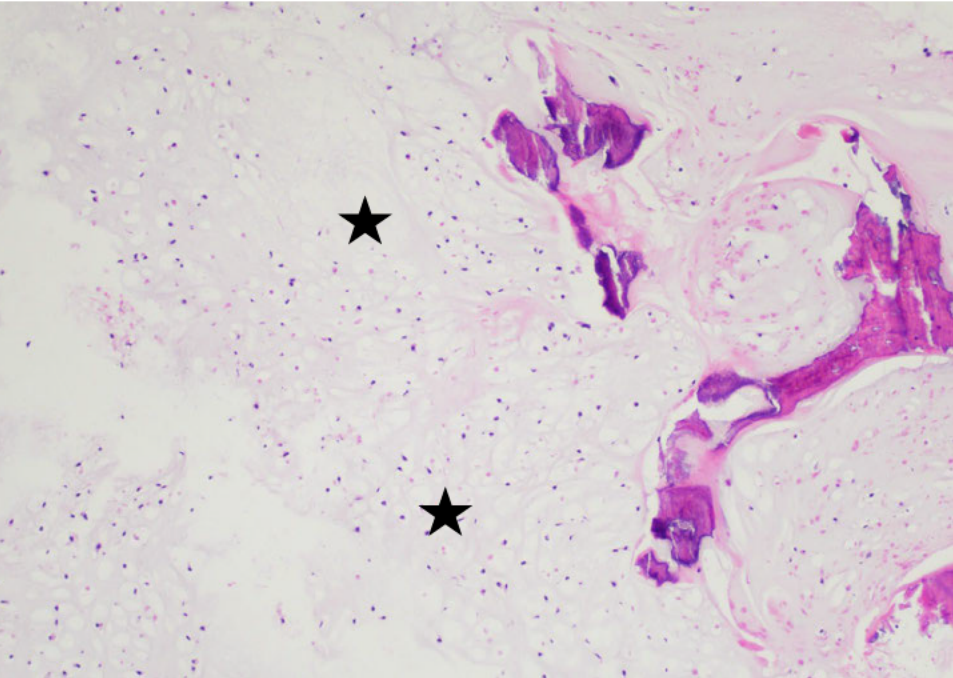


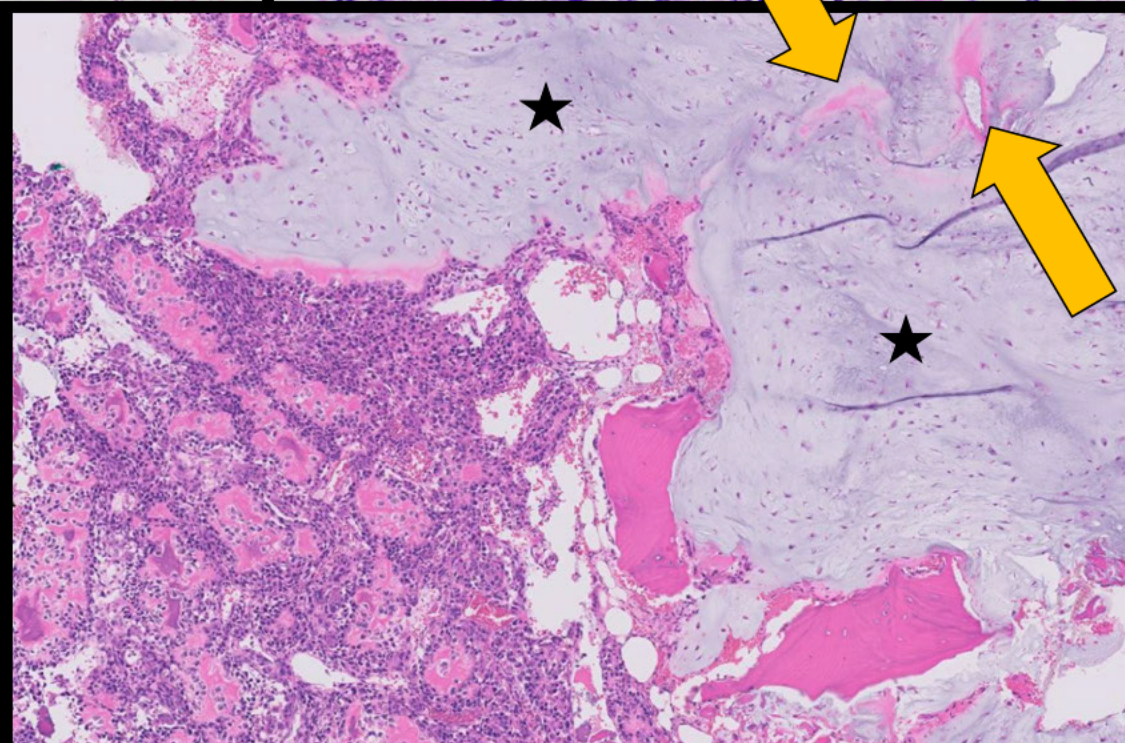
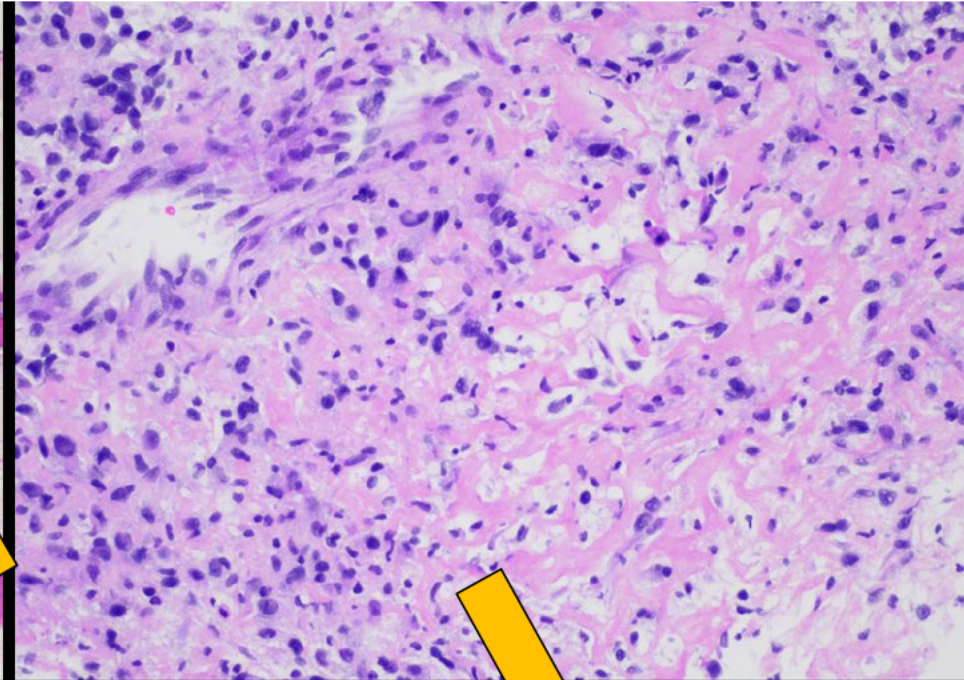
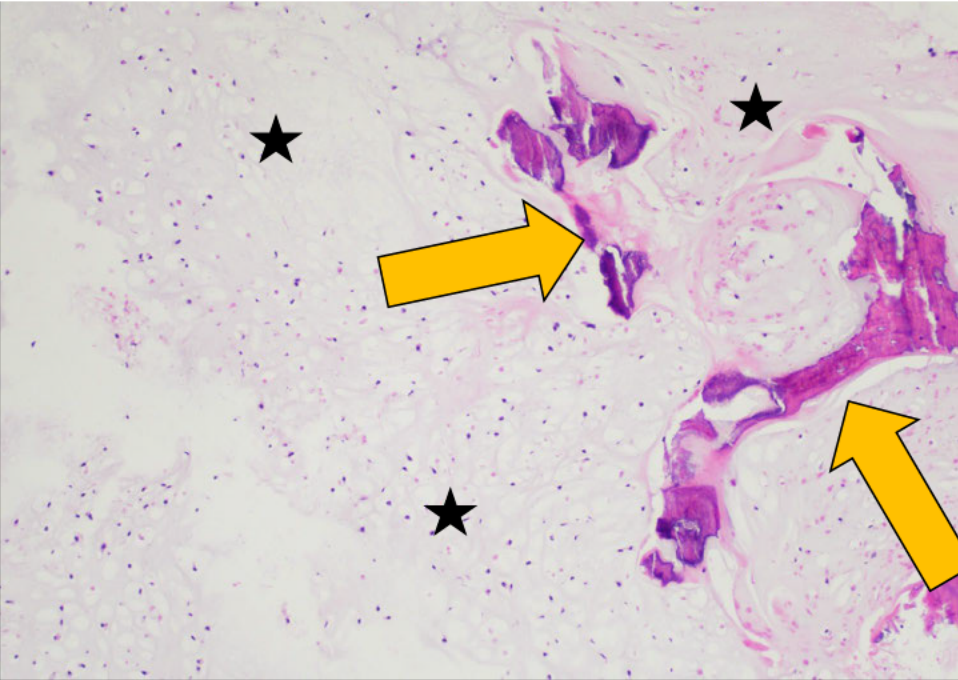


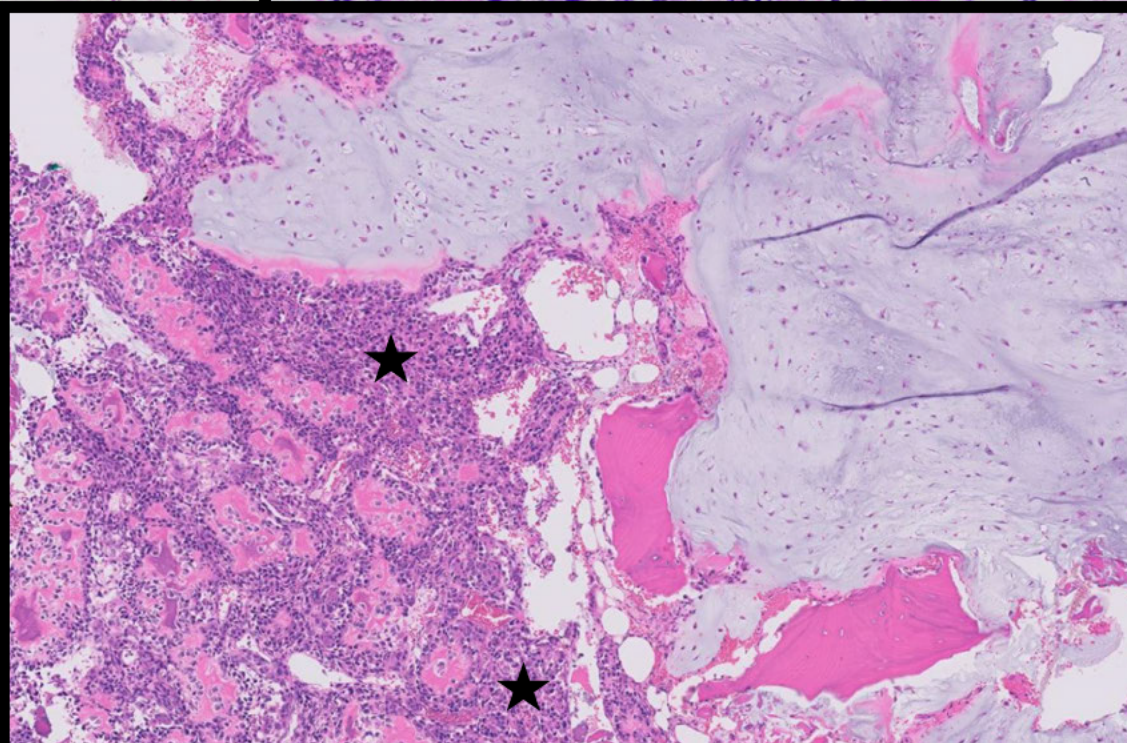
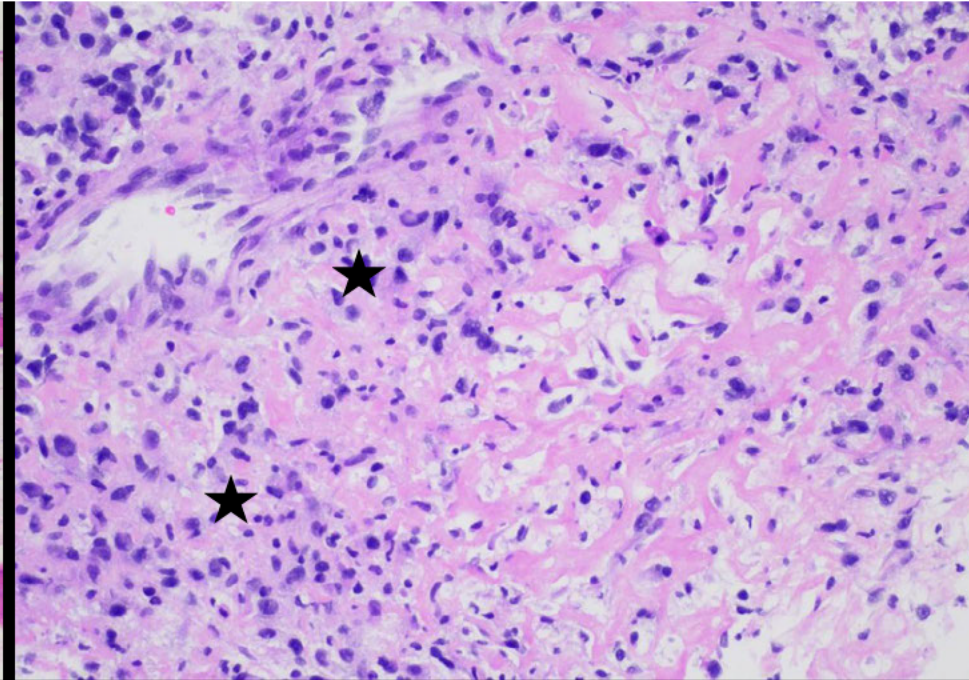
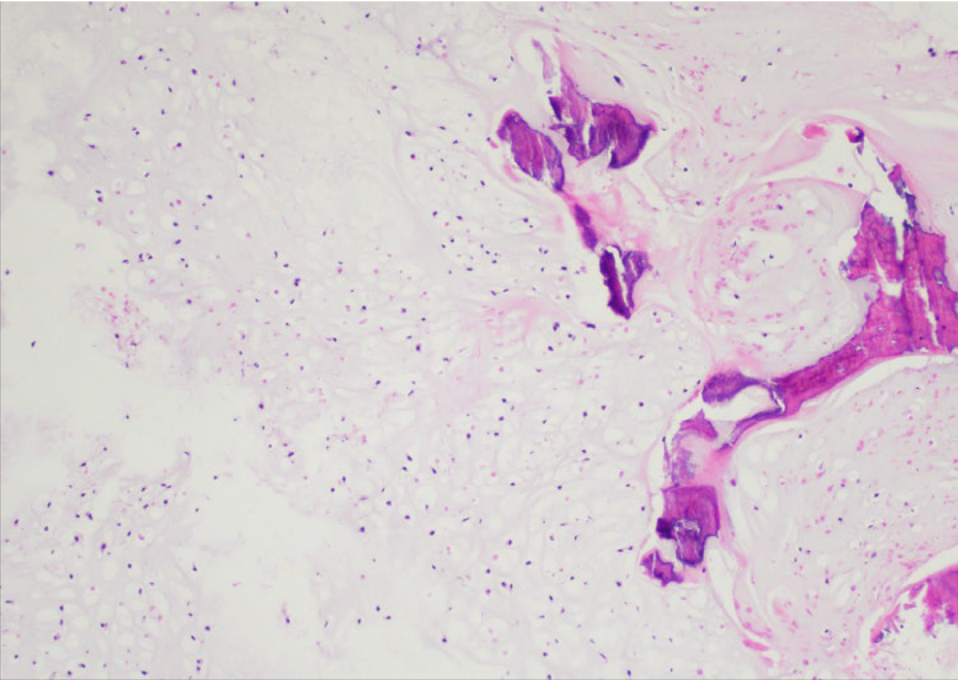
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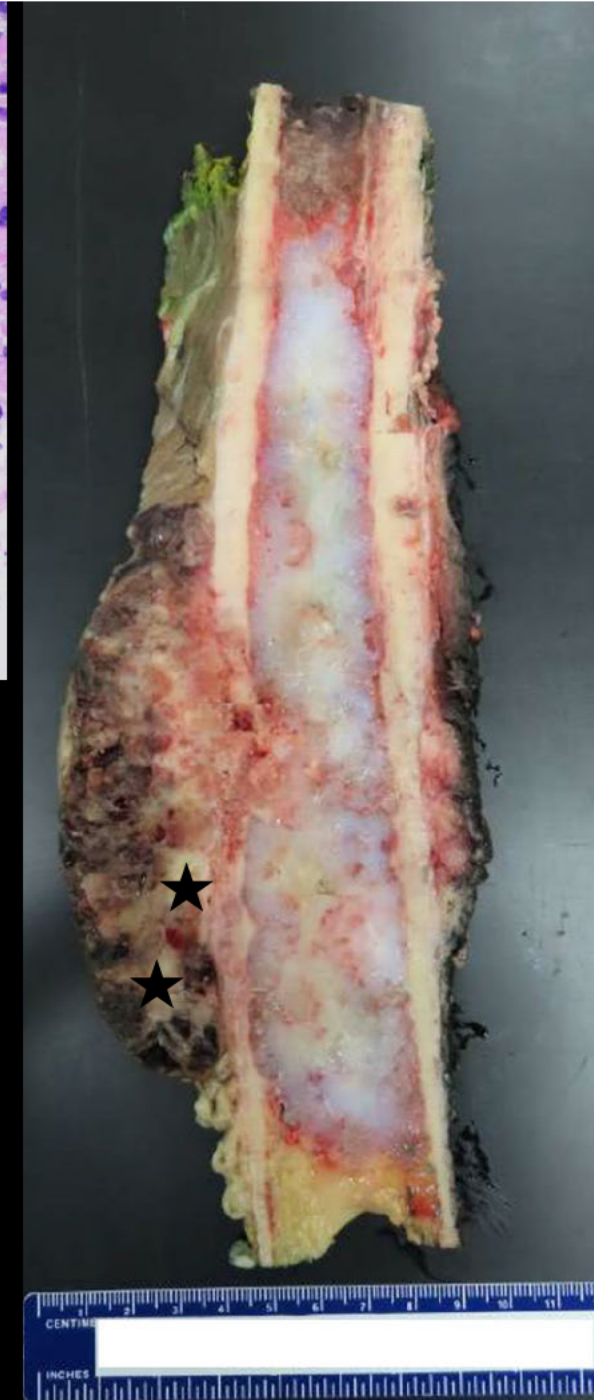
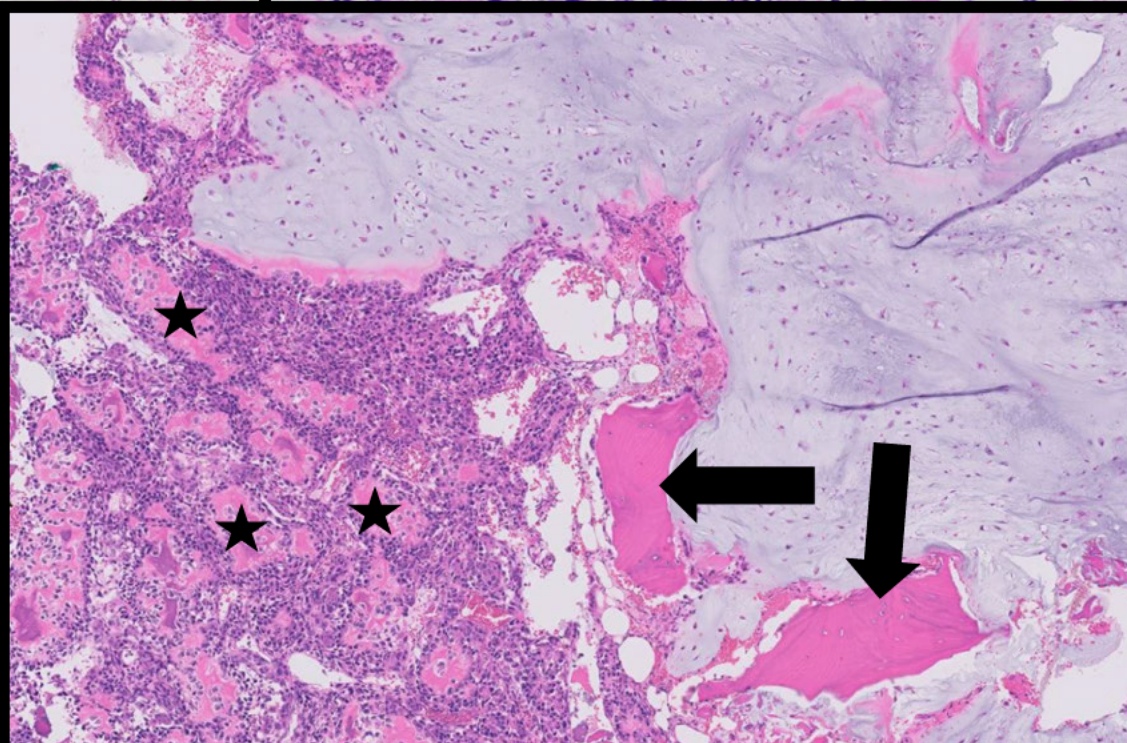
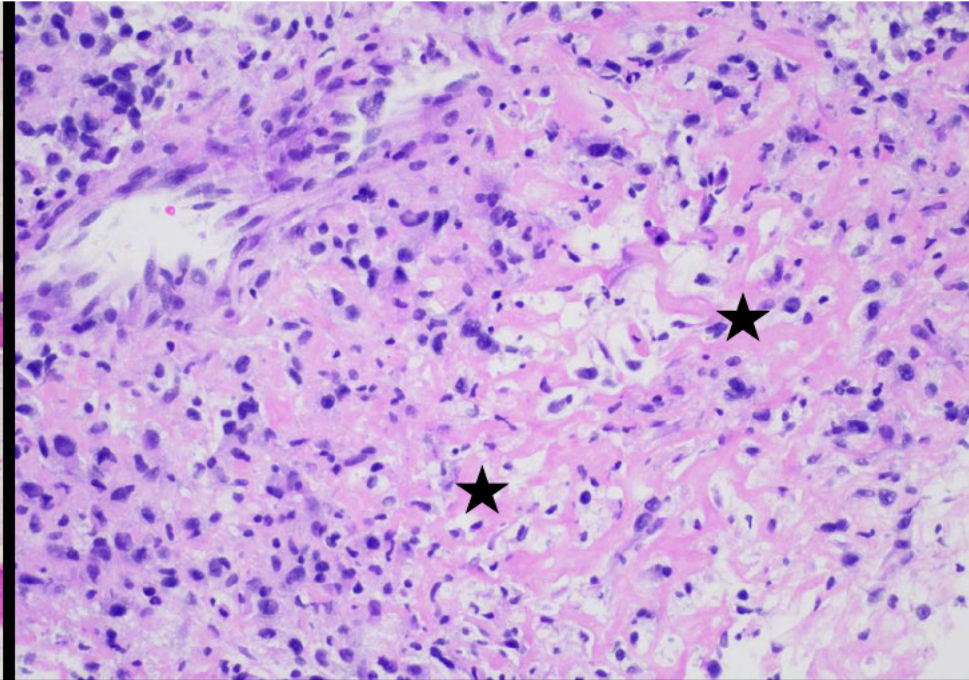
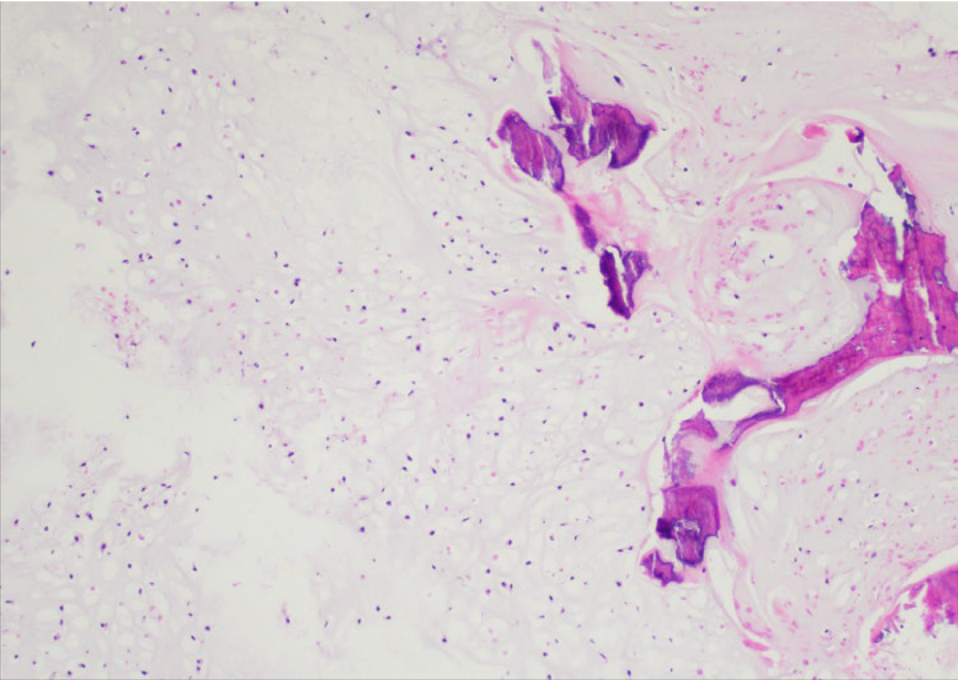
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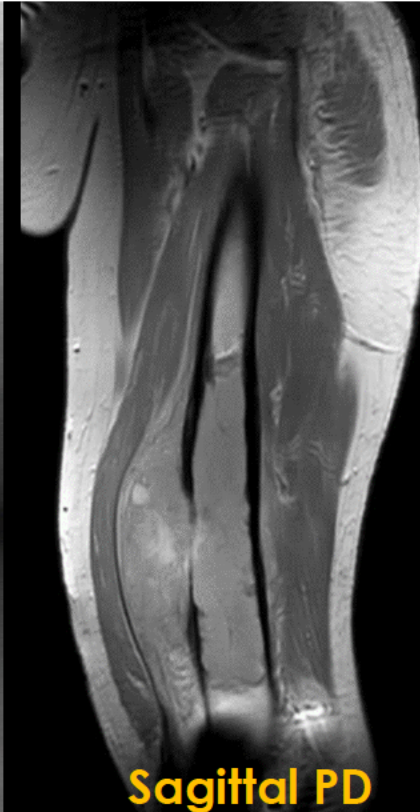
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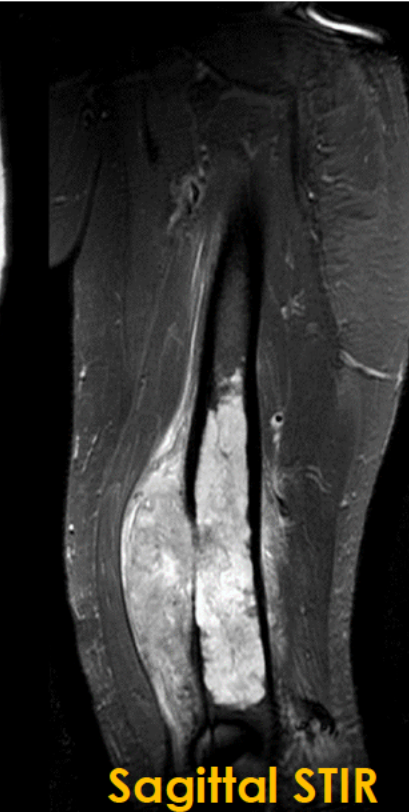




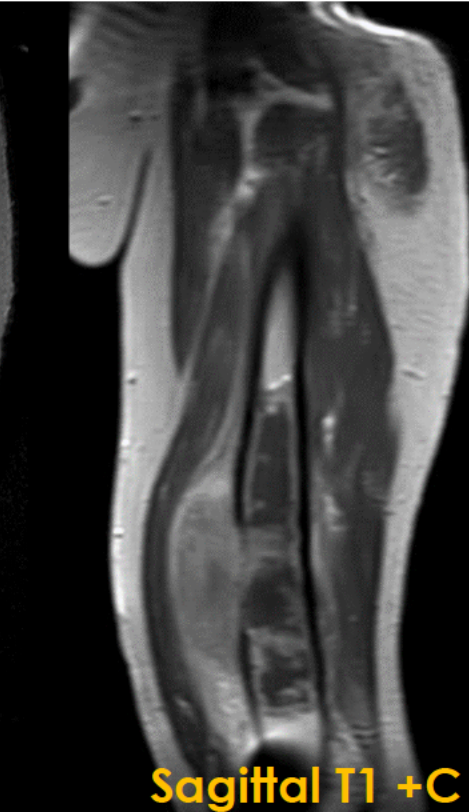




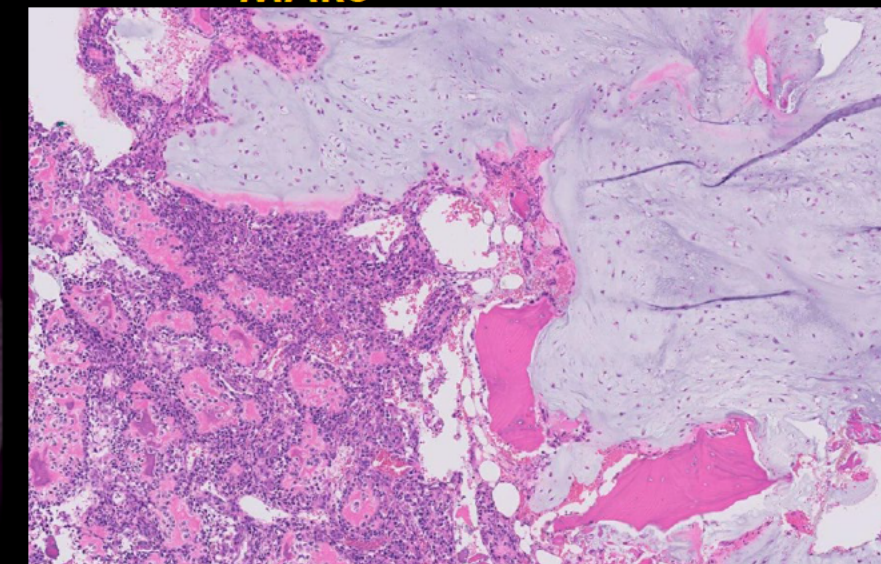
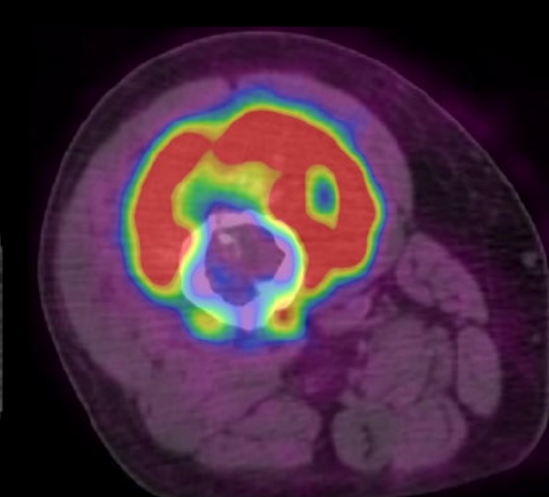
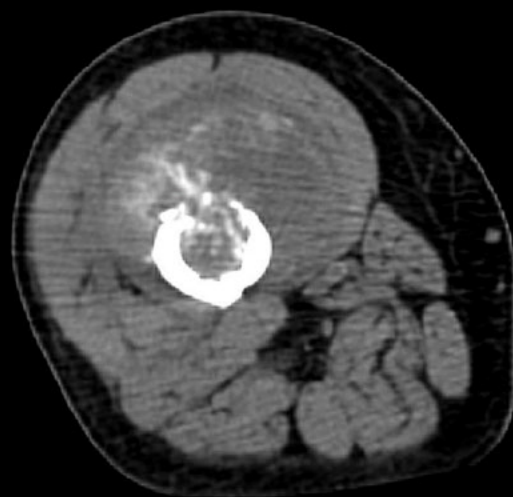
Sagittal PD
MARS



Sagittal STIR
MARS



Sagittal T1 +C
MARS



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DEDIFFERENTIATED CHONDROSARCOMA

Dr. Kapil Wattamwar
Montefiore Diagnostic
Radiology Residency
Bronx, NY

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Gastrointestinal Best Case



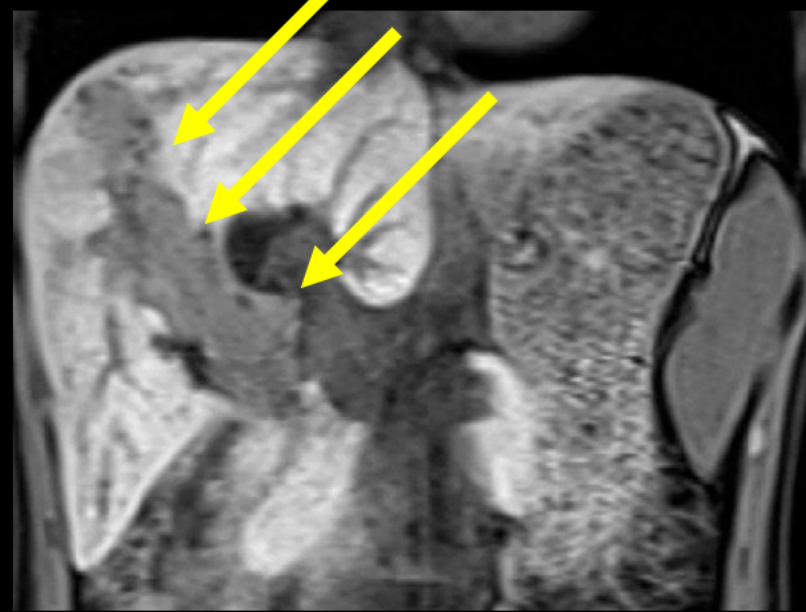
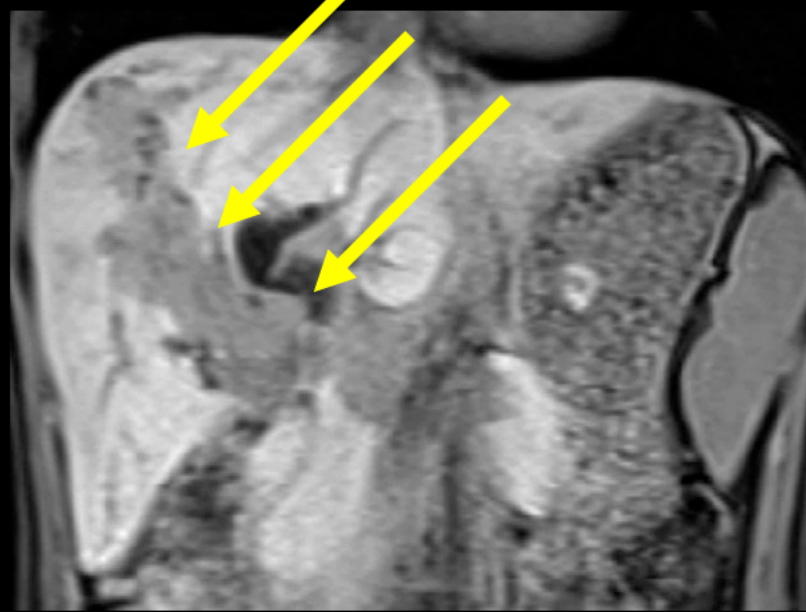
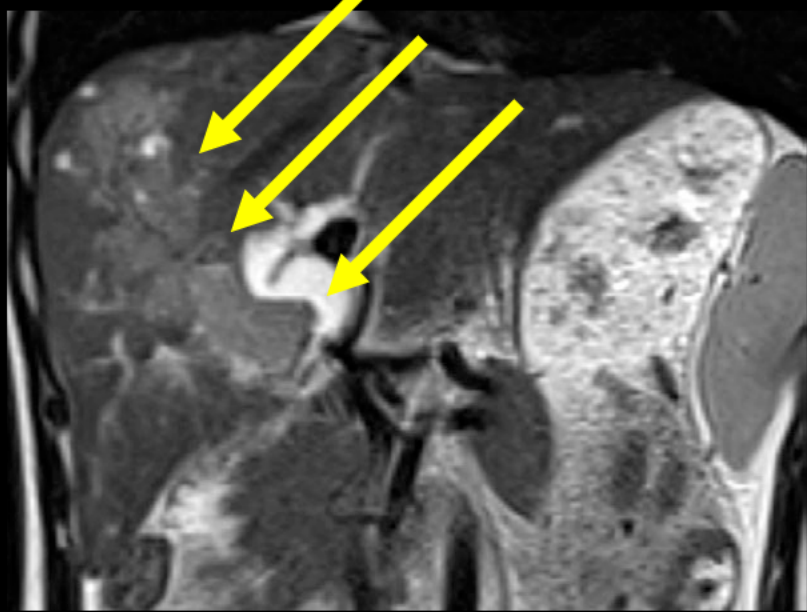
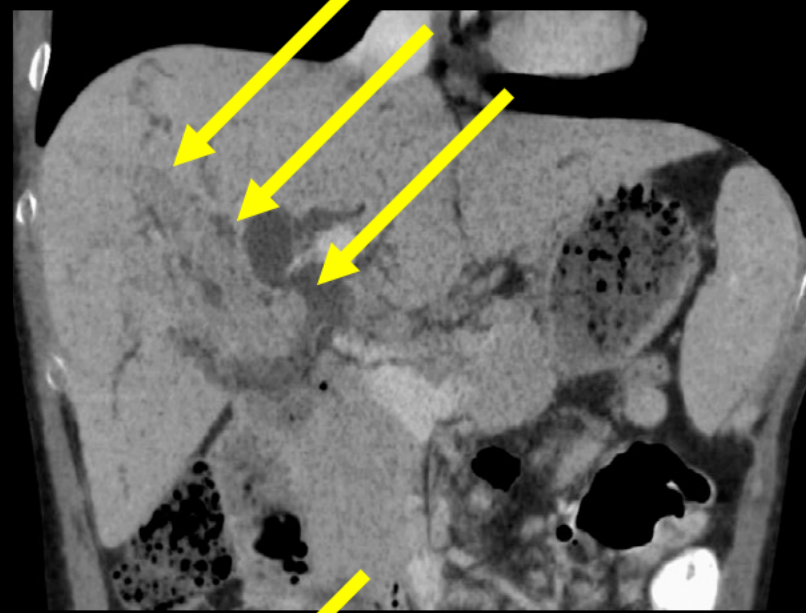
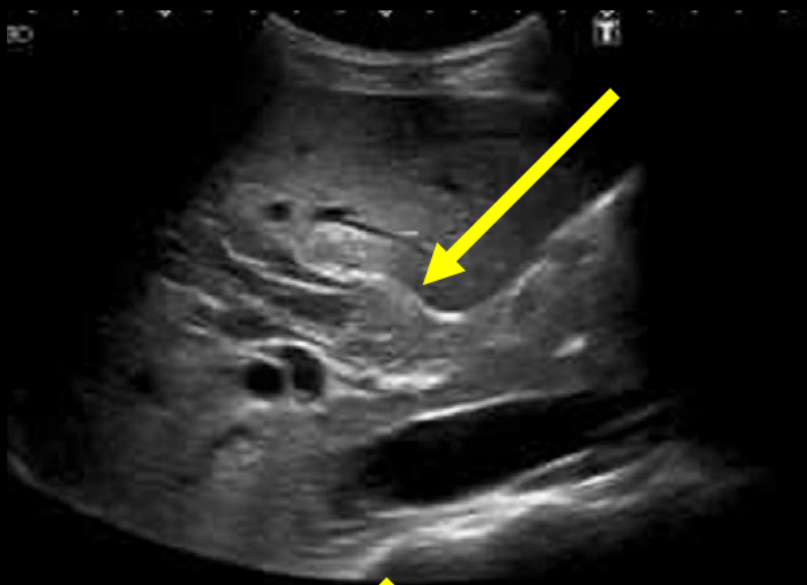
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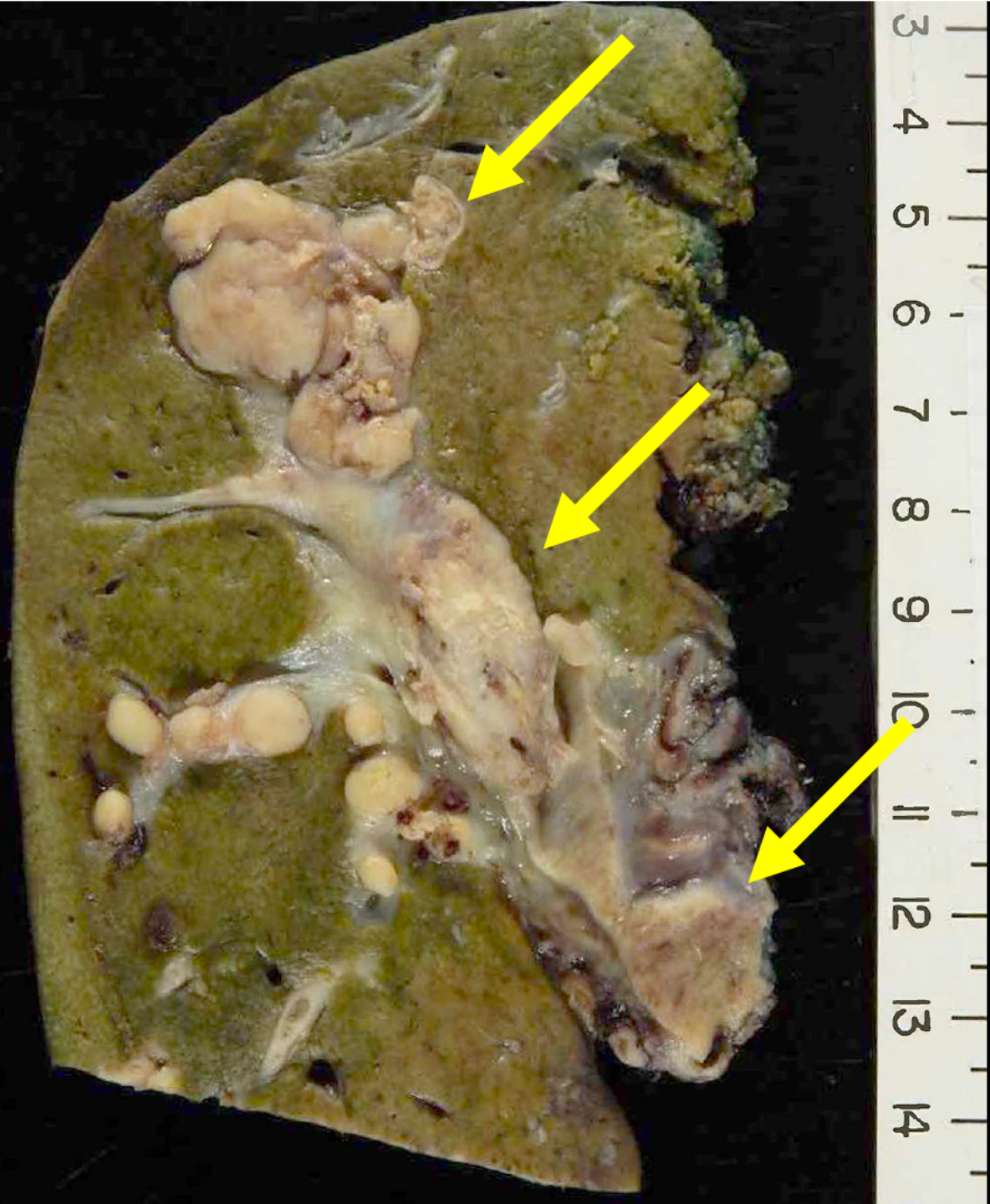
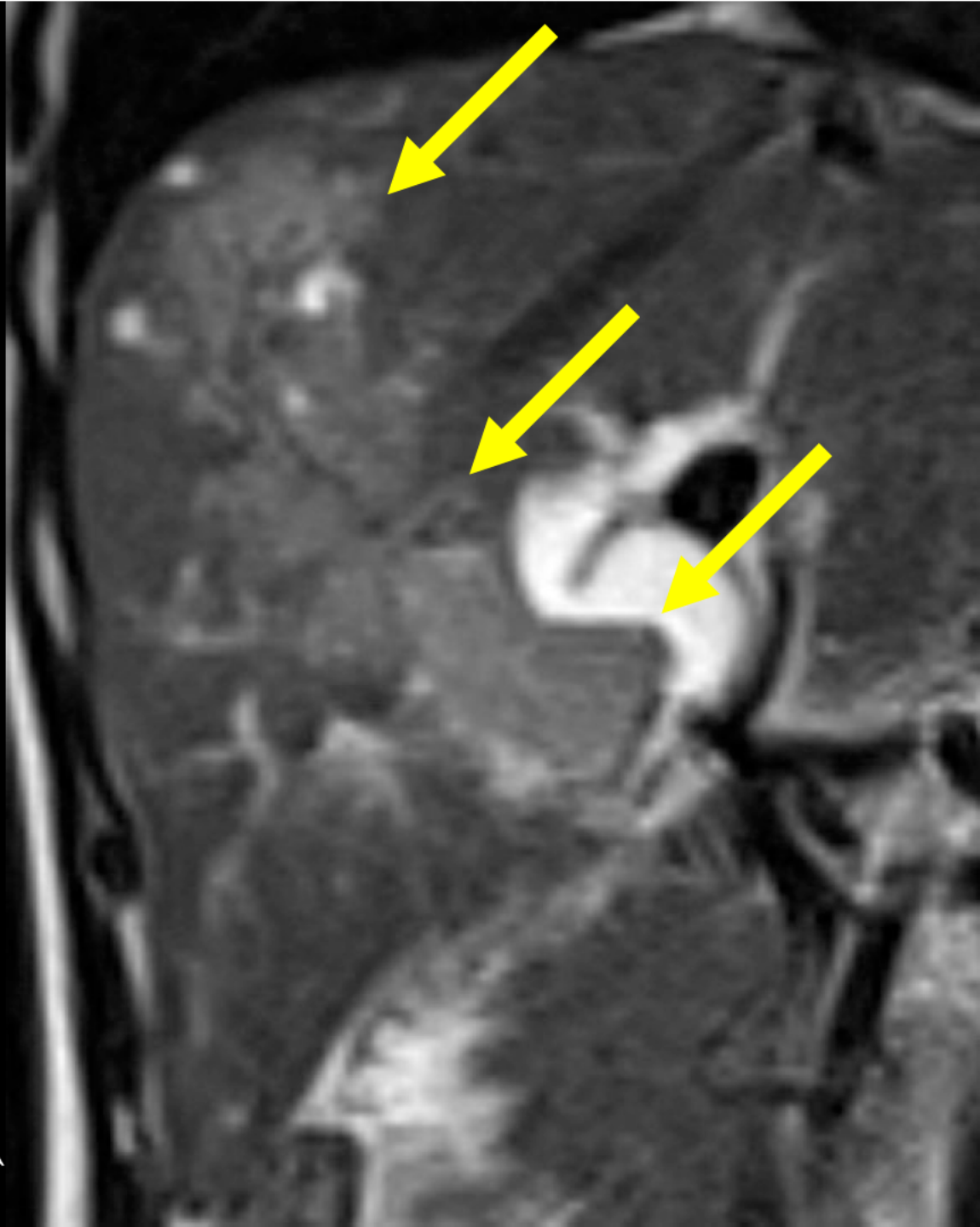
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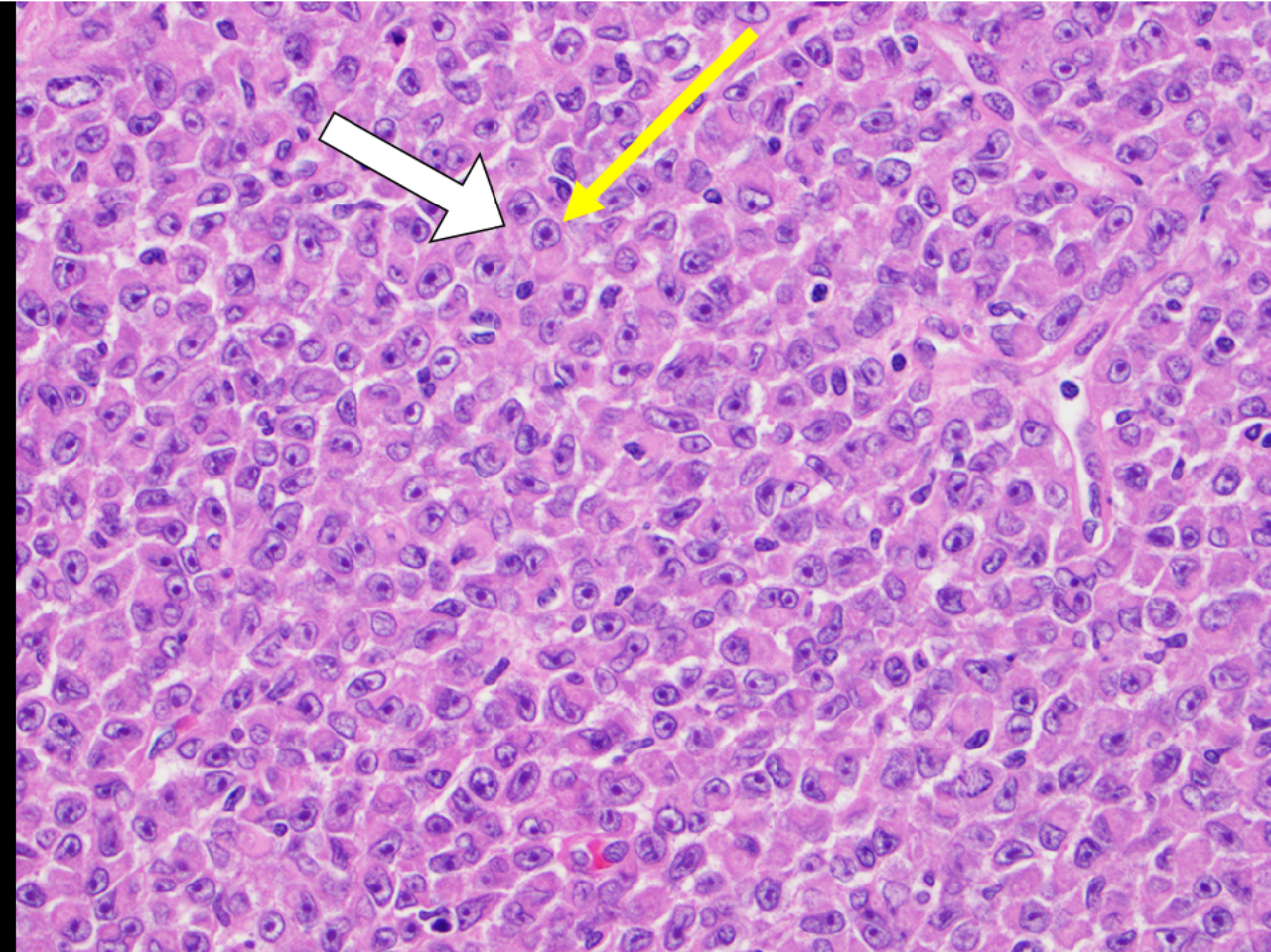
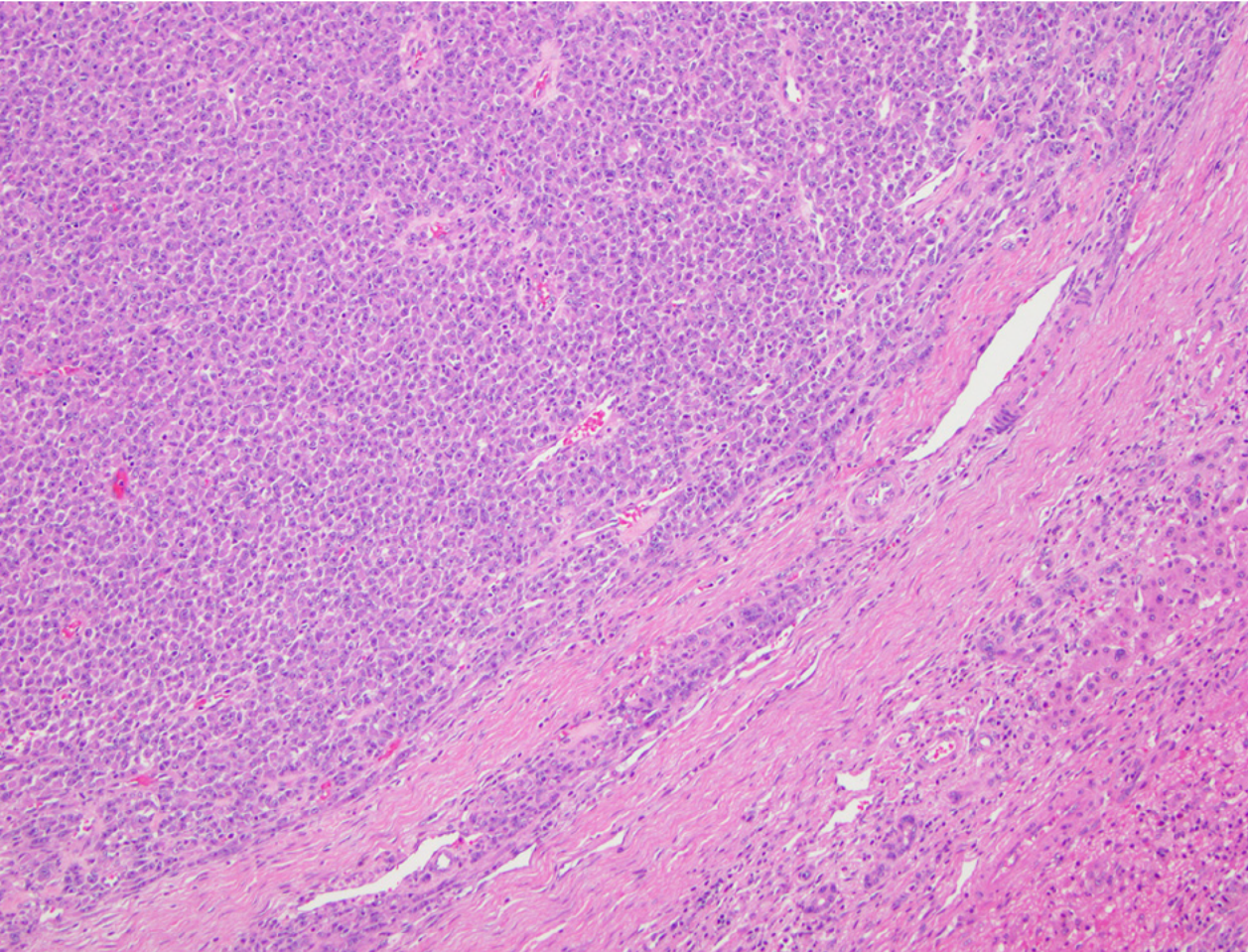
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Clinical information

19-year-old previously healthy female with progressive right upper quadrant pain, which persisted following cholecystectomy.







Immunohistochemistry:

(+) vimentin

(-) nuclear INI1 (mutation in tumor suppressor gene hSNF5/INI-1)

CD34, AE1/3, S100, desmin

Malignant Rhabdoid Tumor in the Adult Liver

Andrew McCurry
University of Florida
Gainesville, FL

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Neuroradiology Best Case



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Clinical Information

58-year-old female with history of Cowden syndrome and 6-month history of progressively worsening ataxia and difficulty with arm and leg movement



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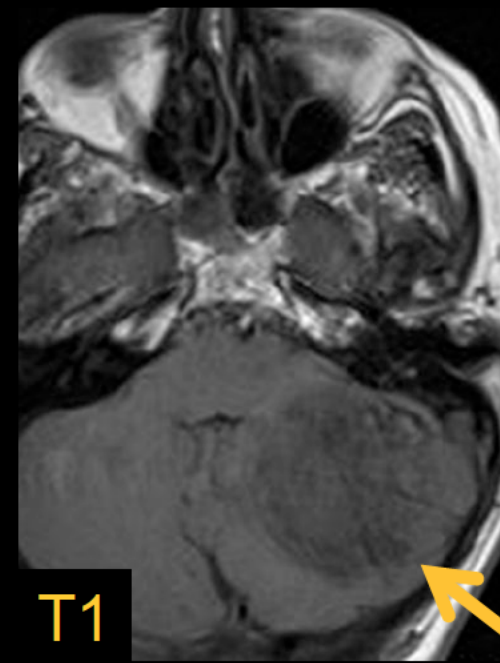
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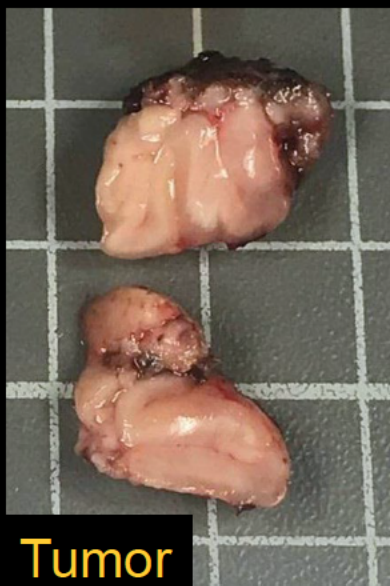
T2



FLAIR



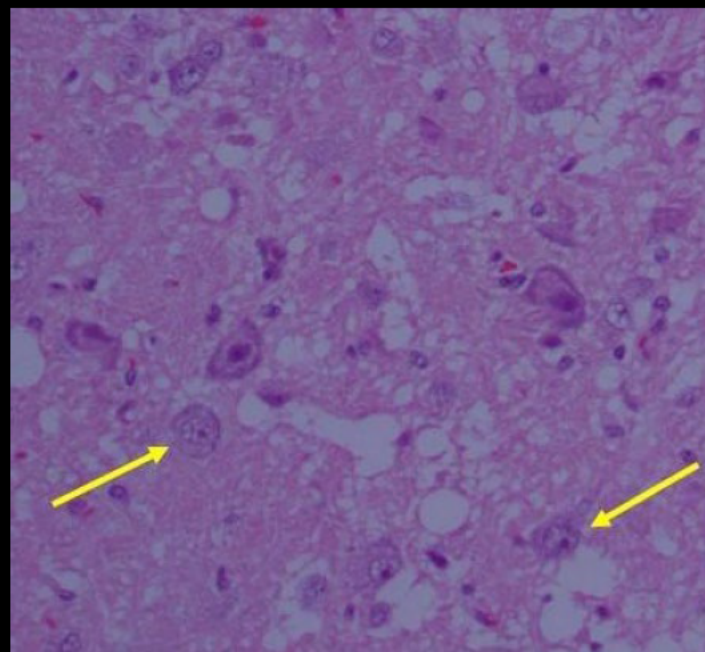
T1



Tumor



Normal



Cerebellar Dysplastic Gangliocytoma (Lhermitte-Duclos Disease)

Adam Orr, M.D.

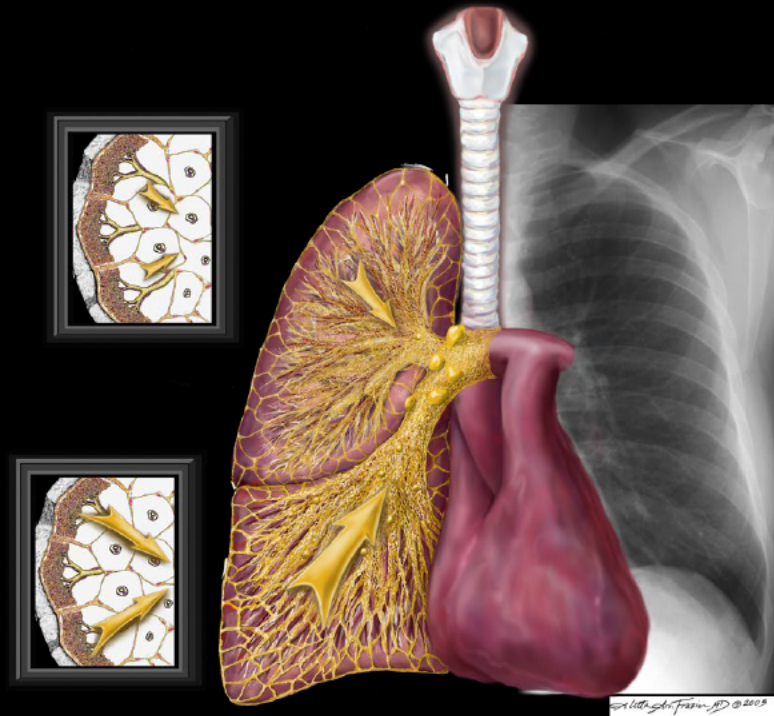
Spectrum Health/Michigan State University
Grand Rapids, Michigan

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Pulmonary and Mediastinal Best Case



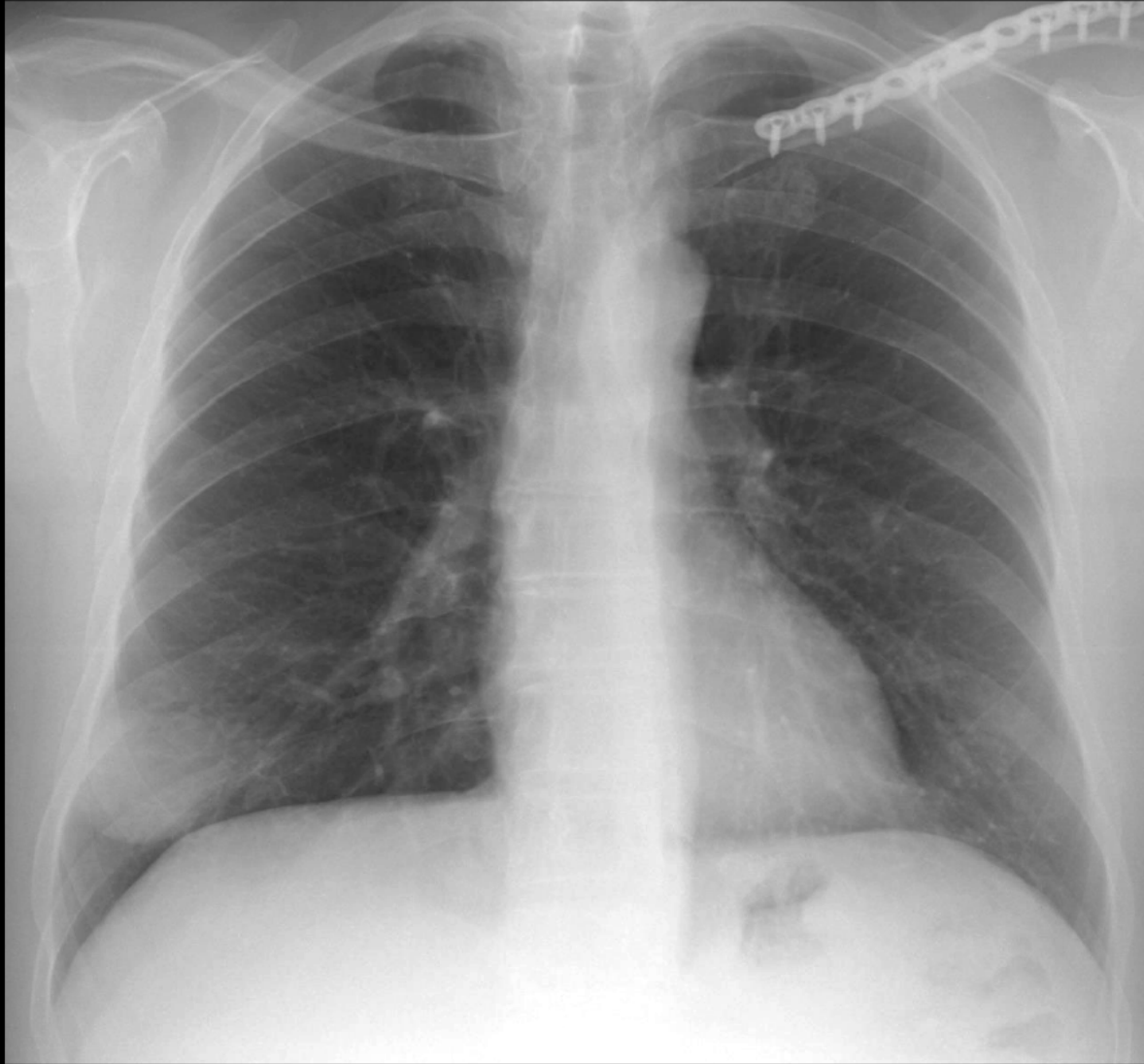
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Clinical information

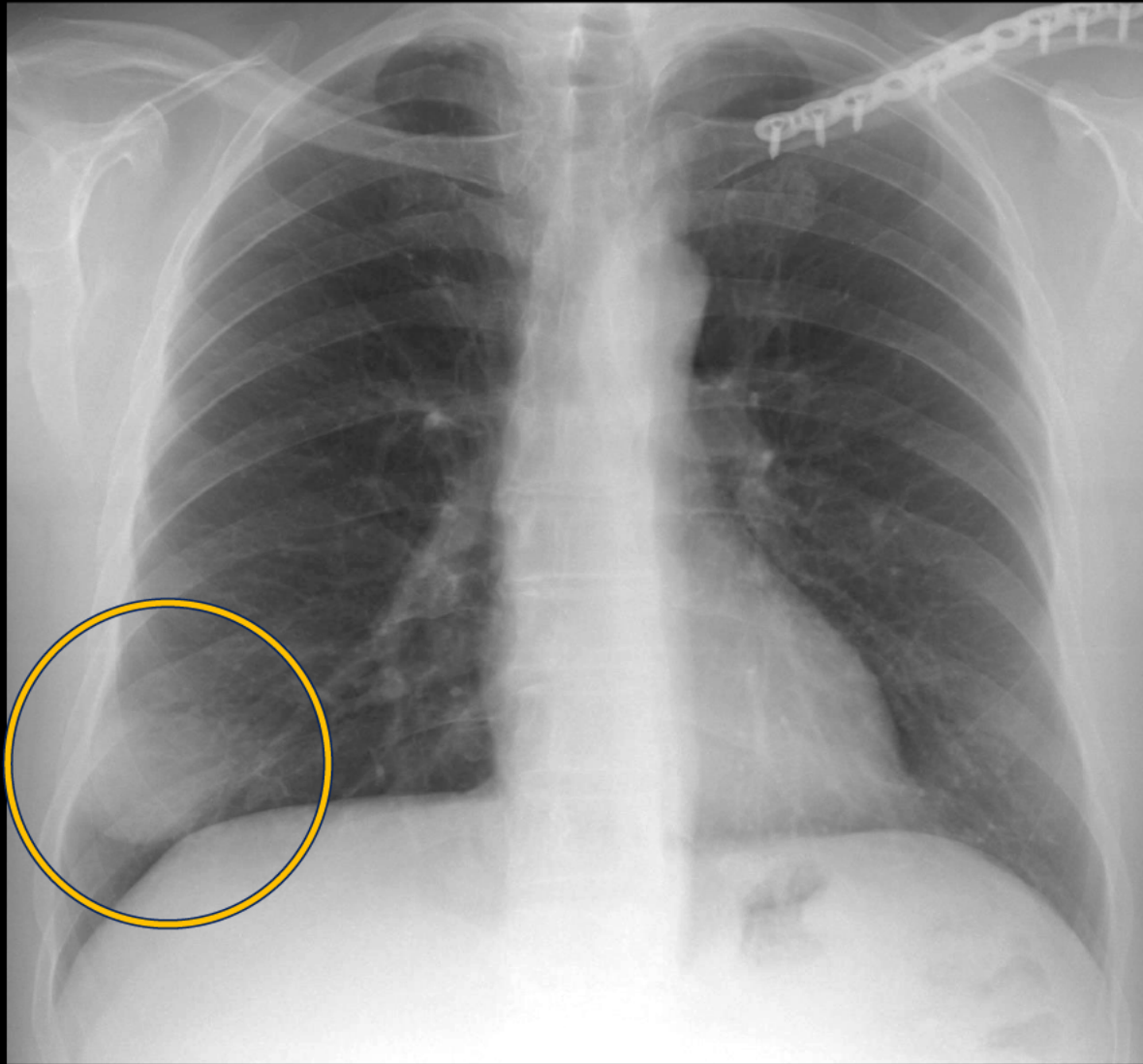
61-year-old male with four-week history of right-sided chest pain and hemoptysis.



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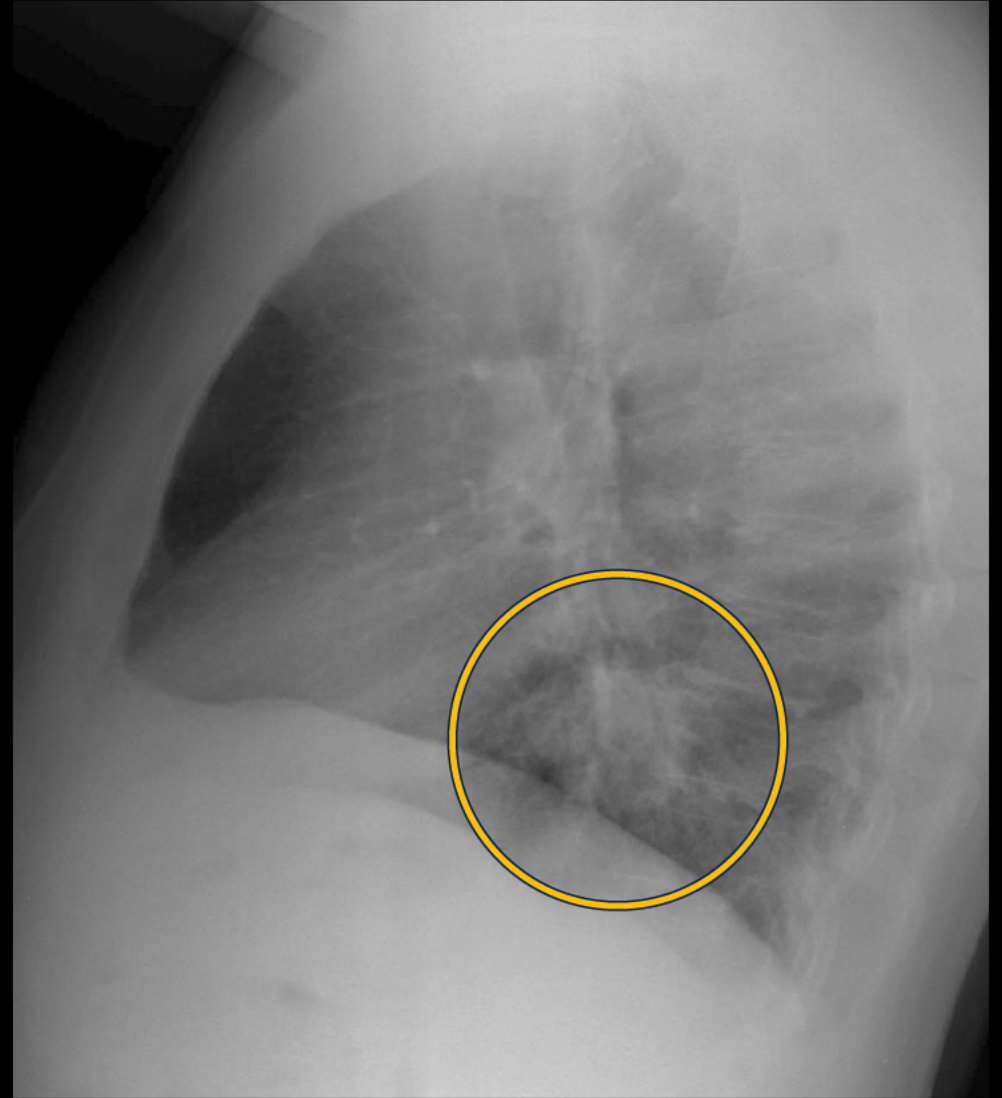
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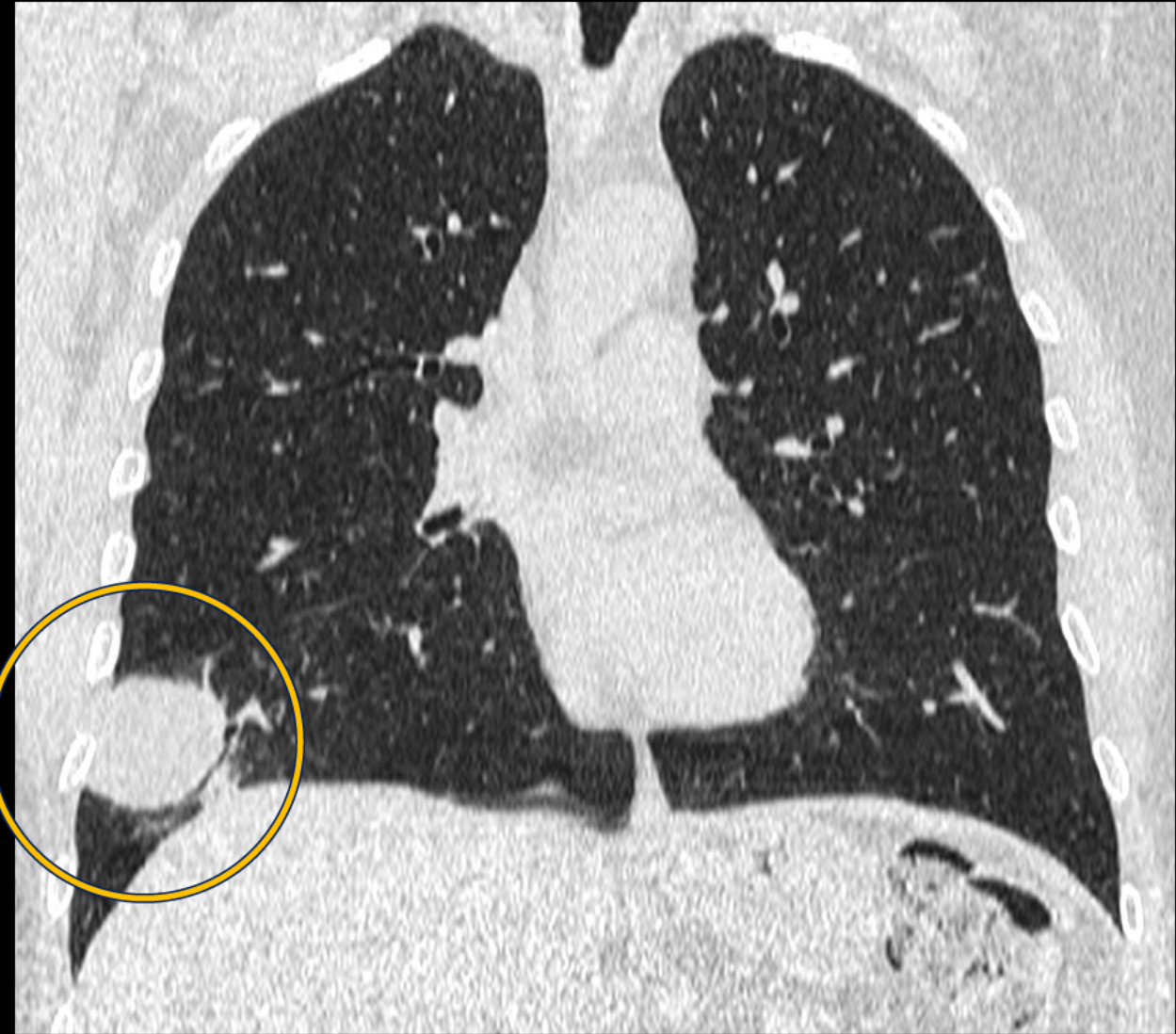
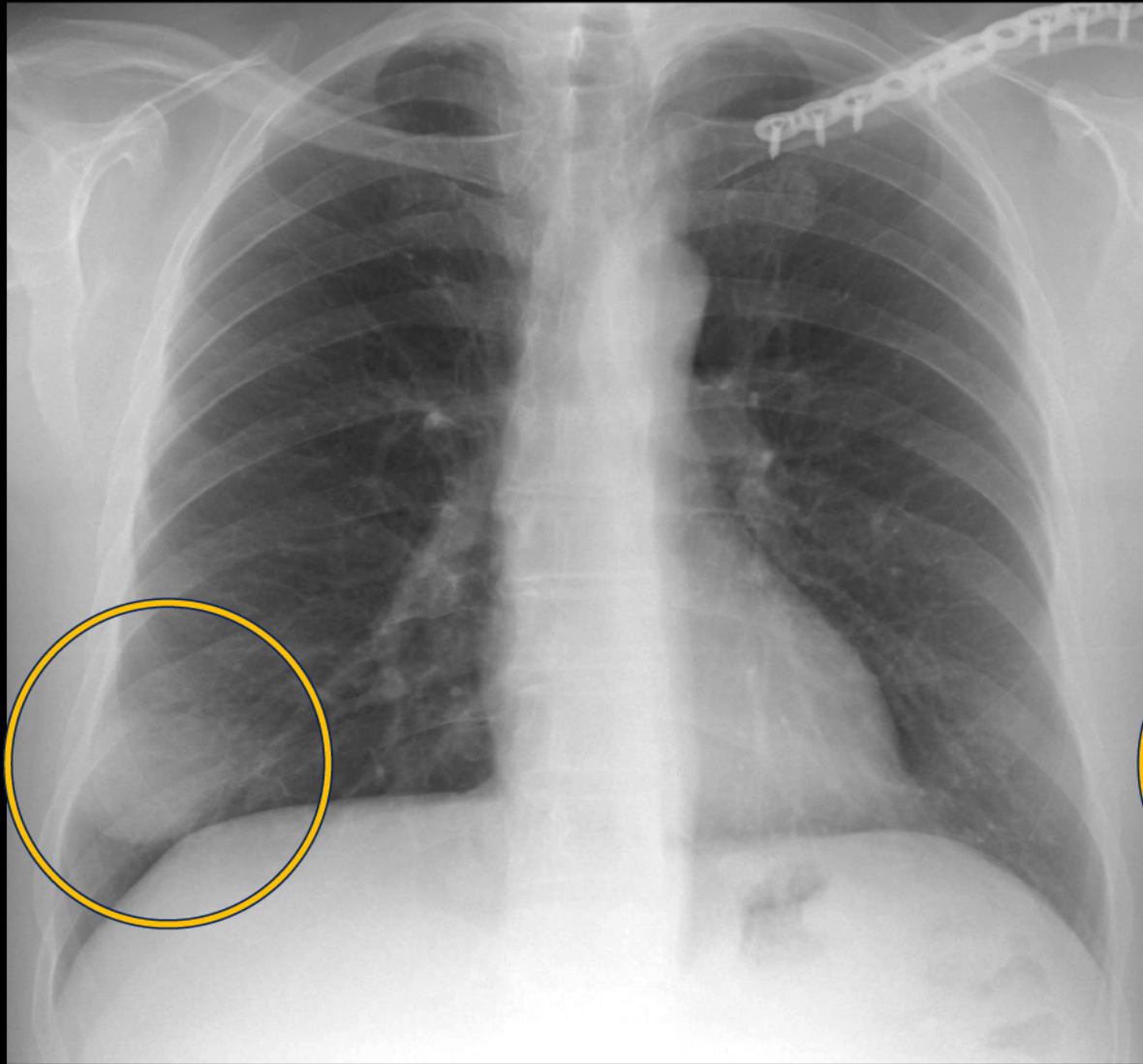




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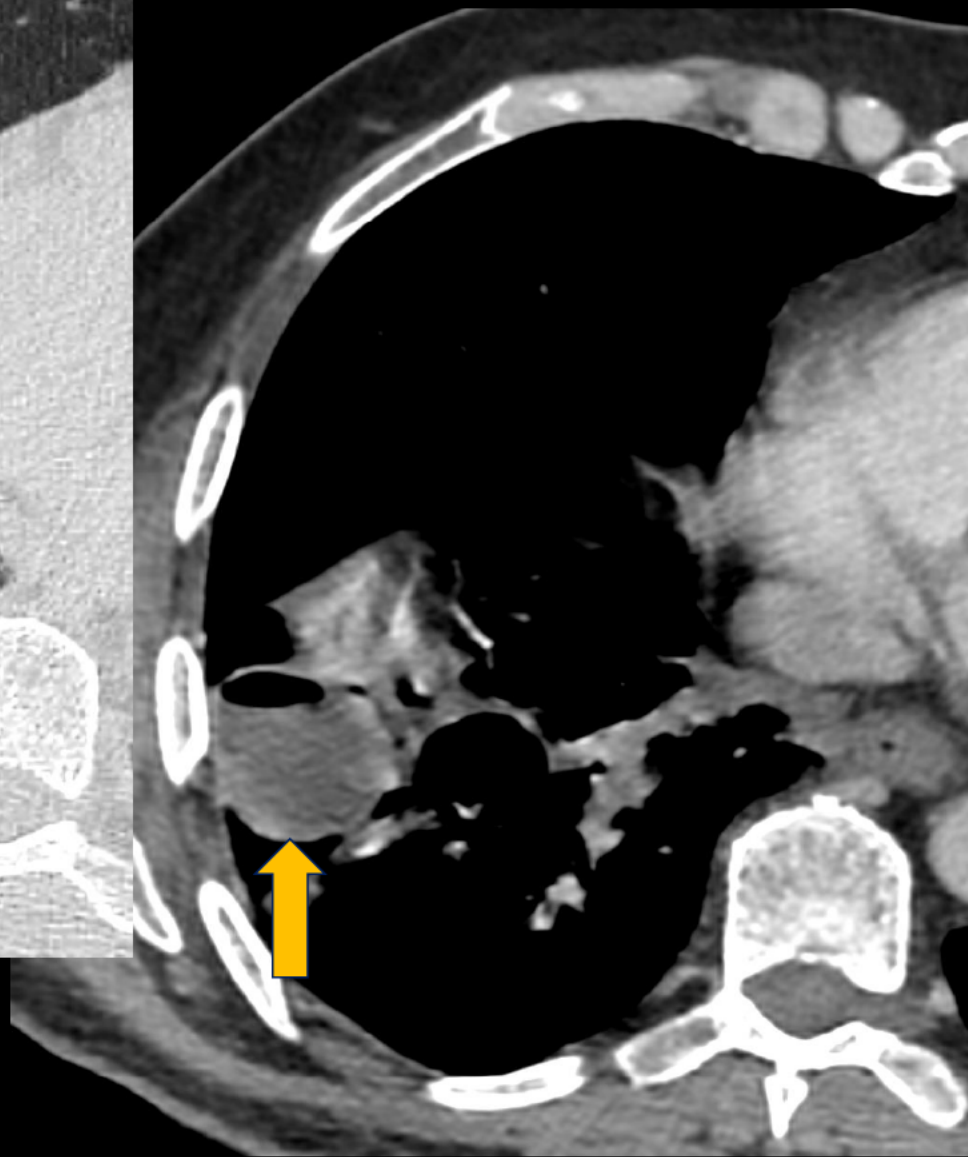
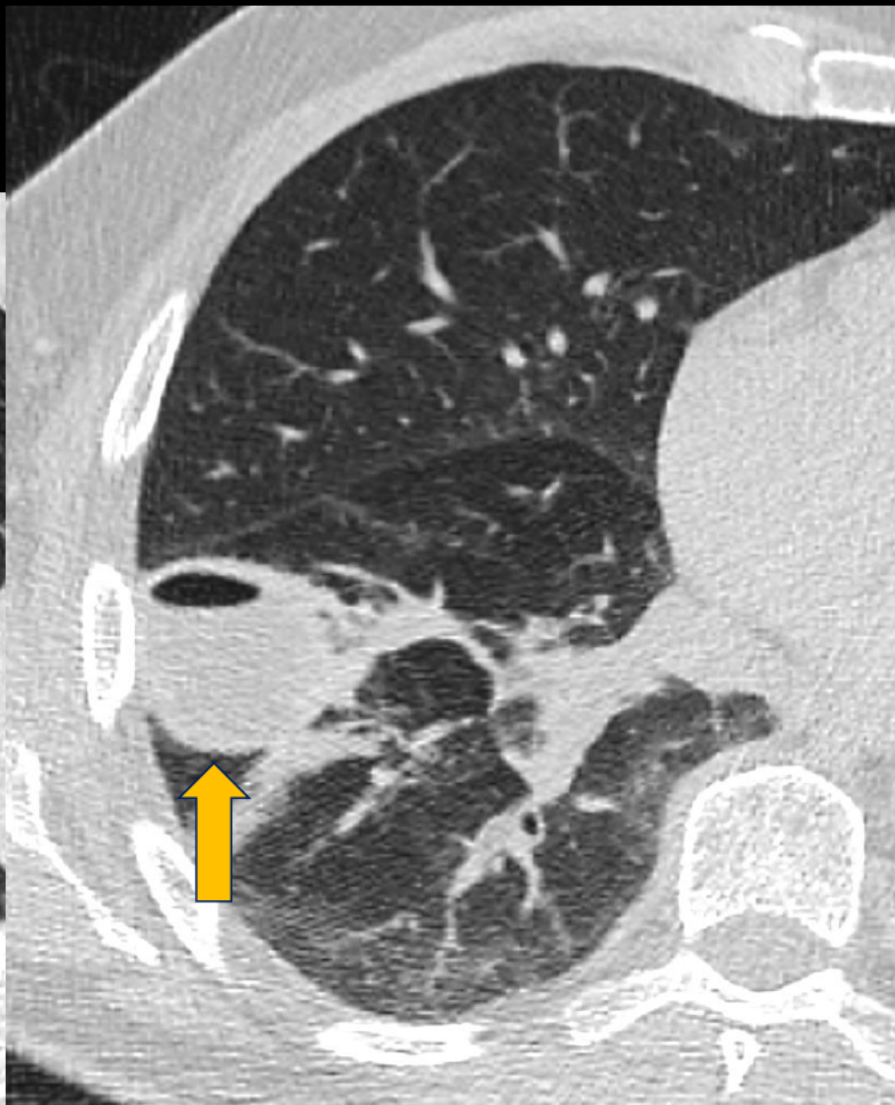
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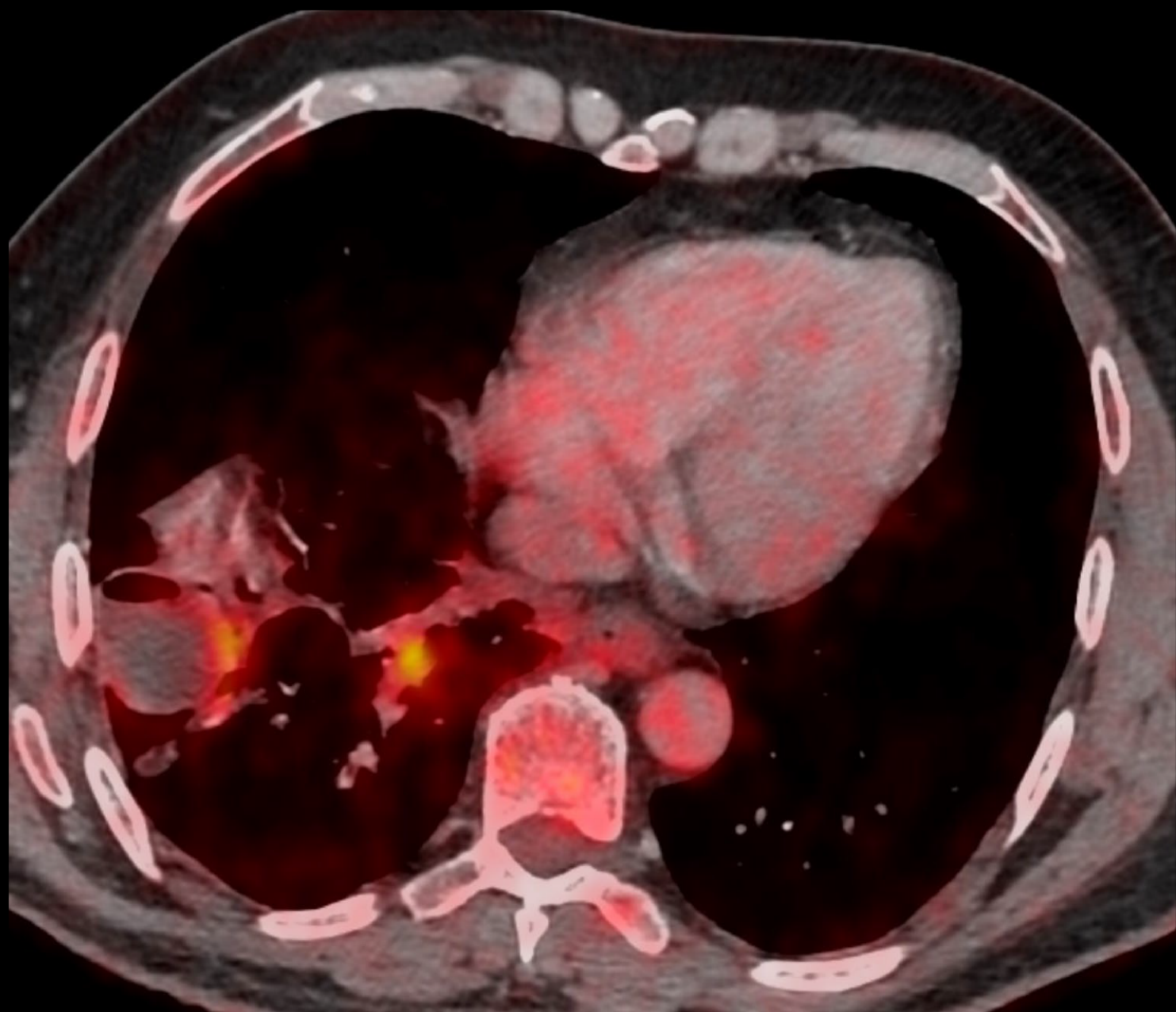


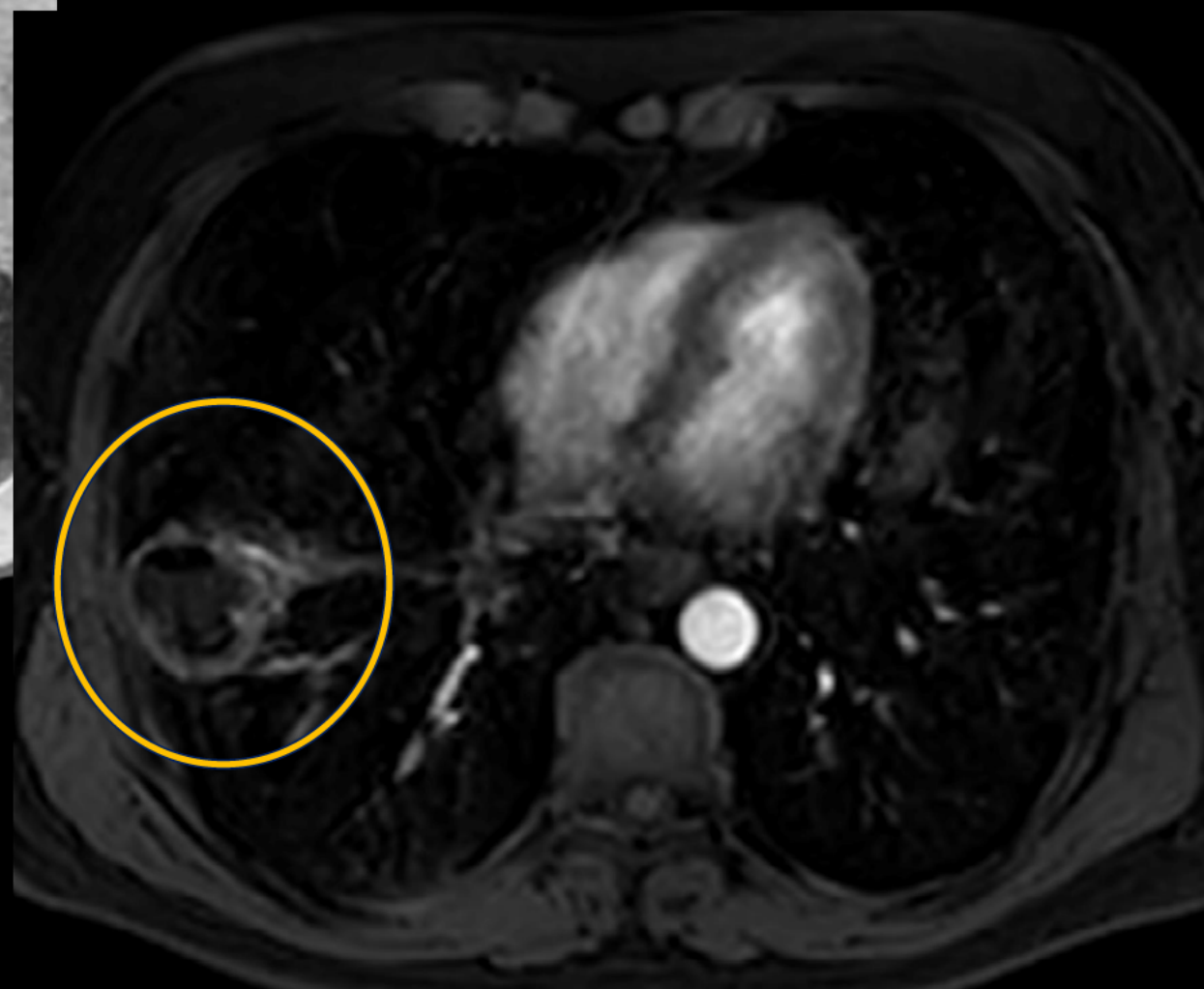
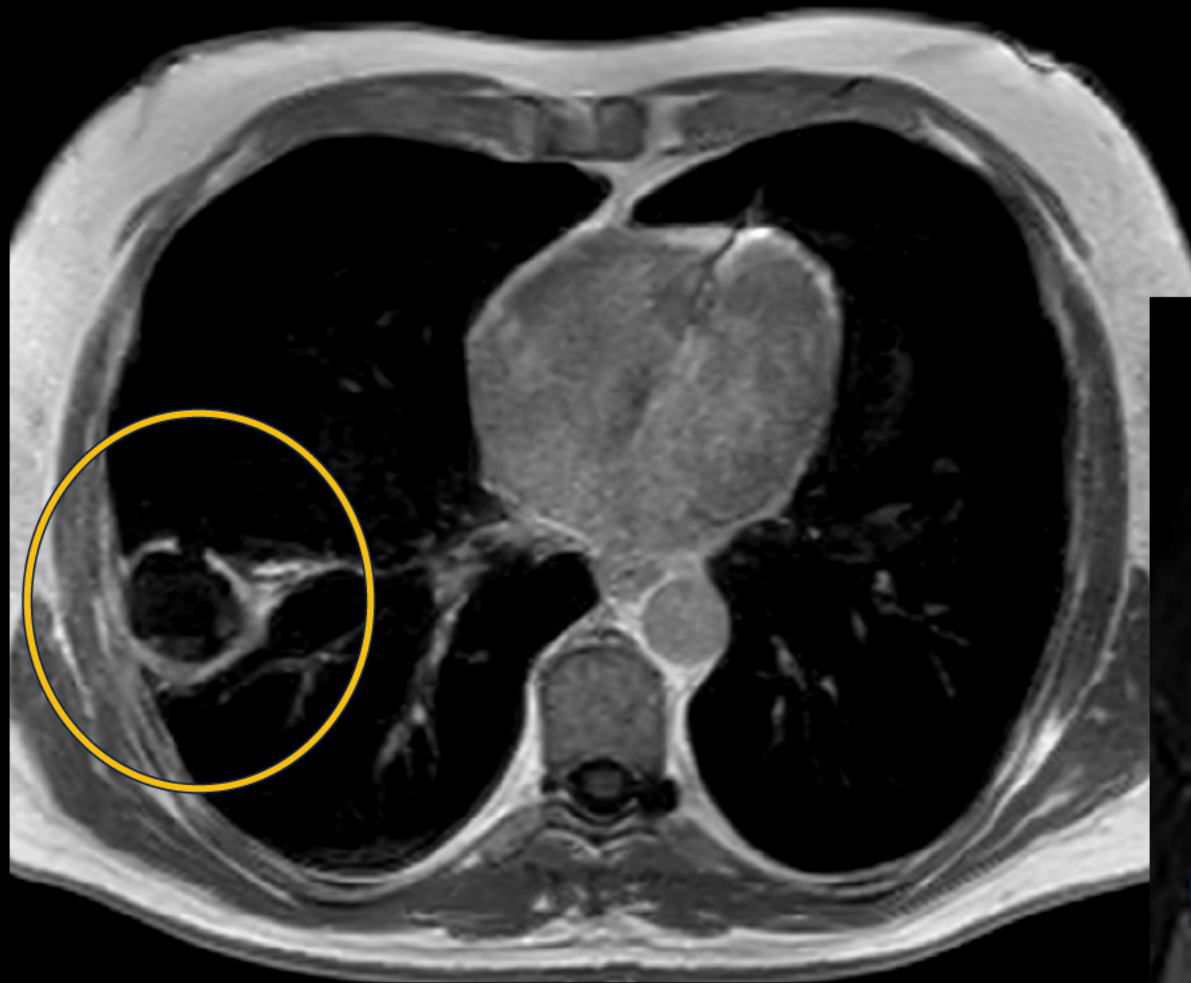


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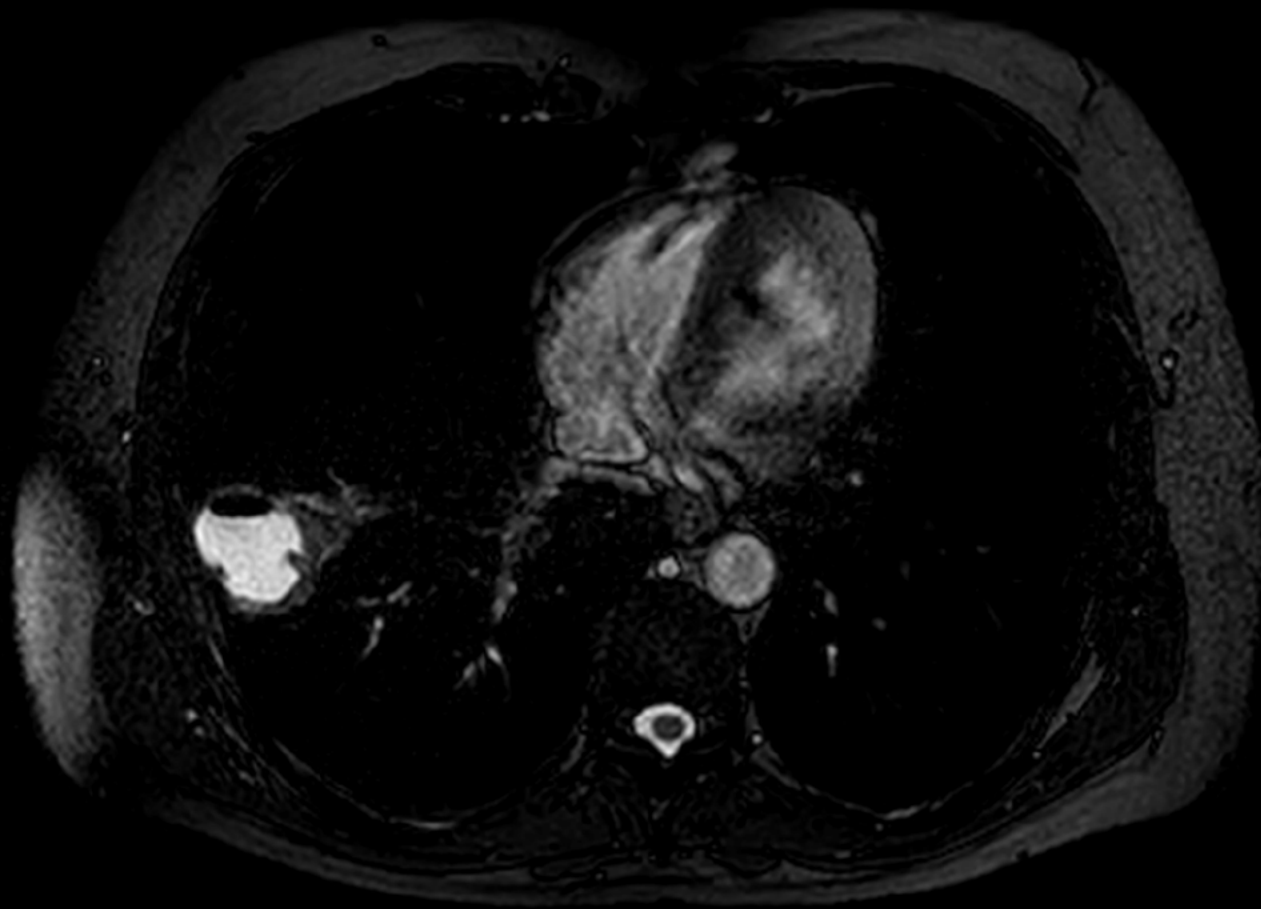
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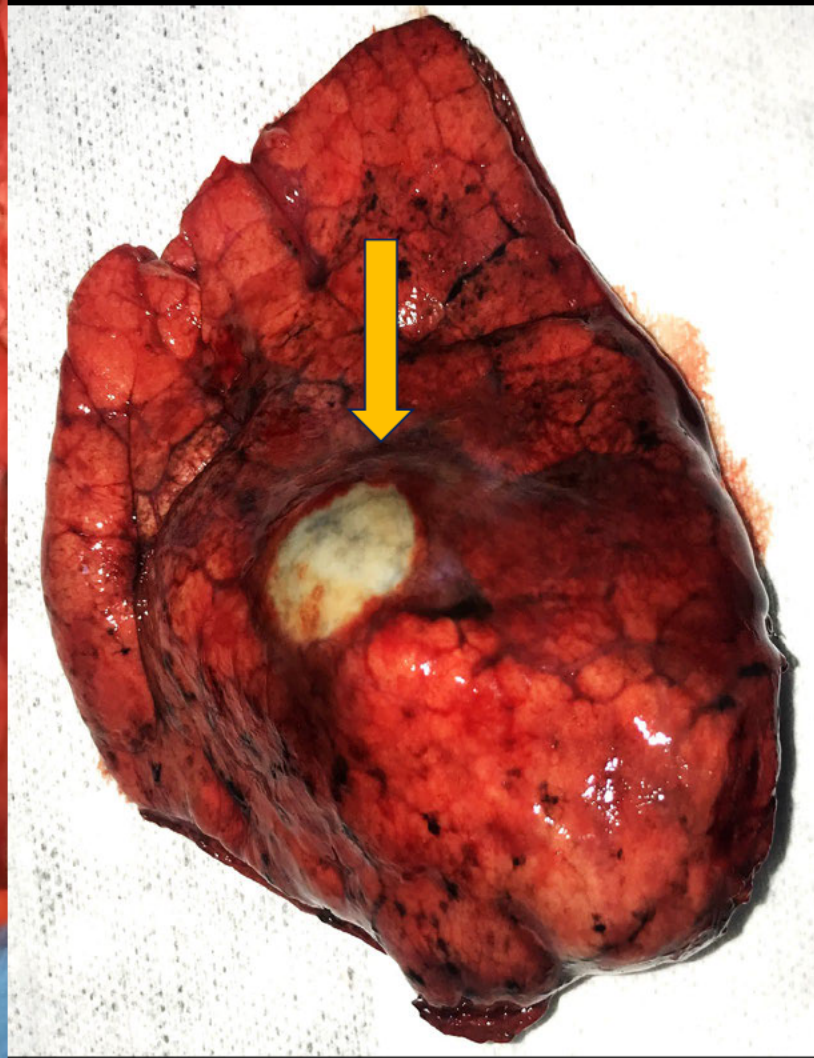
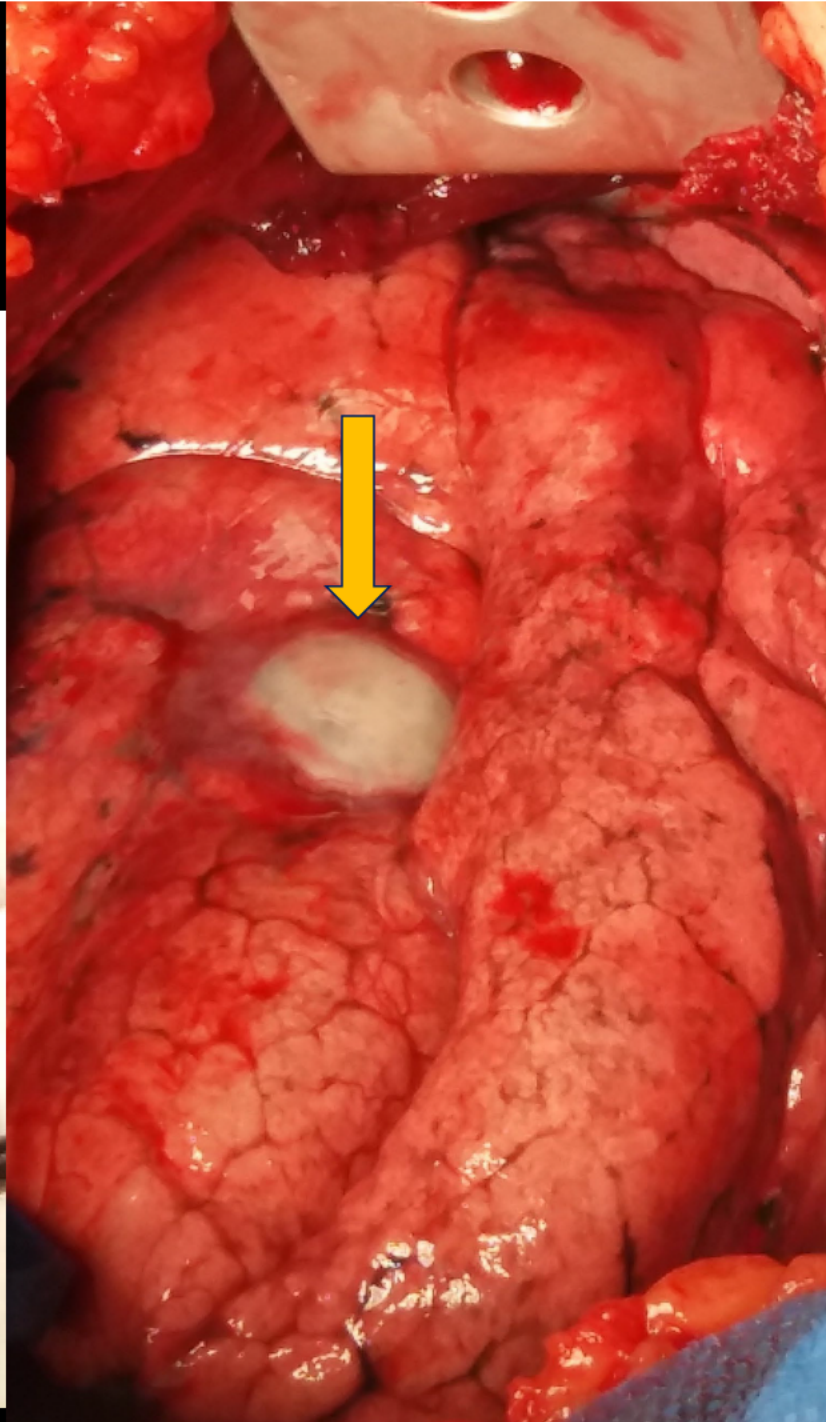
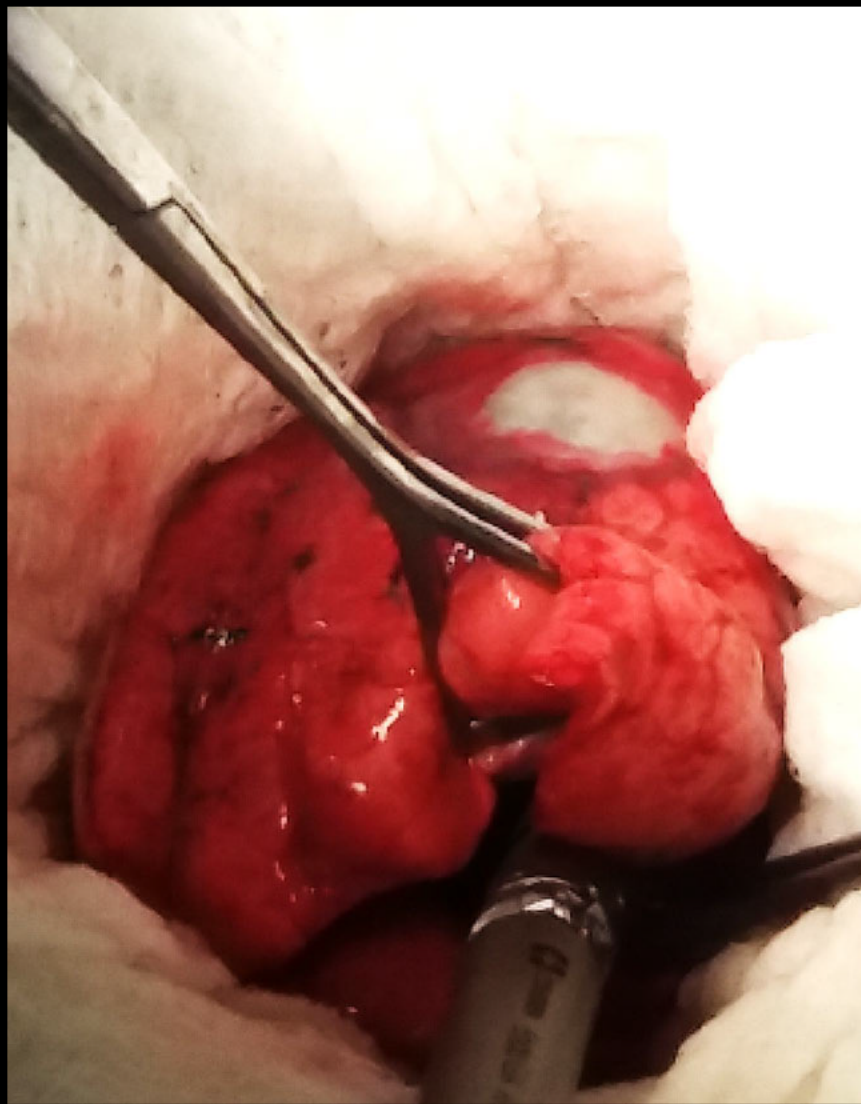
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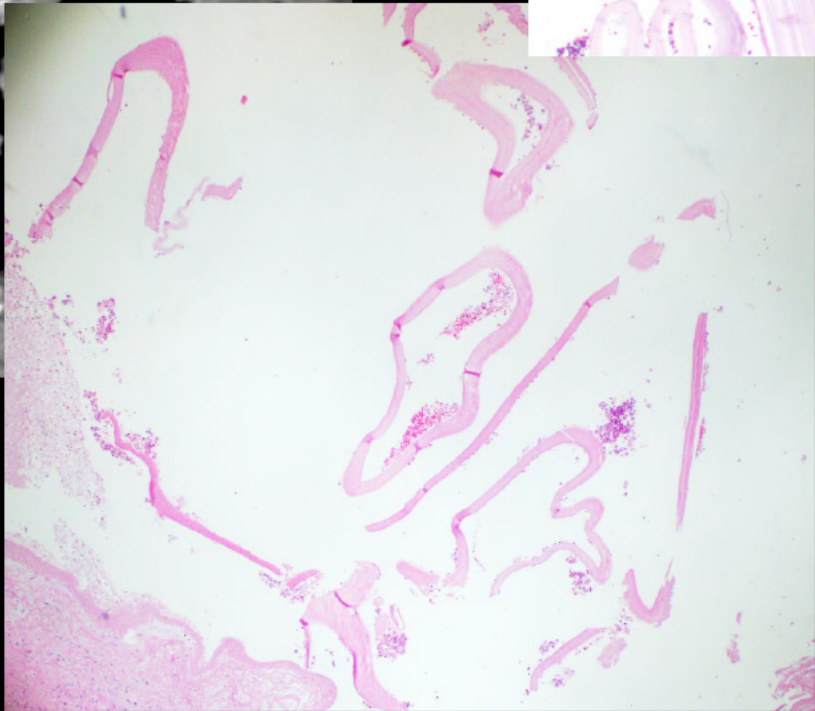
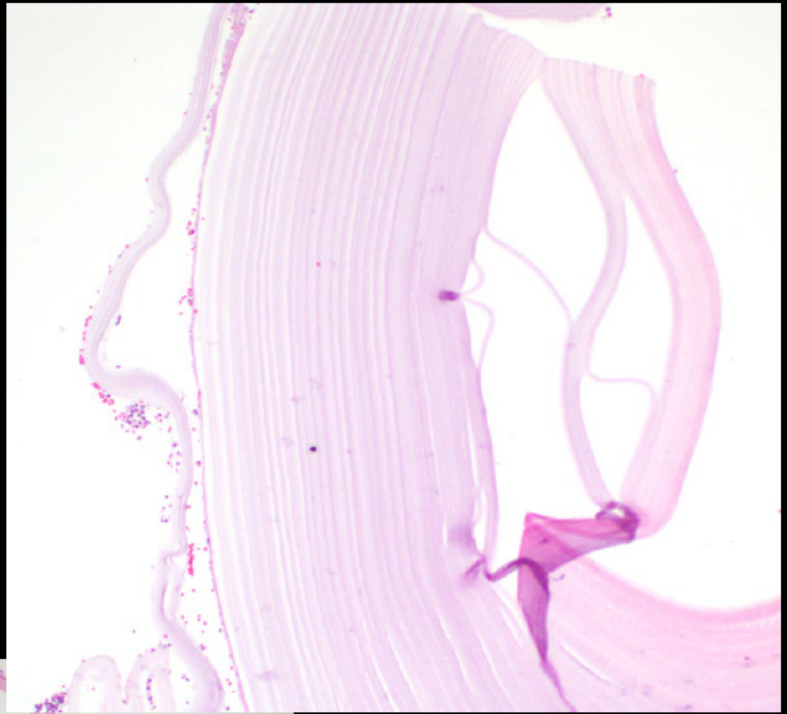
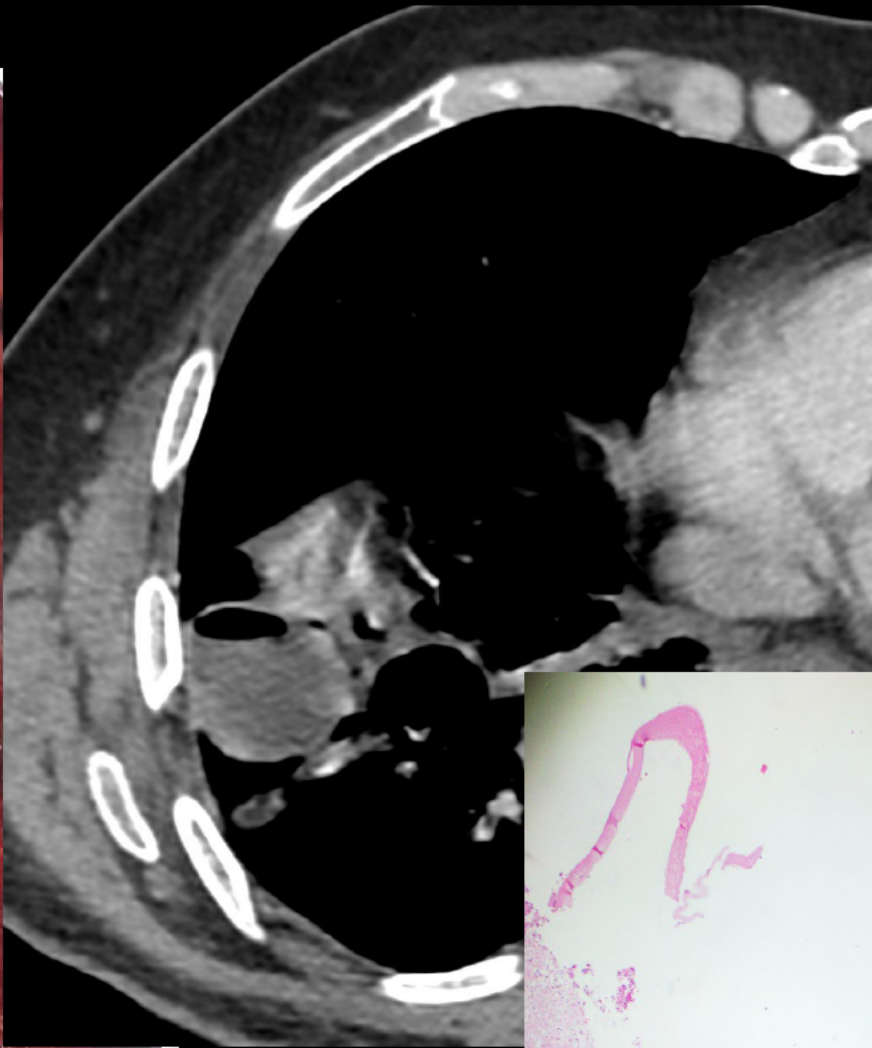
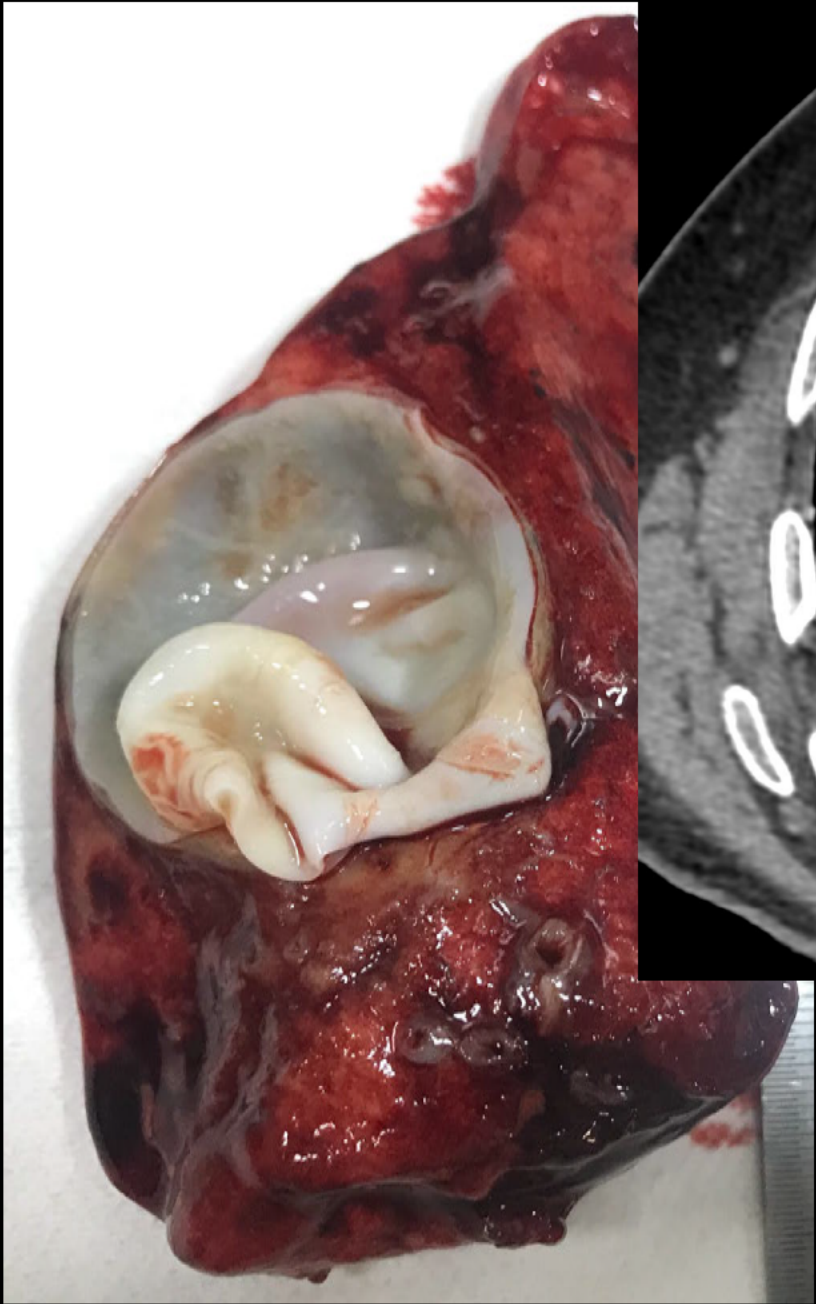


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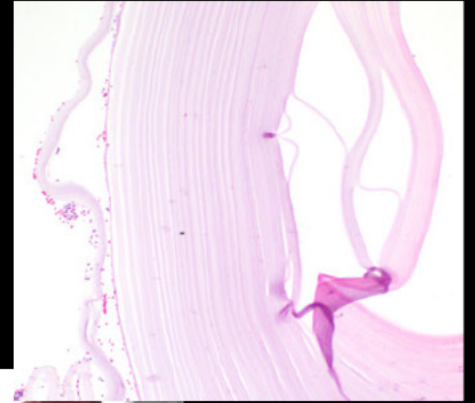


Echinococcal Hydatid Cyst

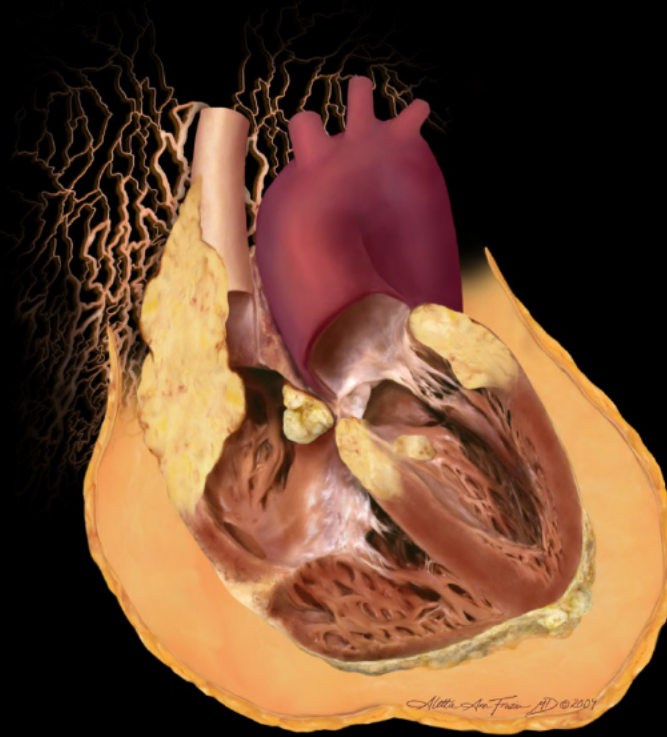
Felipe Belmar, MD
Clínica Dávila
Santiago, Chile

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Cardiovascular Best Case



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Clinical information

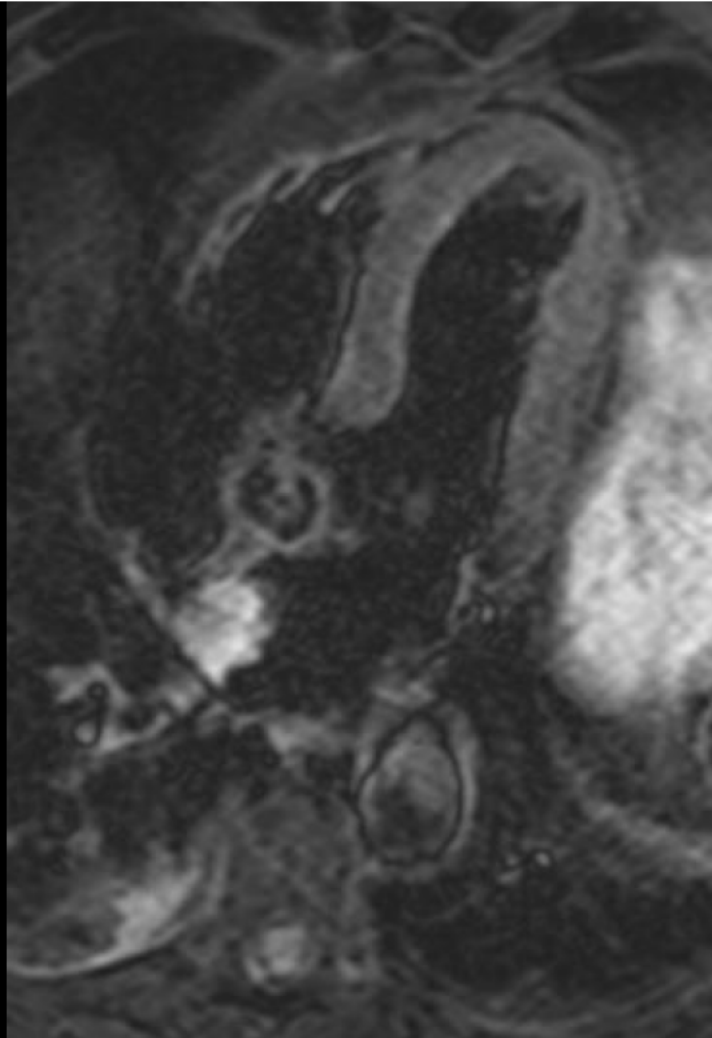
72 year old man with multiple strokes.

An axial CT scan of the chest at the level of the main bronchi. The heart is centrally located, with the right and left ventricles visible. The lungs are on either side, showing some peripheral opacities. The spine is visible posteriorly.

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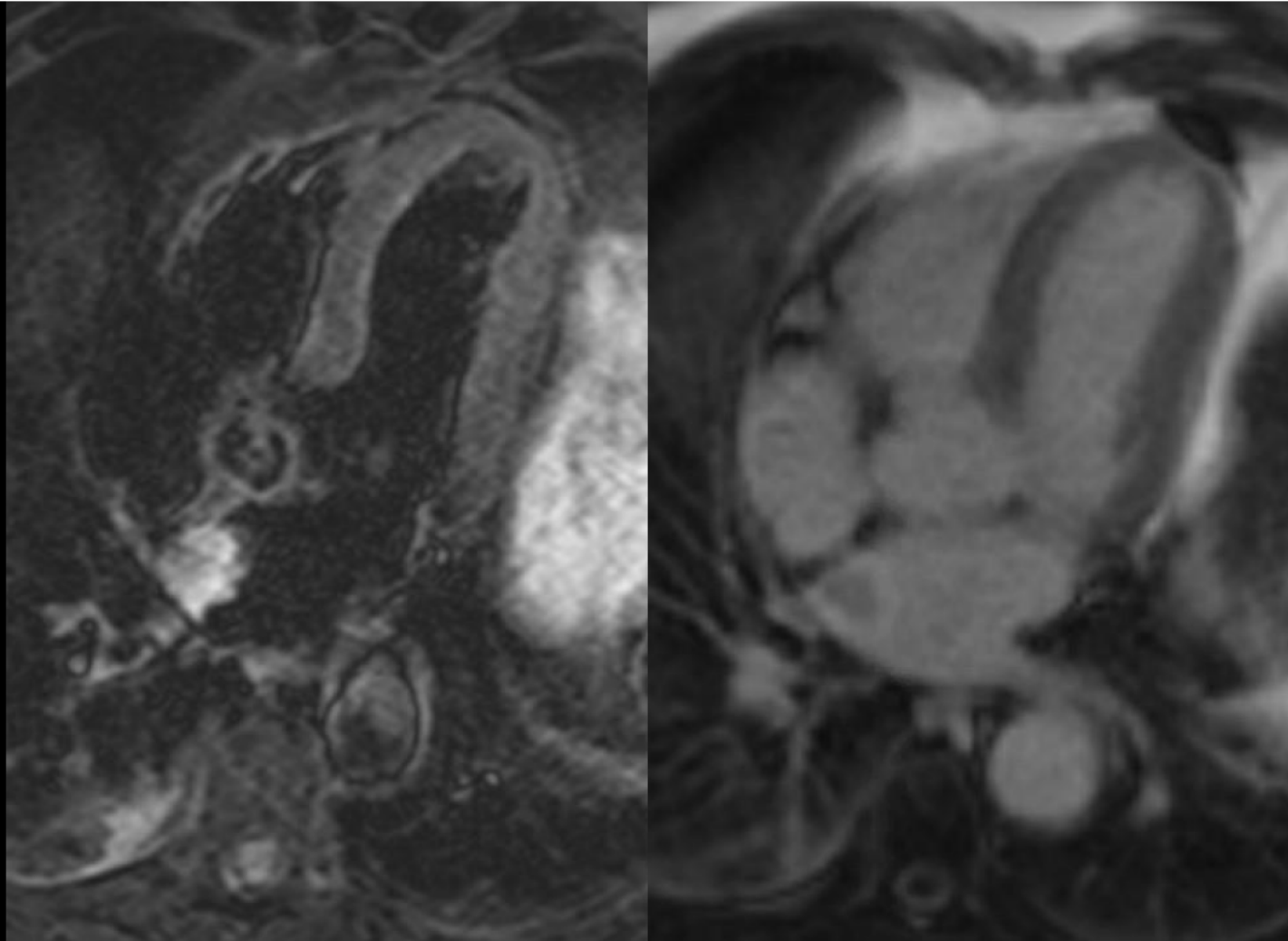
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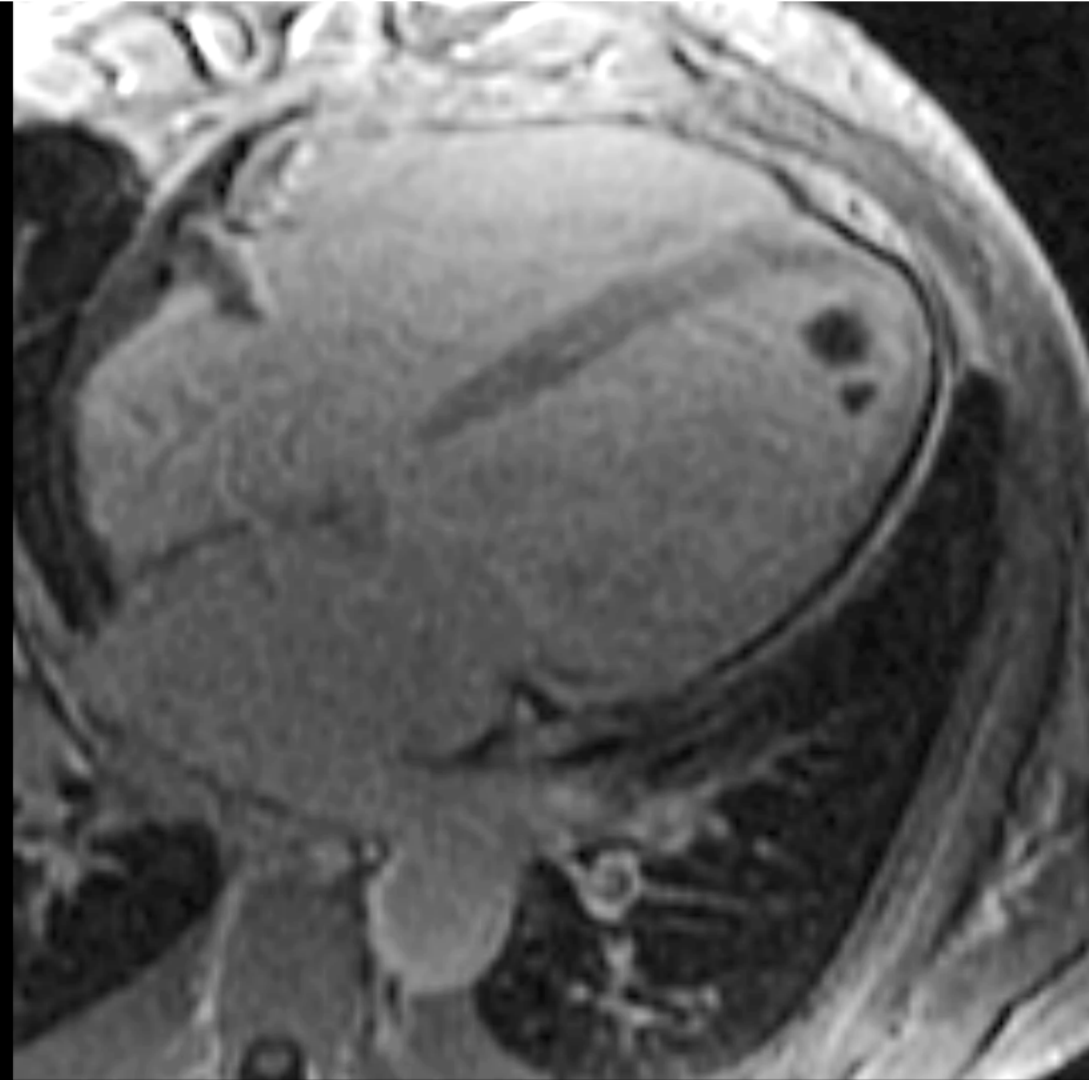
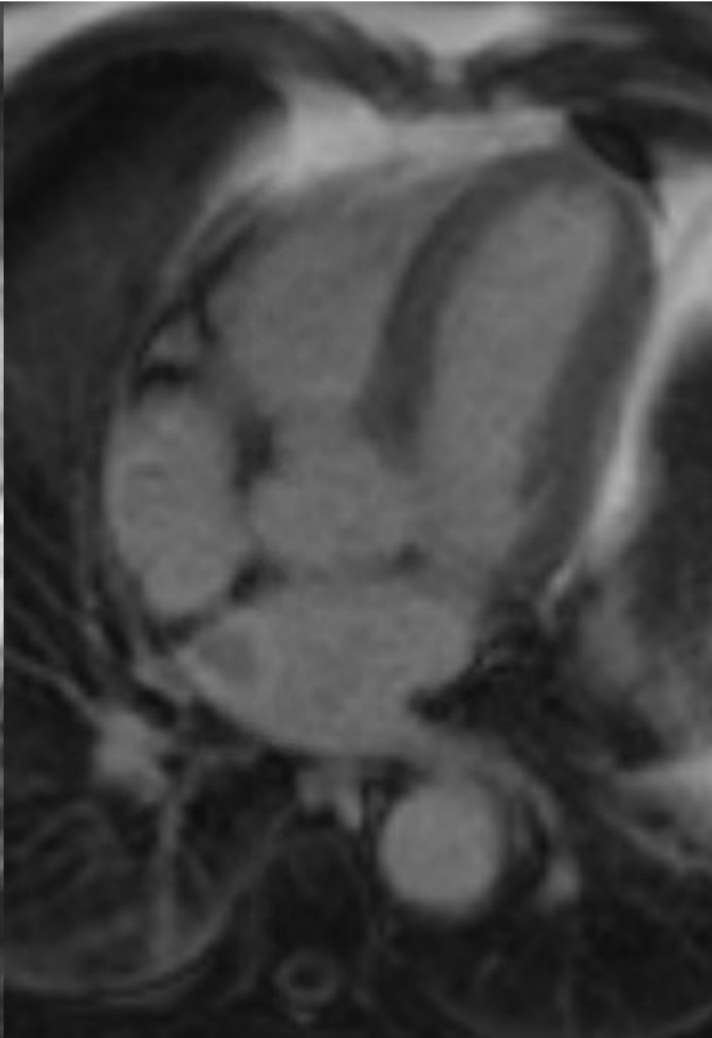
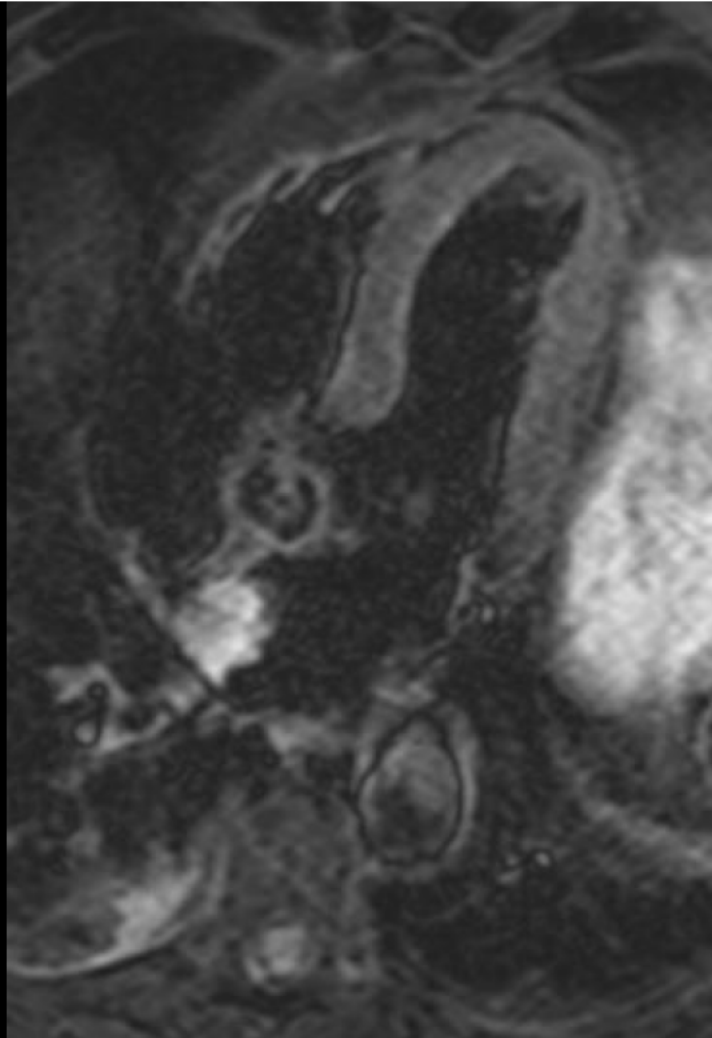
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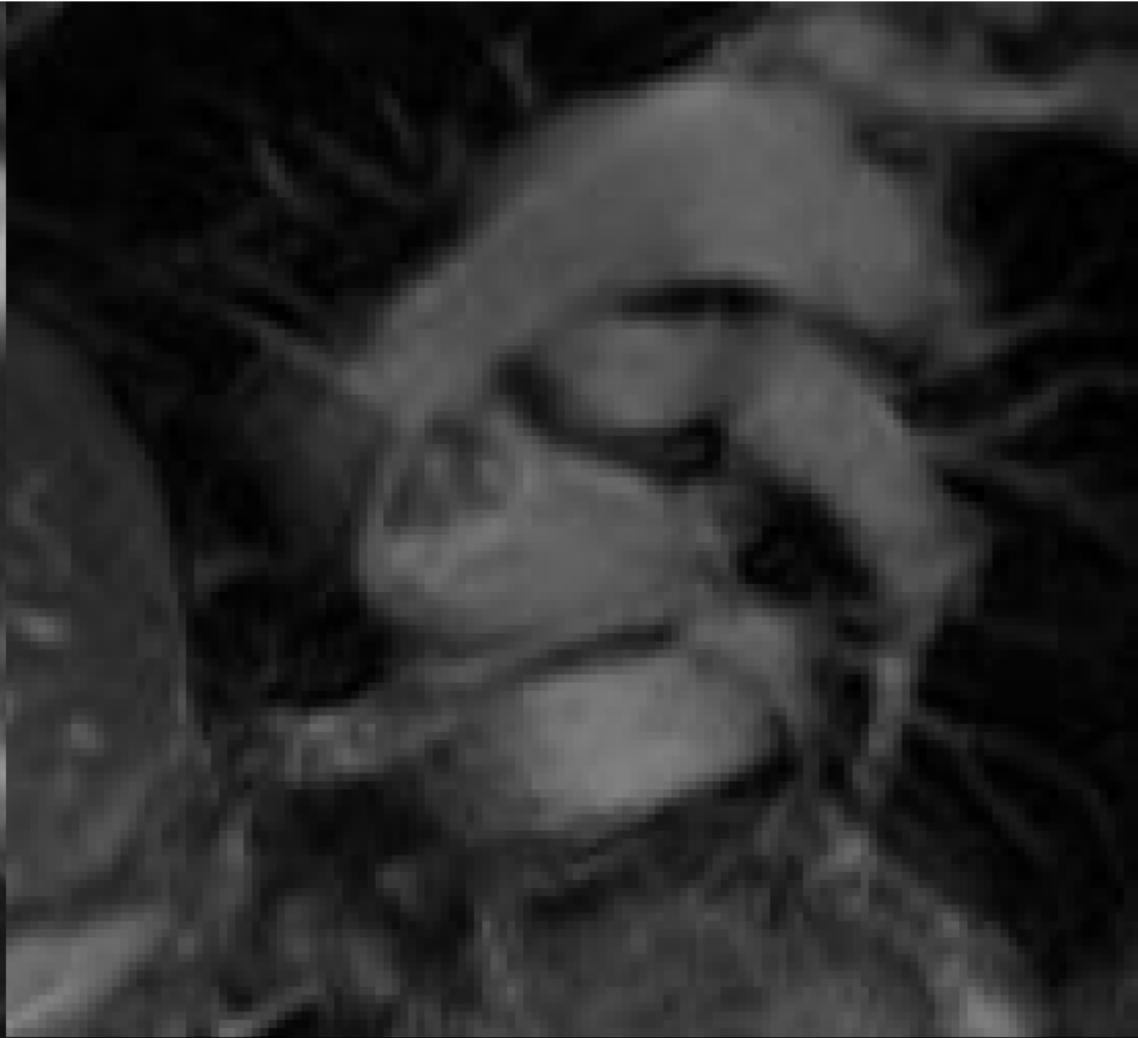
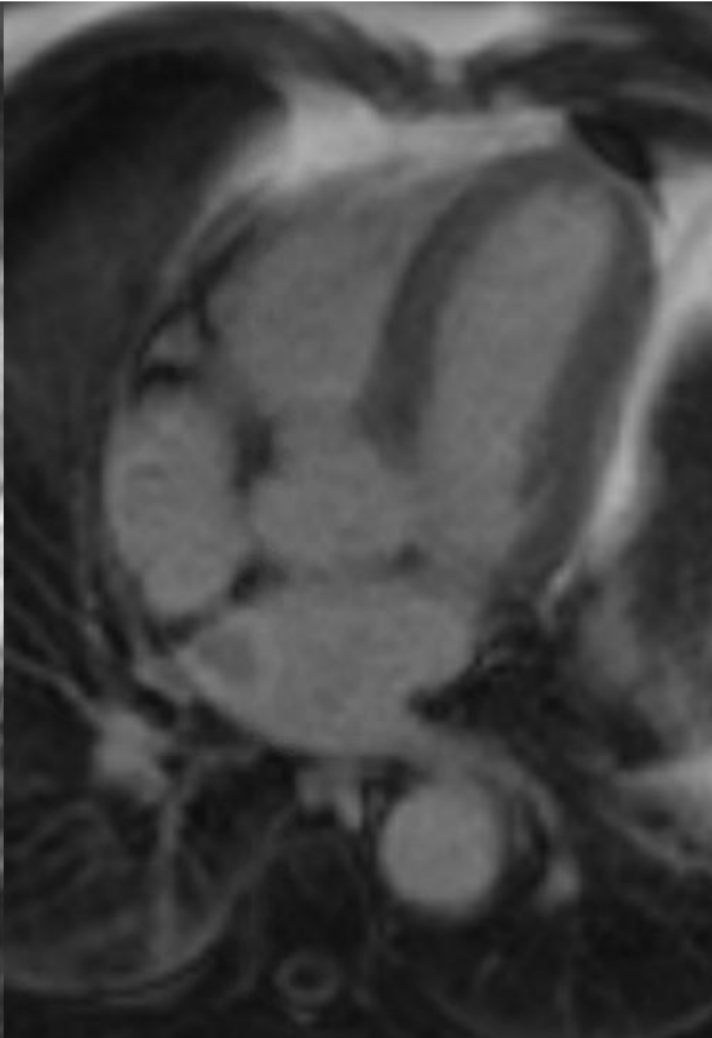
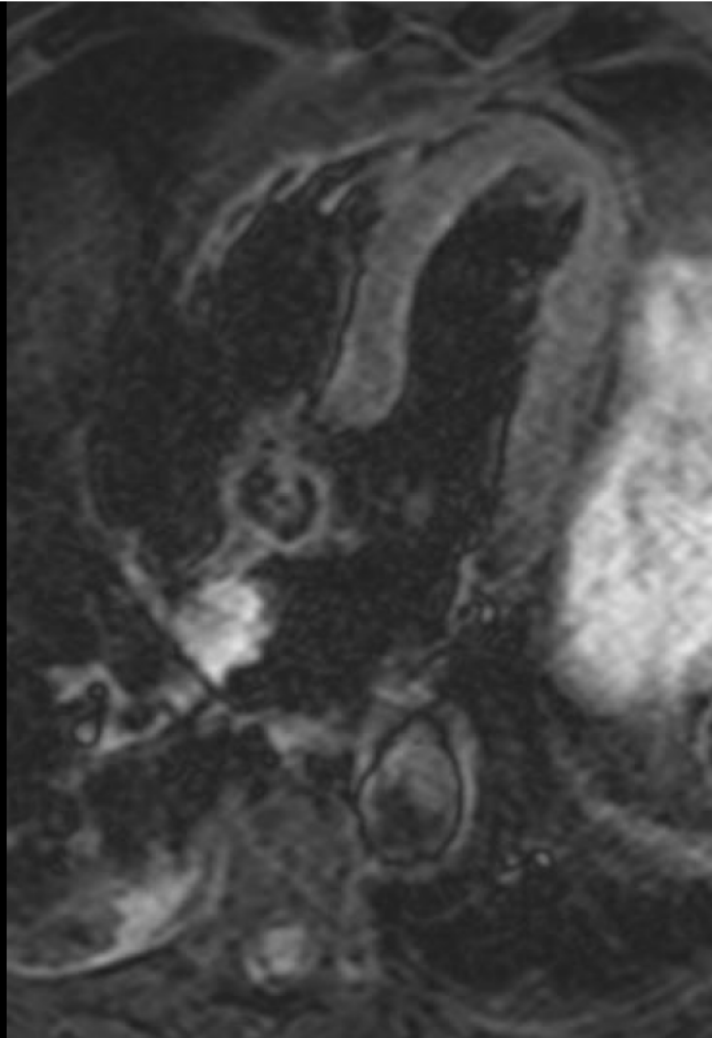
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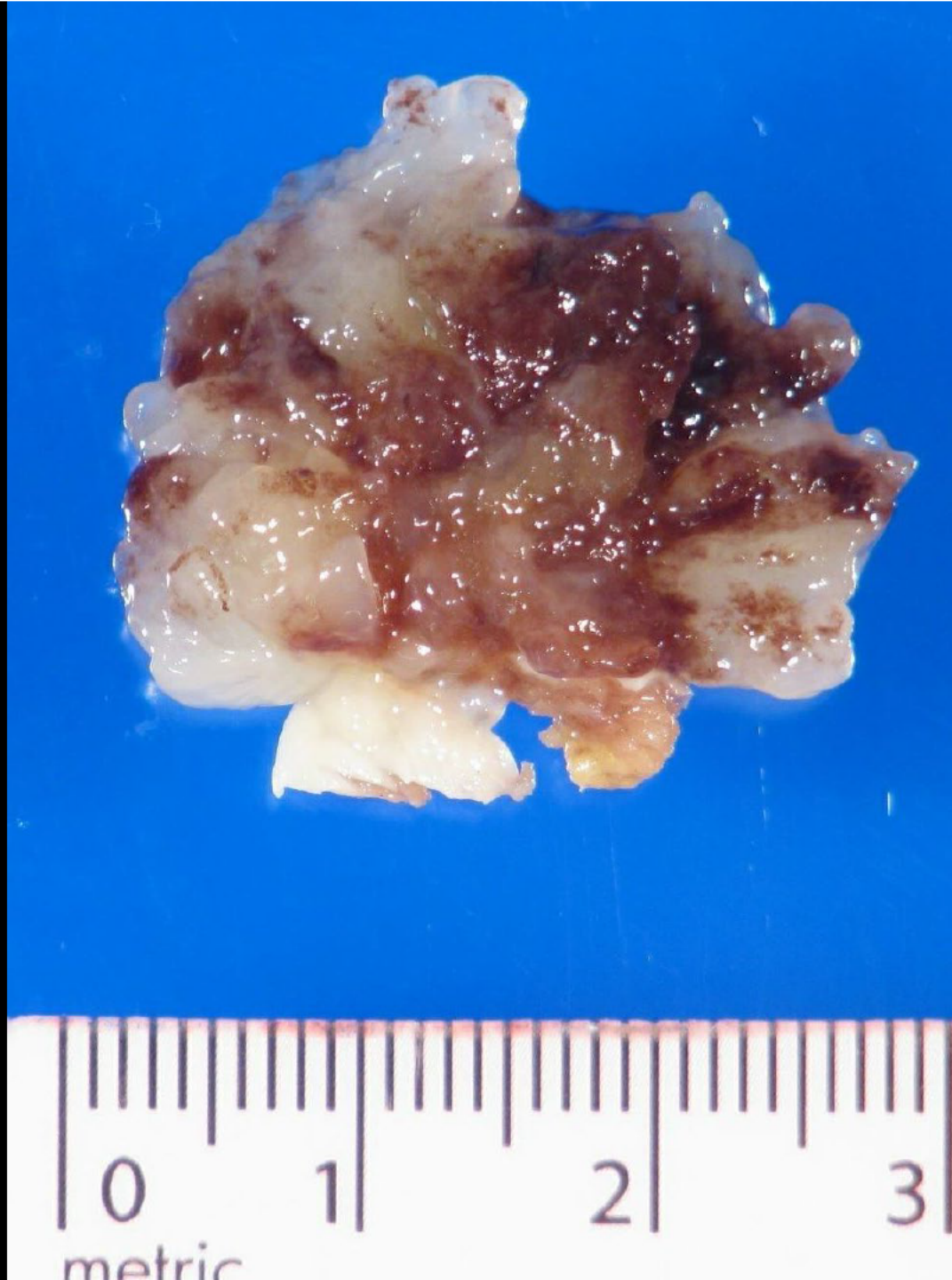
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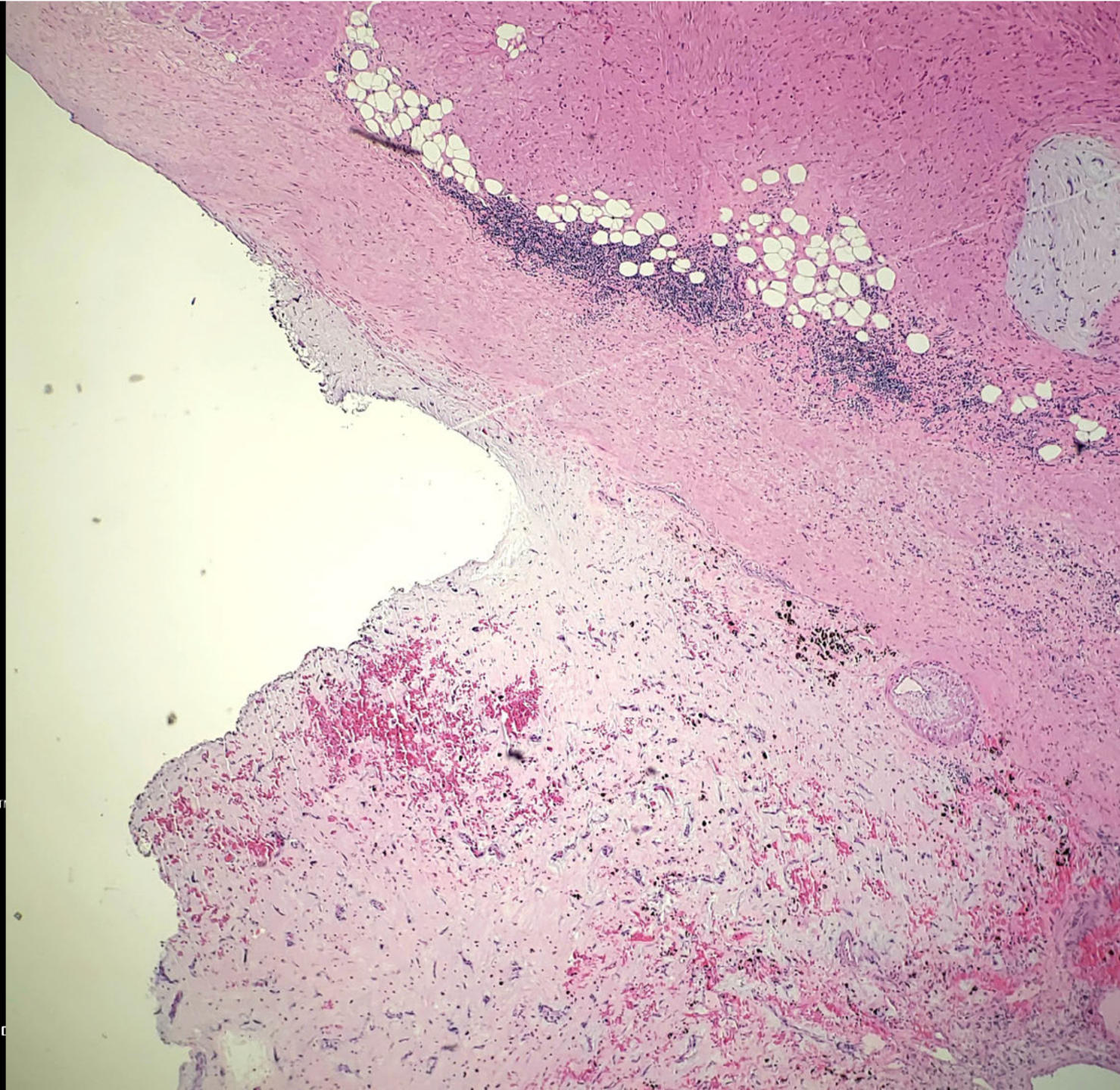
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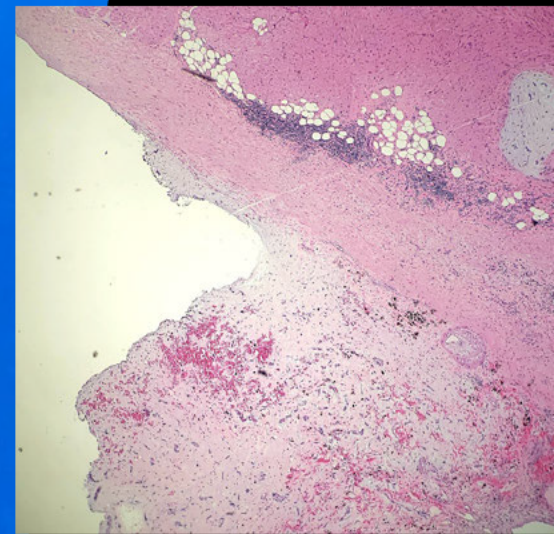
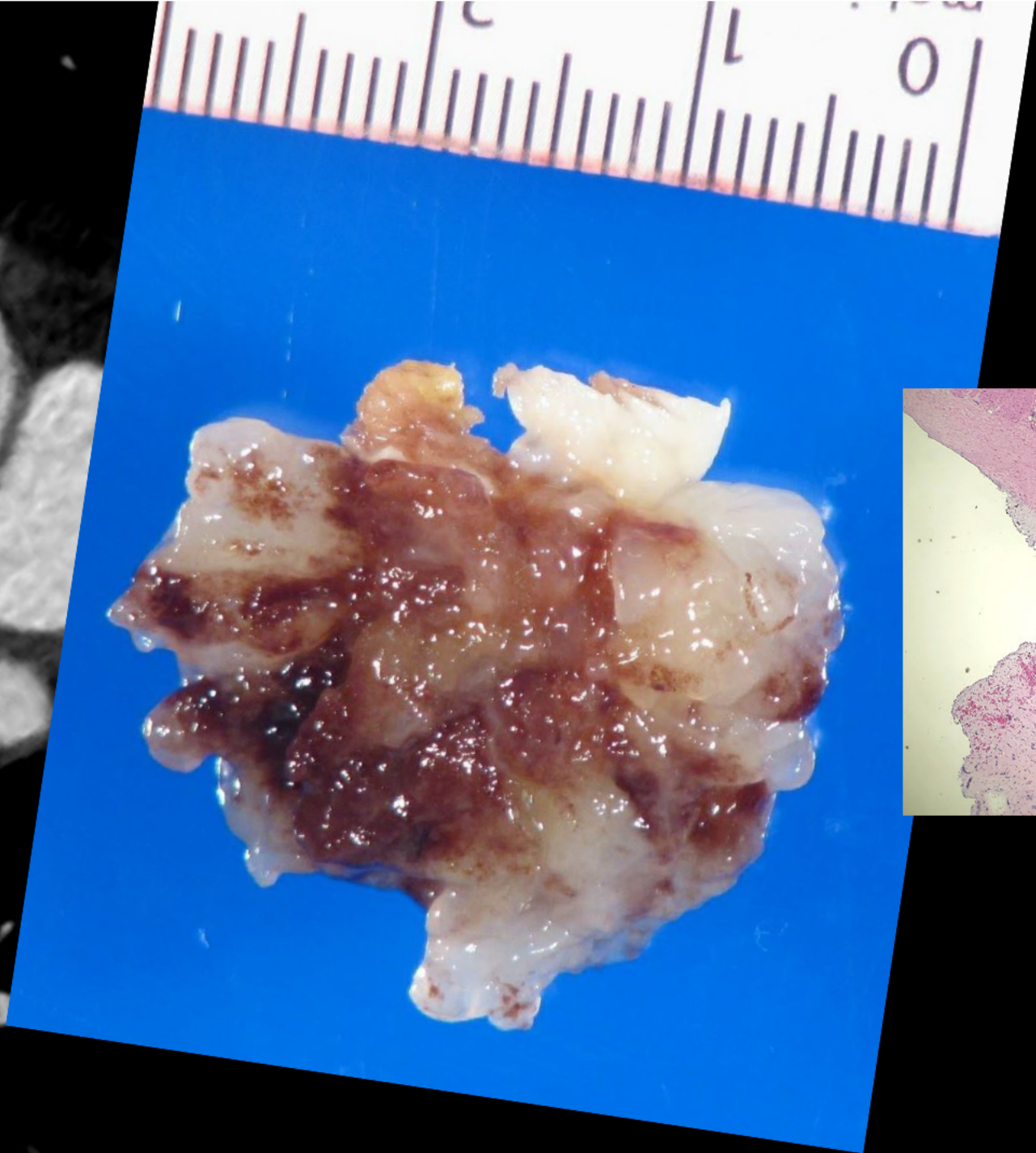
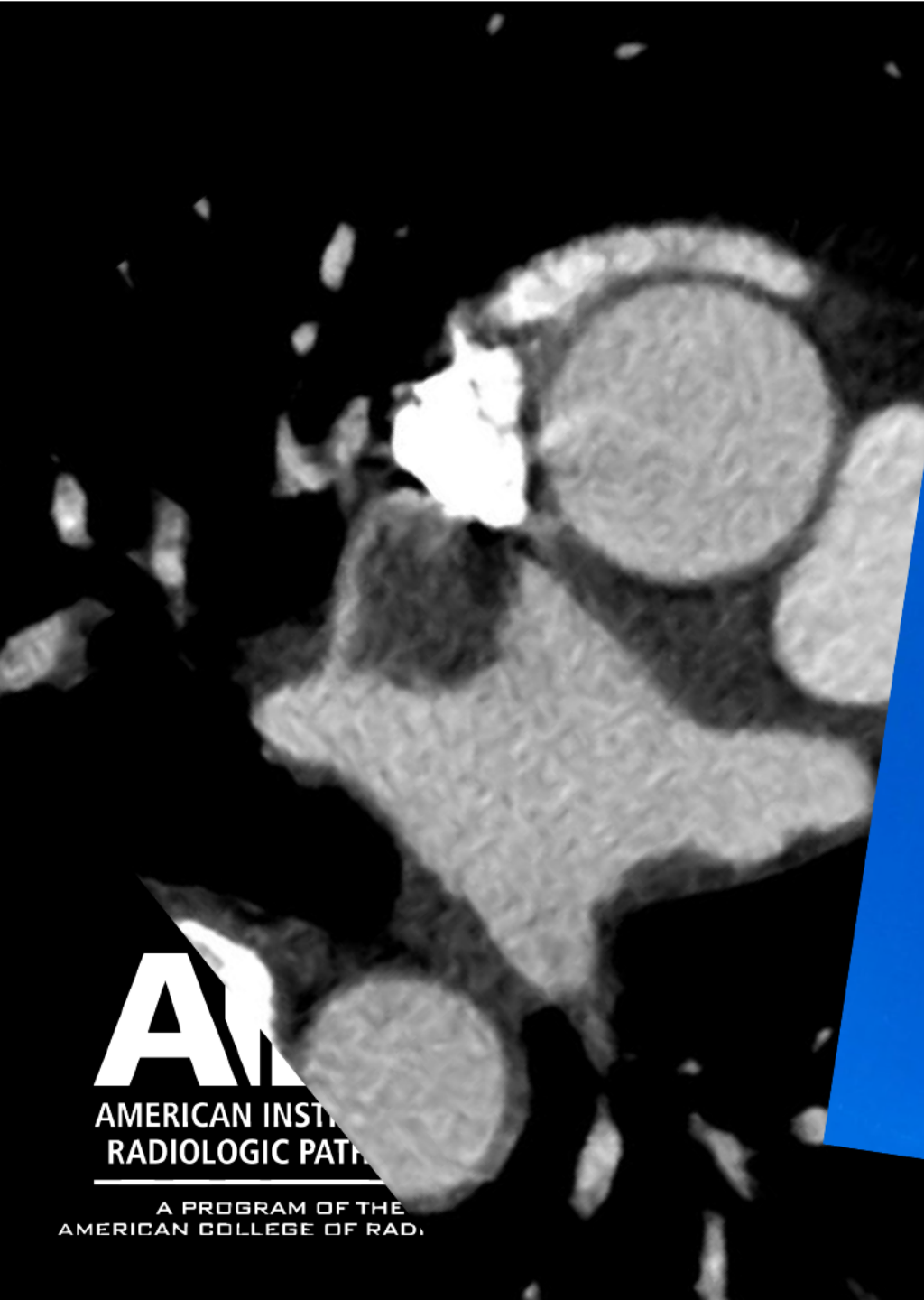


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Cardiac Myxoma

Thomas Cellini

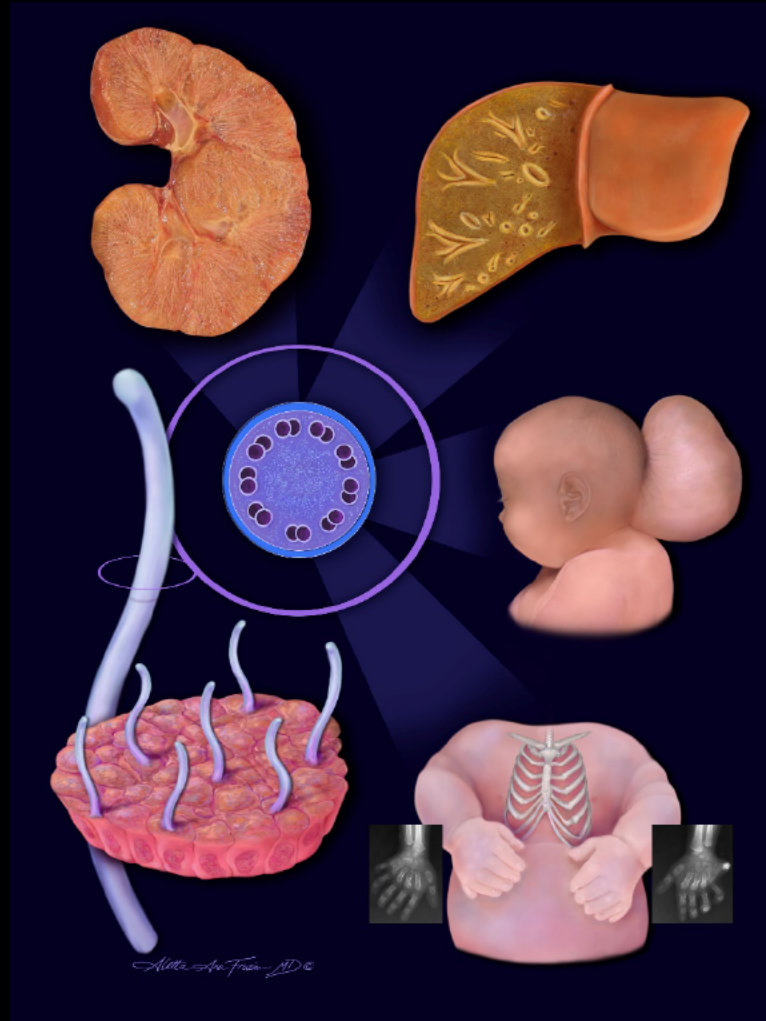
Rush University Medical Center
Chicago, IL

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Pediatric Best Case



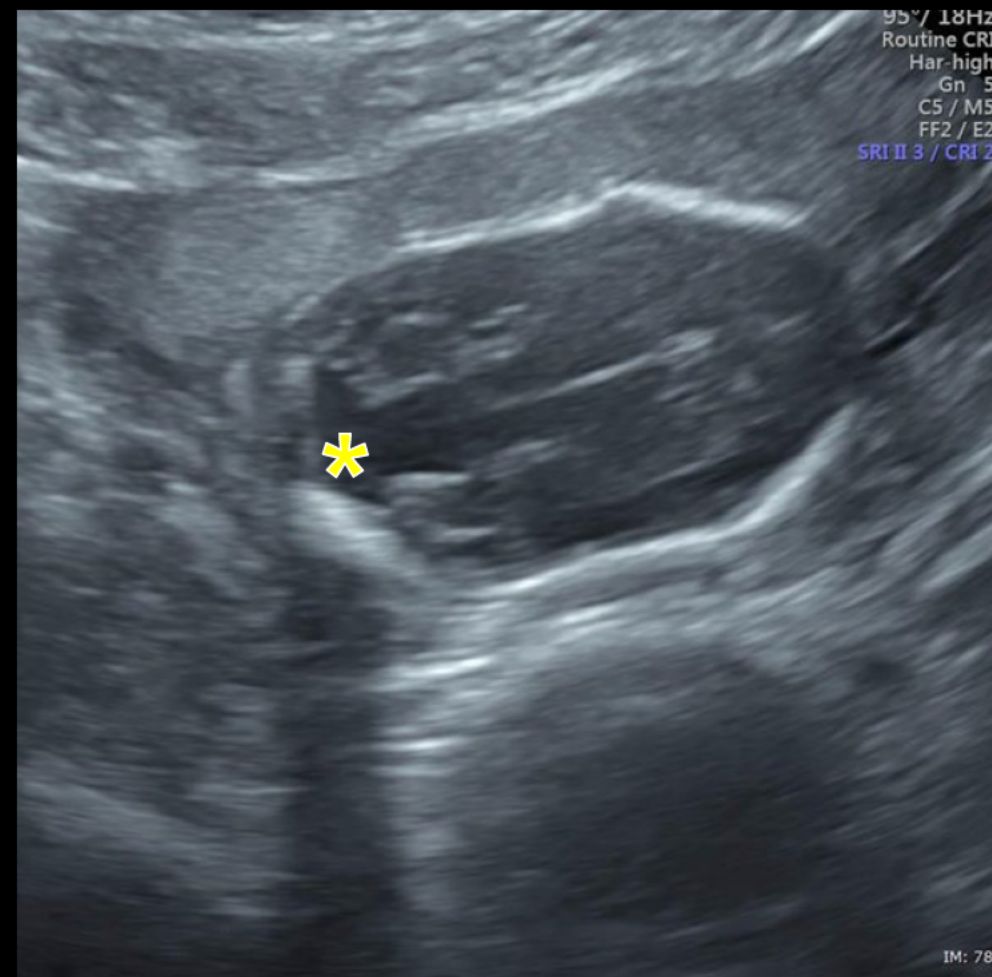
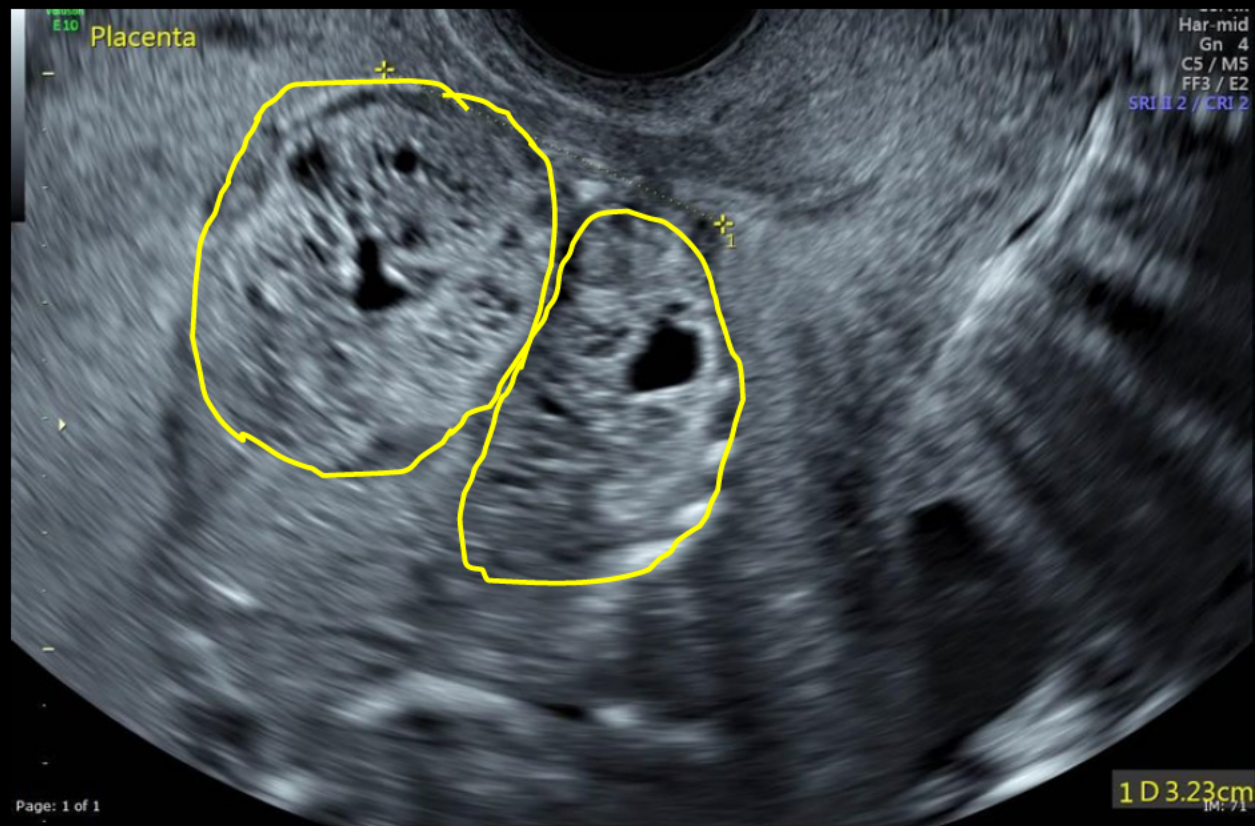
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Clinical information

20-year-old female with G1P0 who presented enlargement of the fetal abdomen and little amniotic fluid.



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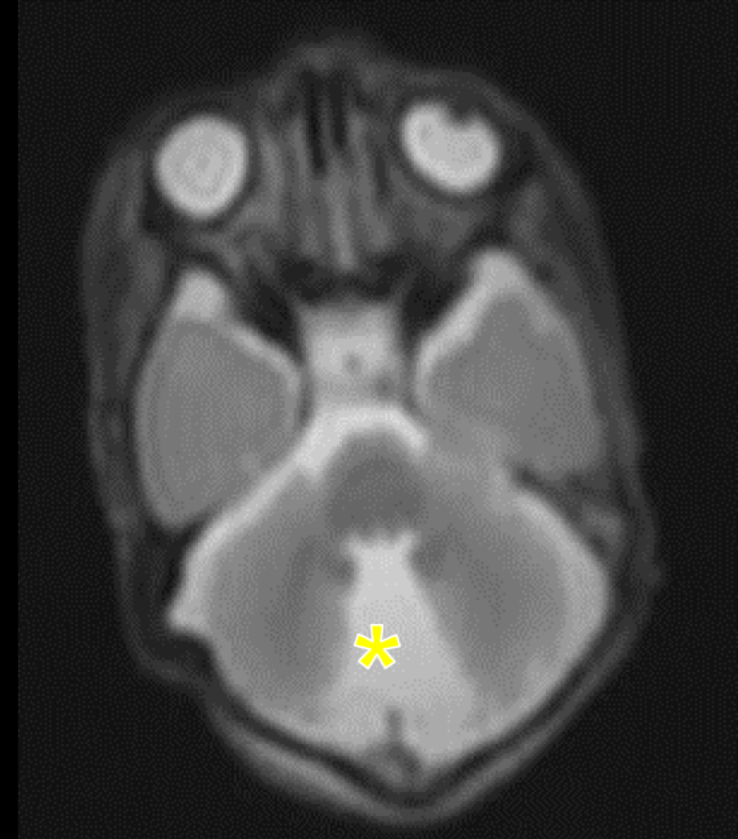
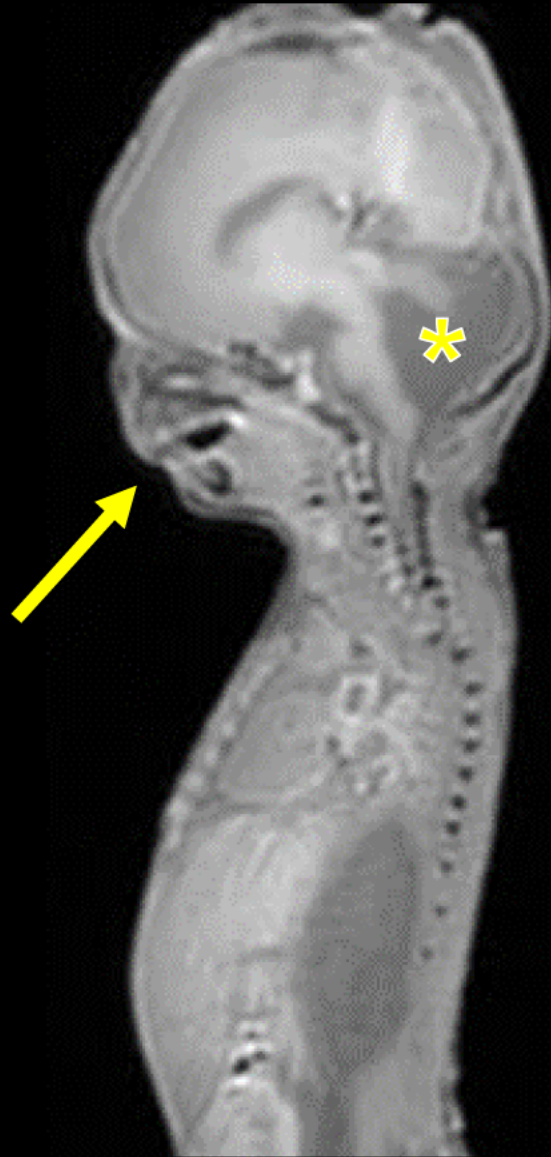


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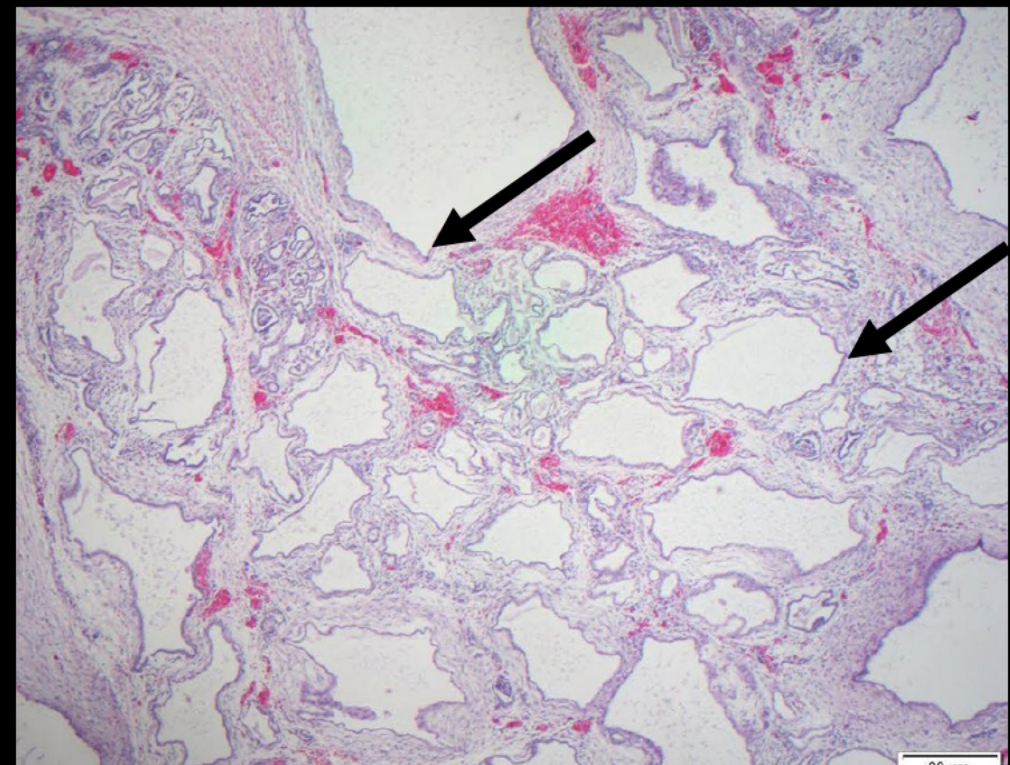




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From the Radiologic Pathology Archives¹

Pediatric Polycystic Kidney Disease and Other Ciliopathies: Radiologic-Pathologic Correlation²

Chung EM, Conran RM, Schroeder JW, Rohena-Quinquilla IR, Rooks VJ. Radiographics. 2014 Jan-Feb;34(1):155-78.

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Genetics and Clinical, Pathologic, and Imaging Features of Ciliopathies

Ciliopathies	Genetics	Clinical and Pathologic Features	Imaging Features
ARPKD	<i>PKHD1</i> (6p12): polyductin-fibrocystin	Renal: oliguria, pulmonary hypoplasia, dilated collecting ducts Liver: portal hypertension due to CHF, biliary duct dilatation	Renal: oligohydramnios sequence, echogenic kidneys with tubular cysts—mostly medullary Liver: periportal edema and fibrosis, intra- and extrahepatic biliary dilatation
ADPKD	<i>PKD1</i> (16p13.3): polycystin-1 <i>PKD2</i> (4q22): polycystin-2	Renal: cortical and medullary cysts Liver: hepatic cysts Cysts of other organs Vascular defects	Renal: initially normal-sized kidneys with a few round cysts Liver: hepatic and other abdominal organ cysts in adults
Nephronophthisis, MCKD	AR or AD Multiple genes, <i>UMOD</i> (16p12.3) (uro-modulin)	Tubulointerstitial nephropathy leading to renal failure and renal cysts in both entities Retinal degeneration, hepatic fibrosis, and CNS abnormalities possible in nephronophthisis	Small echogenic kidneys with sub-cortical and medullary cysts after onset of renal failure
Joubert syndrome-related disorder	Multiple genes	Vermian hypoplasia causing ataxia; developmental delay; may also have CHF, nephronophthisis, ocular or digital defects	Molar tooth sign
Meckel-Gruber syndrome	AR Multiple genes	Perinatal mortality, occipital encephalocele, polydactyly, cystic renal dysplasia, CHF	Occipital encephalocele, round renal cysts
Asphyxiating thoracic dysplasia (Jeune syndrome)	AR Multiple genes	Pulmonary hypoplasia causing respiratory distress; nephronophthisis-like nephropathy and renal cysts	Short ribs and small chest; flared iliac wings and narrow sacrosciatic notches; cone-shaped epiphyses; renal cysts, intrahepatic ductal dilatation
Ellis-van Creveld disease	<i>EVC</i> (4p16.2) <i>EVC2</i> (4p16.2)	Hair-nail-teeth abnormalities; mildly small chest; congenital heart disease	Barrel-shaped chest with cardiomegaly; similar pelvis to that in Jeune syndrome; cone-shaped epiphyses
Oral-facial-digital syndrome	X-linked dominant <i>OFD1</i> (Xp22) for type 1	Anomalies of oral cavity, face, and digits; renal and hepatic cysts; CNS anomalies (Joubert syndrome)	Renal cysts; some patients have molar tooth sign

Note.—AD = autosomal dominant, AR = autosomal recessive, MCKD = medullary cystic kidney disease.

CEP290-related Ciliopathy

Reilly Zenk

Naval Medical Center Portsmouth

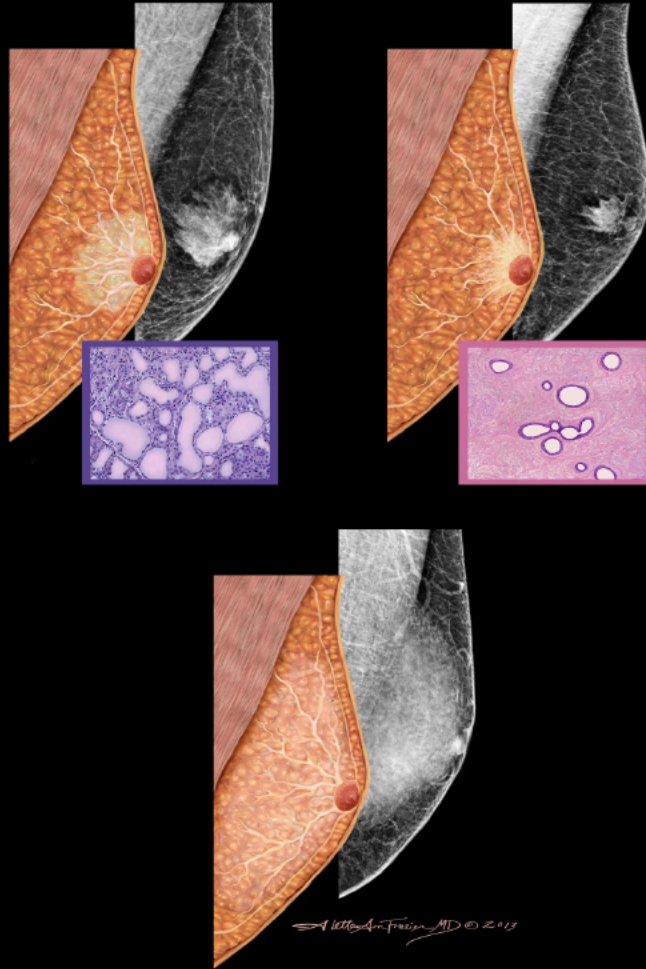
Portsmouth, VA



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Breast Best Case



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Clinical information

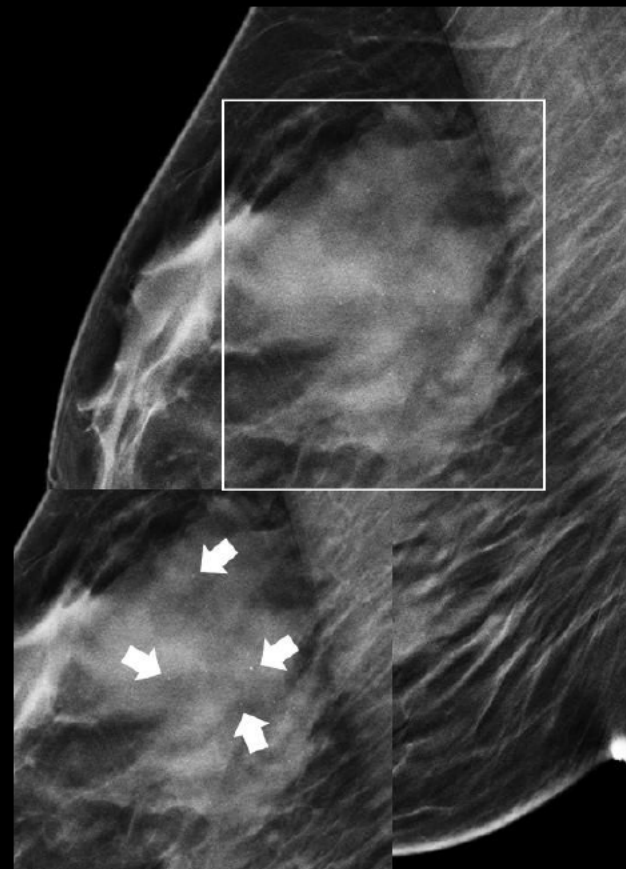
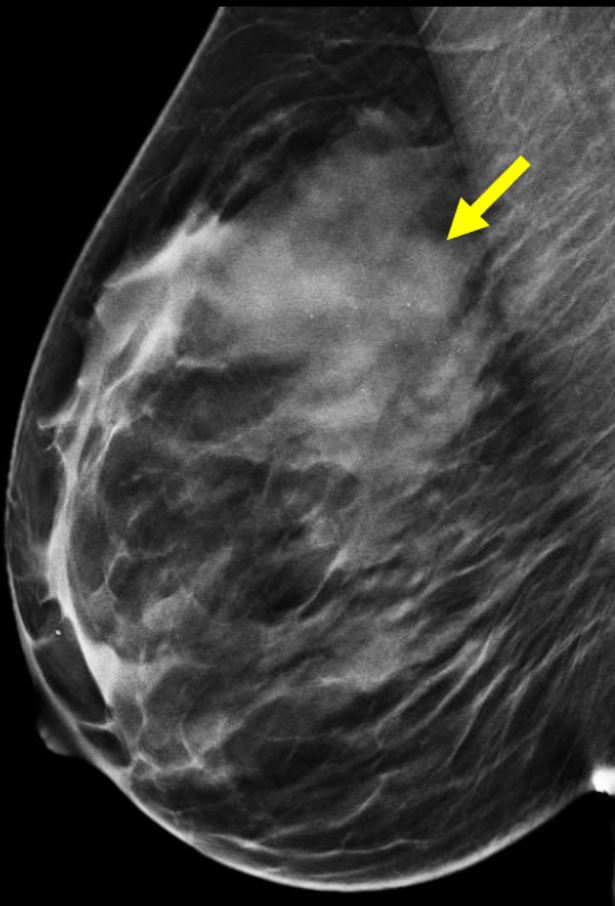
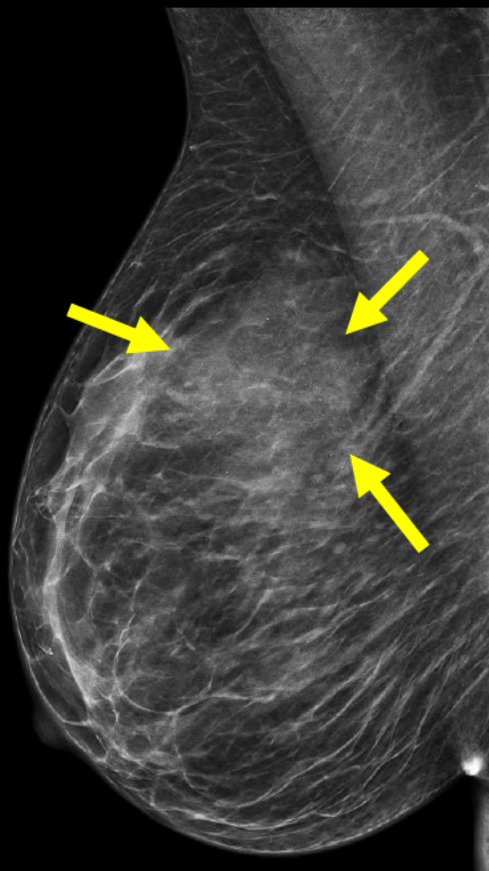
31-year-old woman with a lump in the right breast. No family history of breast cancer. No past medical problems.

On clinical exam, there was a firm mobile mass in the upper outer quadrant of the right breast. No palpable adenopathy.



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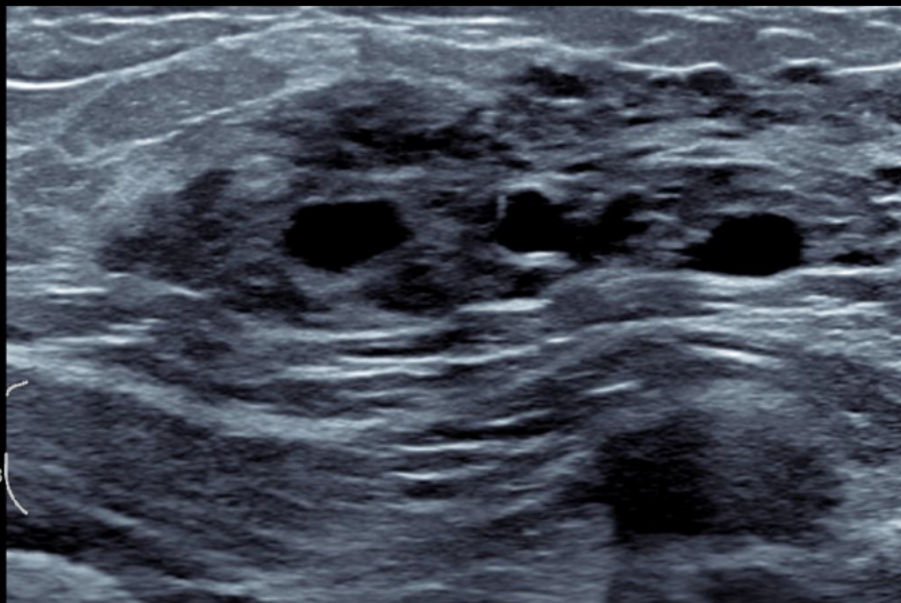


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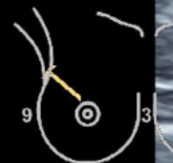
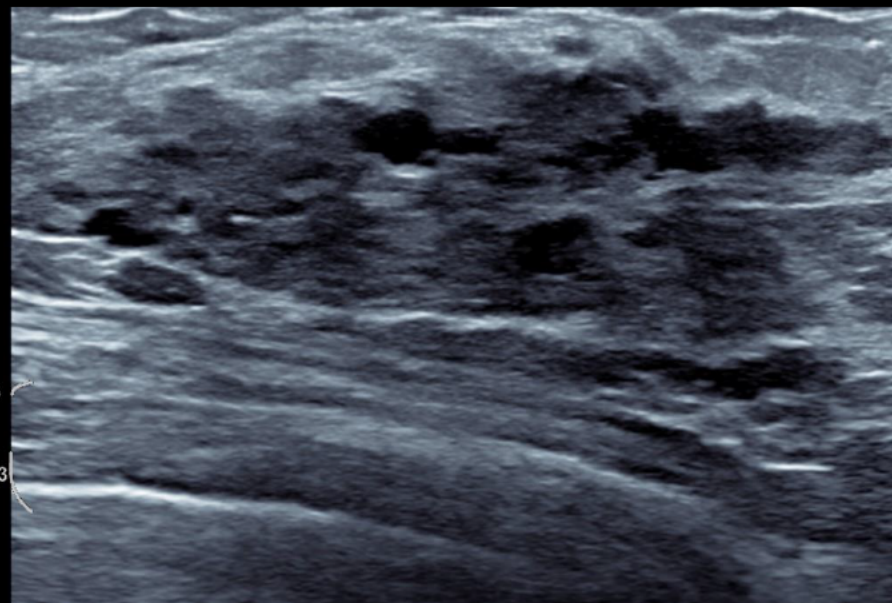
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2D
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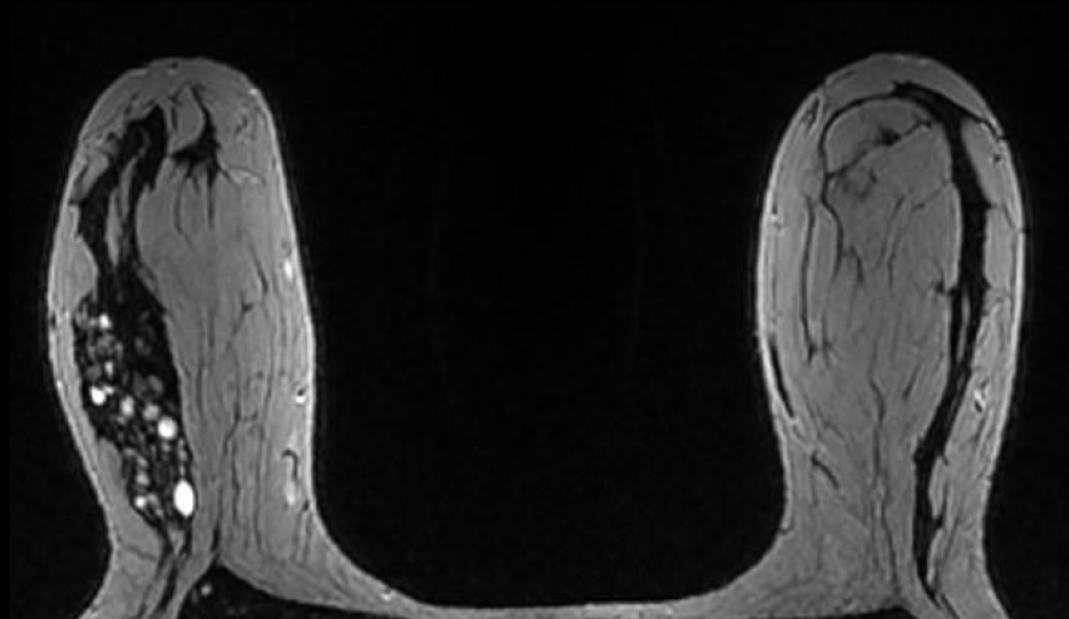
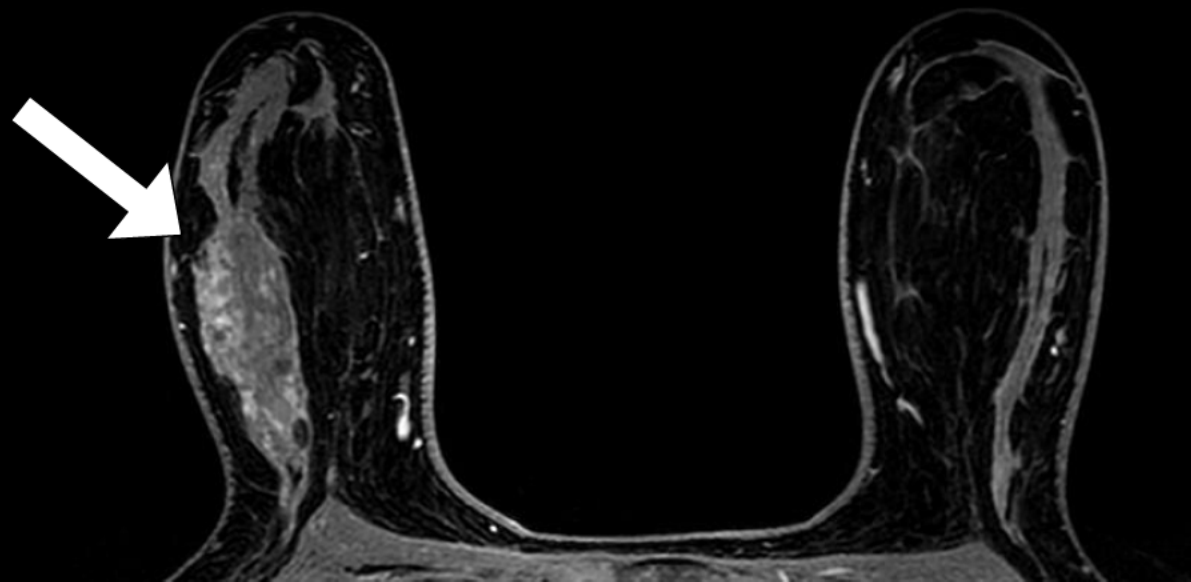
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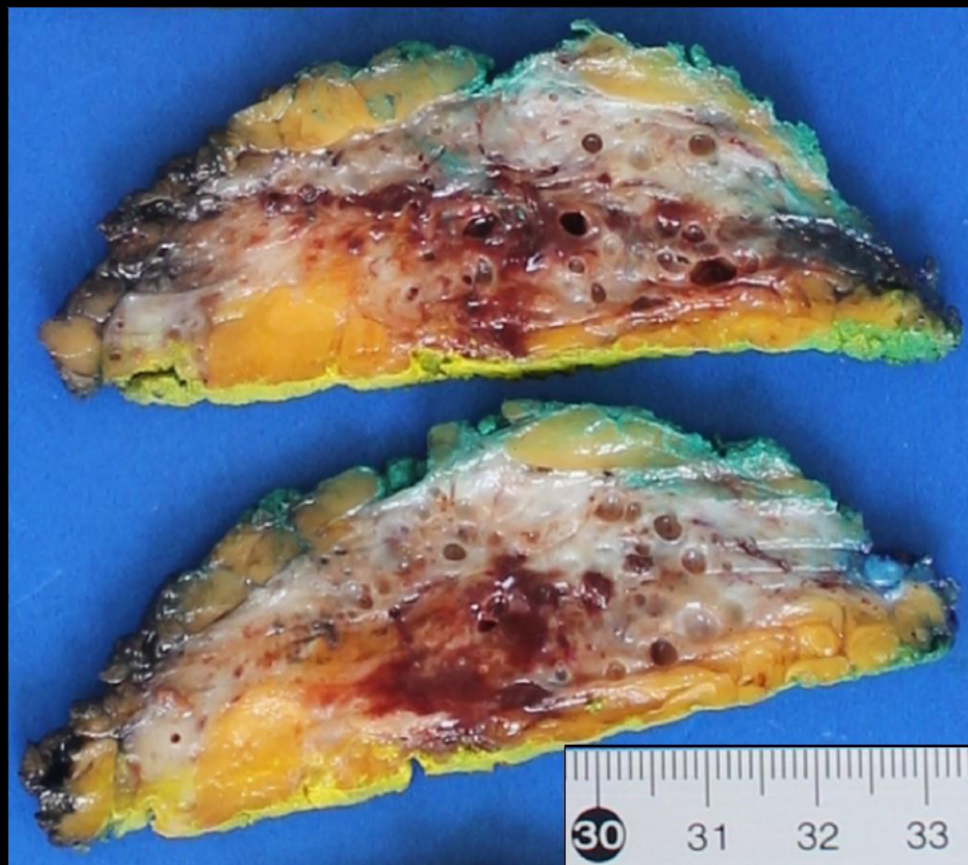


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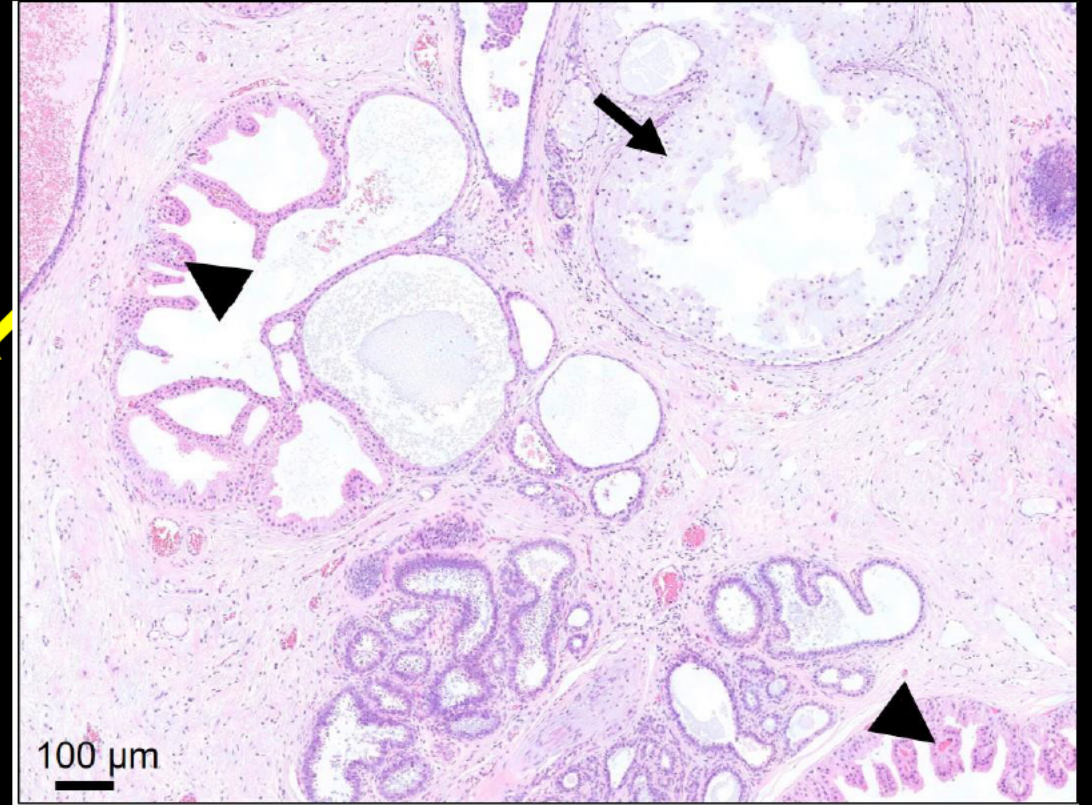
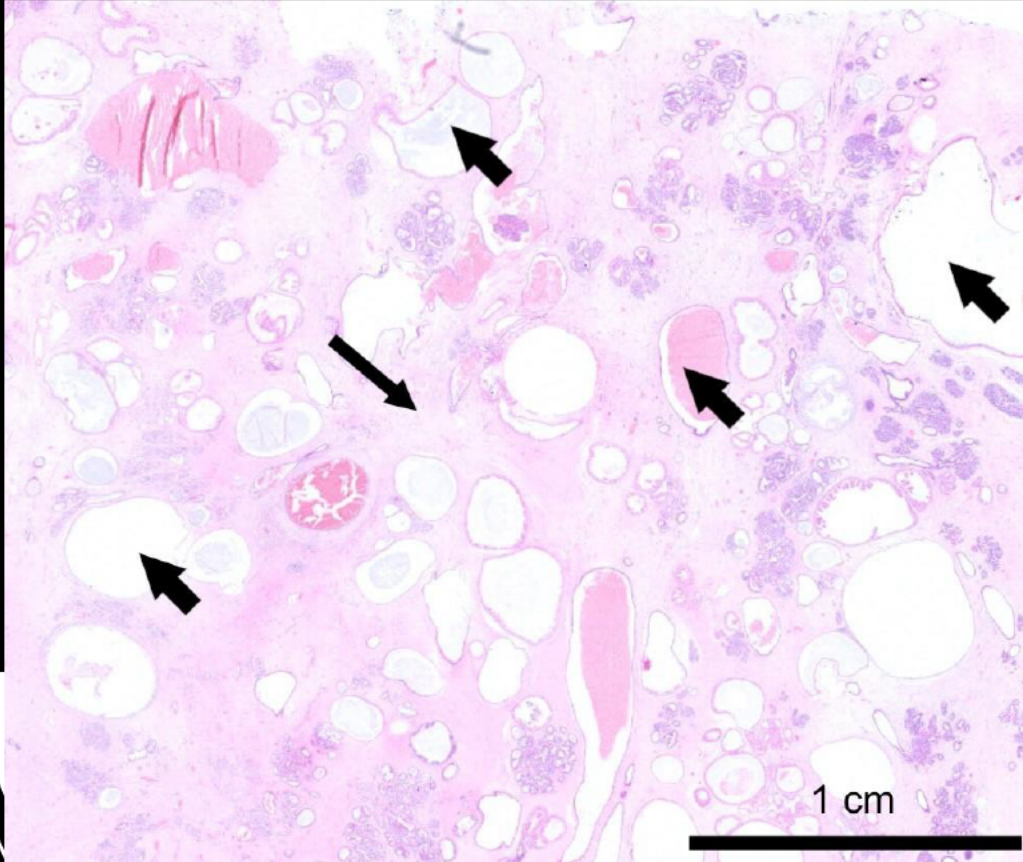
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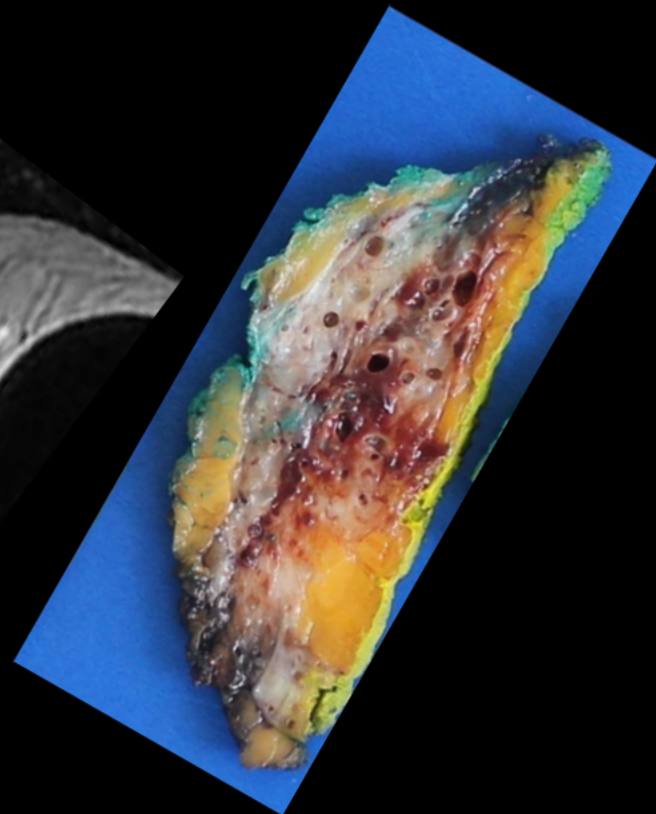
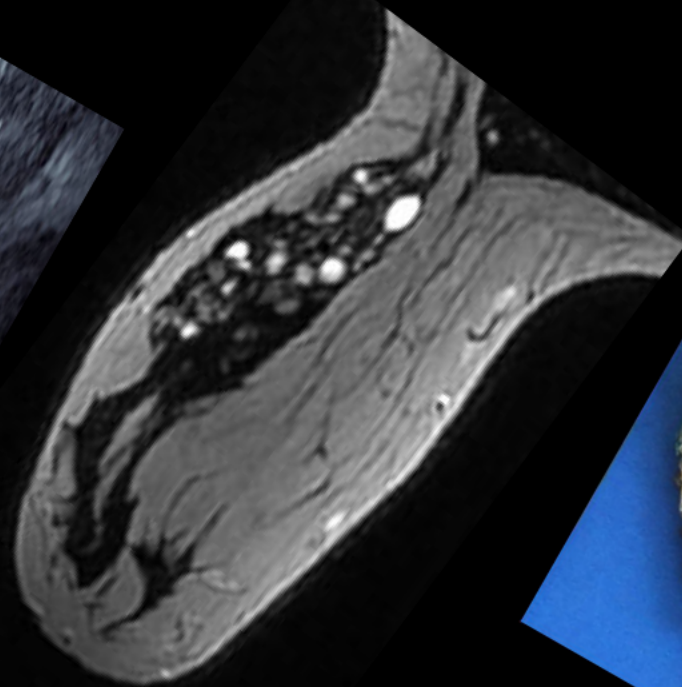
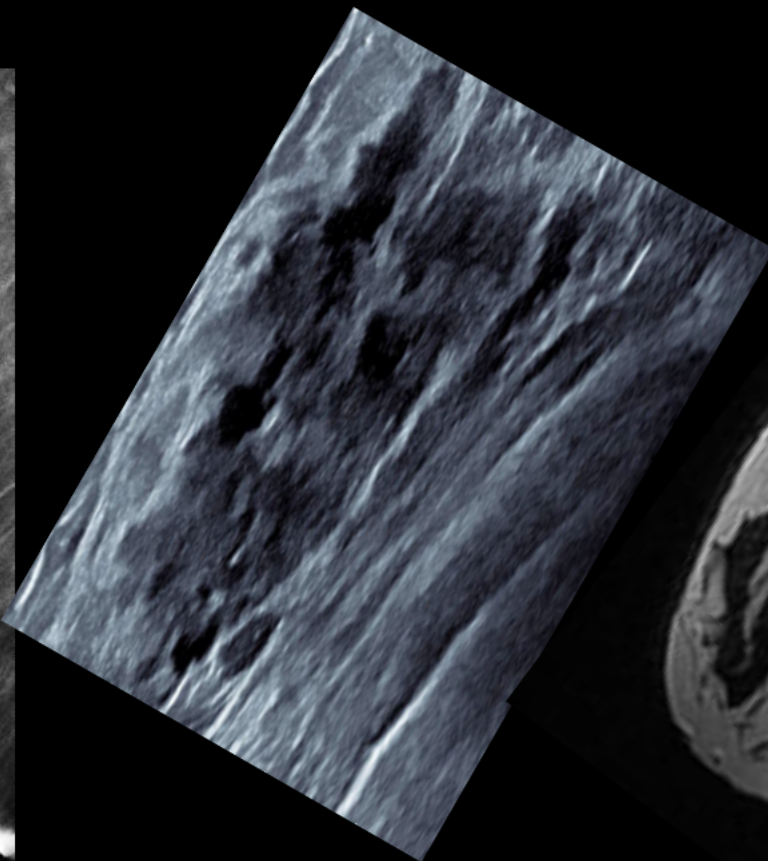
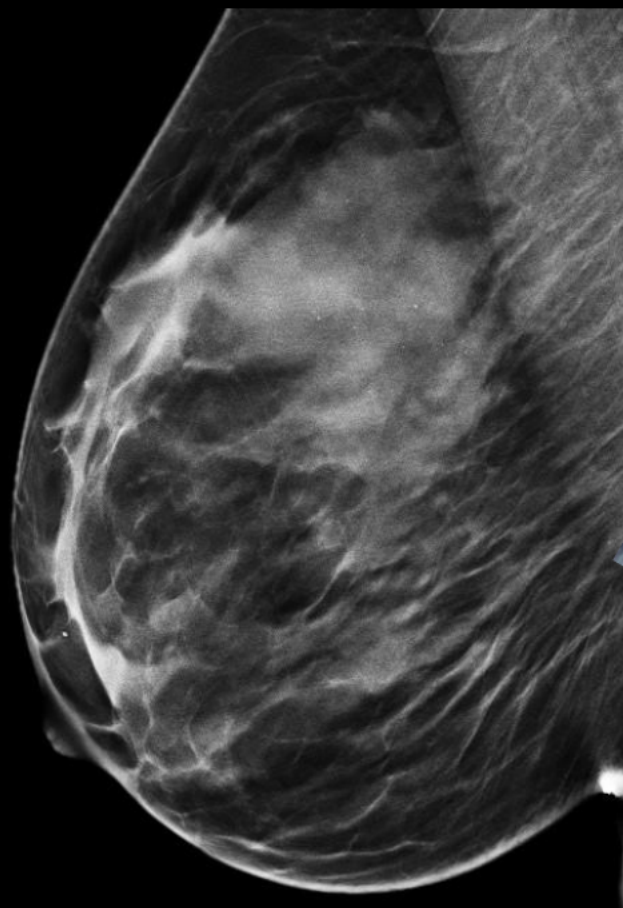
Histology



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Juvenile Papillomatosis of the Breast

Massimo Donalisio, MD

CHUV

Lausanne, Switzerland

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Genitourinary Best Case



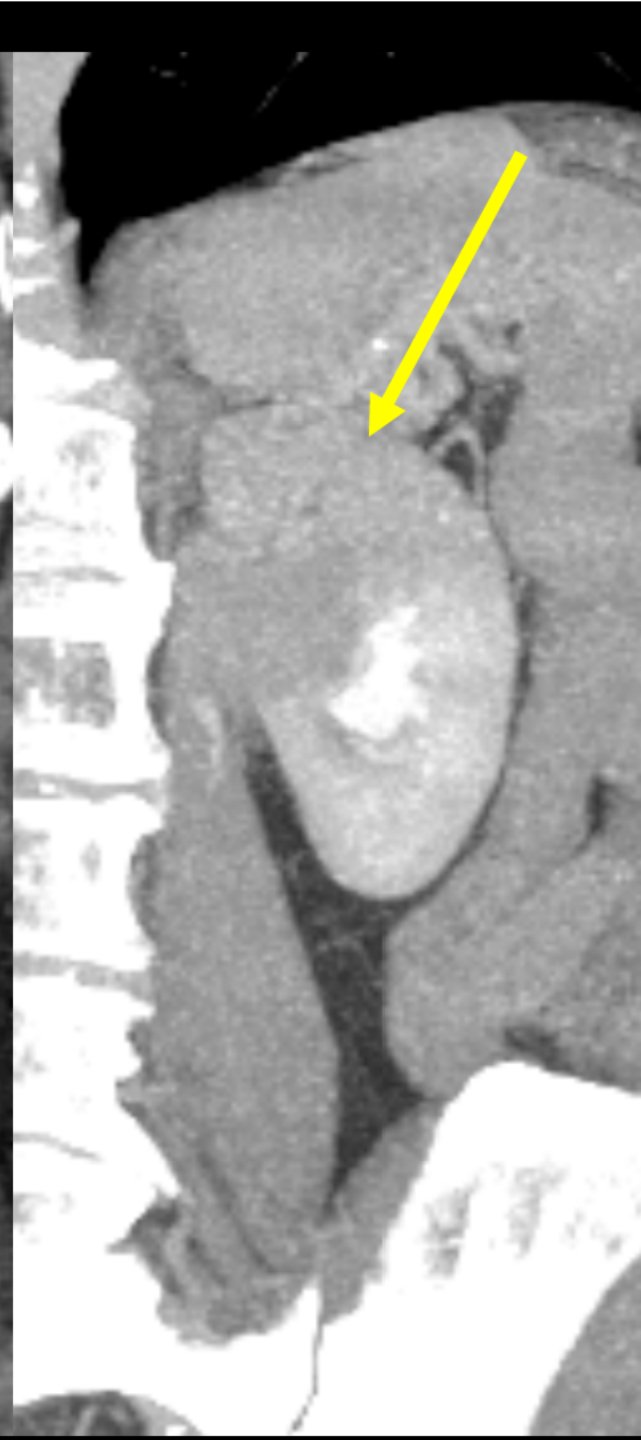
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Clinical information

86-year-old female with history of endometrial cancer status post TAHBSO who presented with post-menopausal bleeding for 2 months. Upon further history, the bleeding was present only during urination so a workup for gross hematuria was performed.



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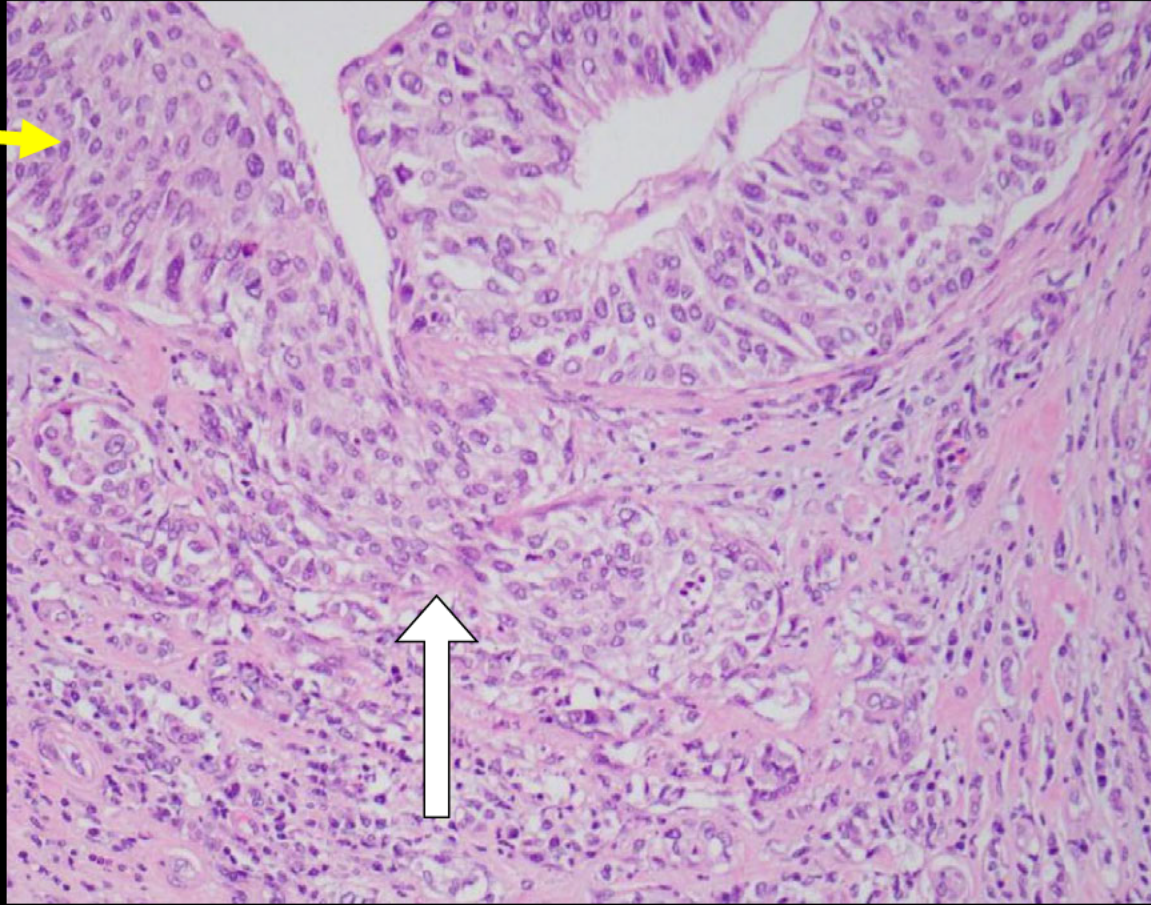
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Pathology report

- Invasive high-grade papillary urothelial carcinoma within renal pelvis and renal calyces
- Focal invasion into the renal parenchyma

Pathology report

- **Invasive high-grade papillary urothelial carcinoma within renal pelvis and renal calyces**
- **Focal invasion into the renal parenchyma**
- **Small focus of early noninvasive high-grade papillary urothelial carcinoma at the distal ureter**



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Upper Tract Urothelial Carcinoma

Brian Tsui

UCLA

Los Angeles, CA

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