

2016年05月20日

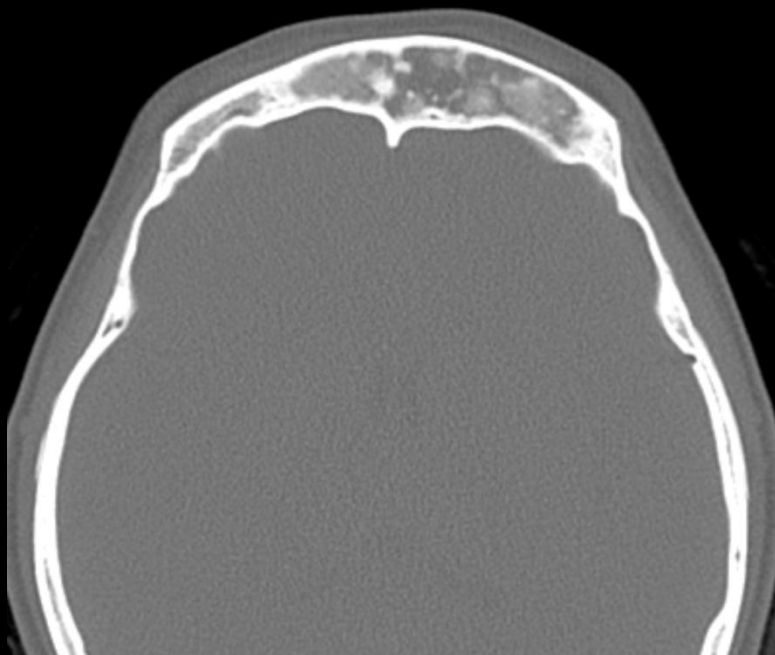
中華民國放射線醫學會
住院醫師閱片測驗

出題醫院

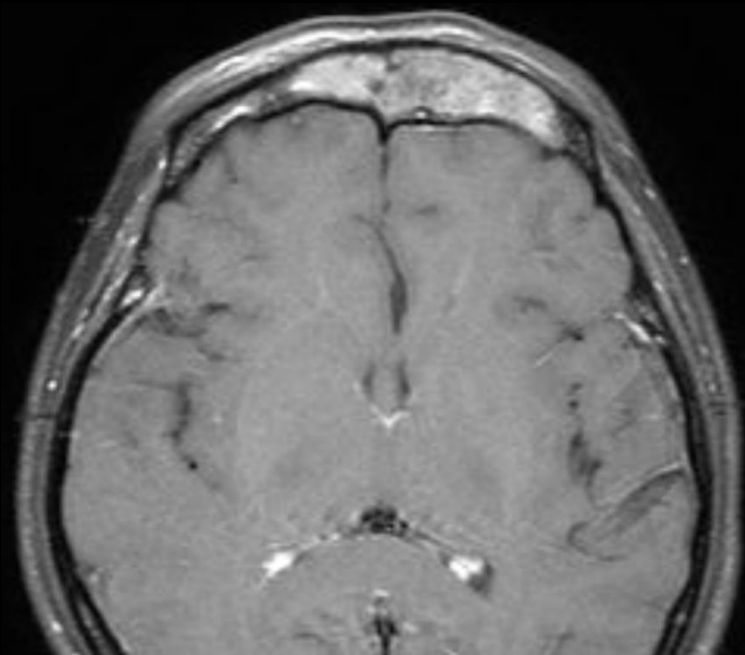
亞東紀念醫院影像醫學科

Q1

What is most likely in a 35-year-old patient?



CT with bone window



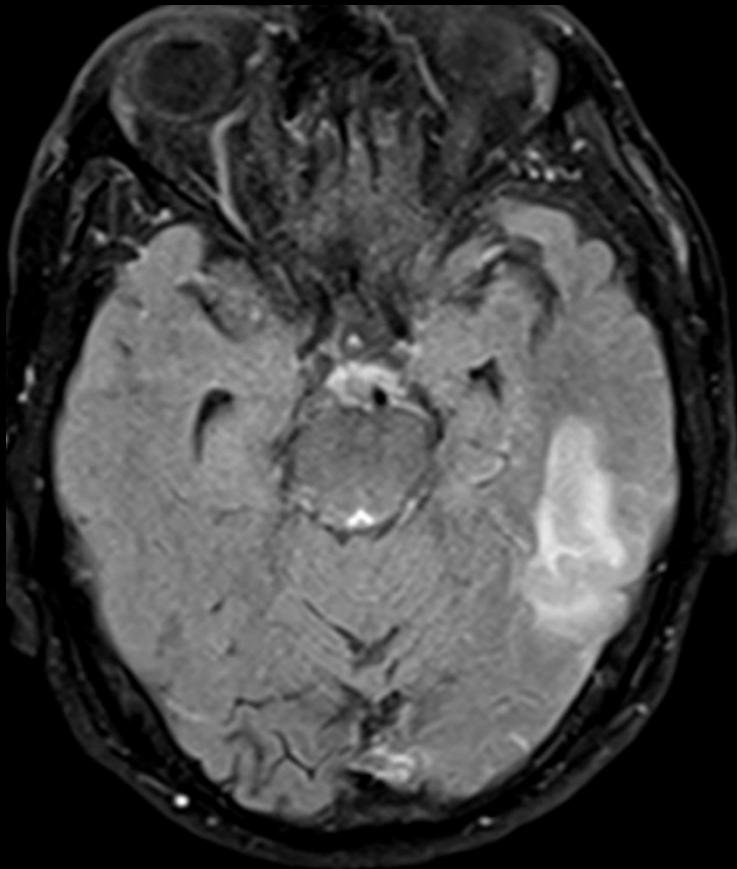
T1 weighted with Gd

**What bone lesion is most likely in this
35-year-old female?**

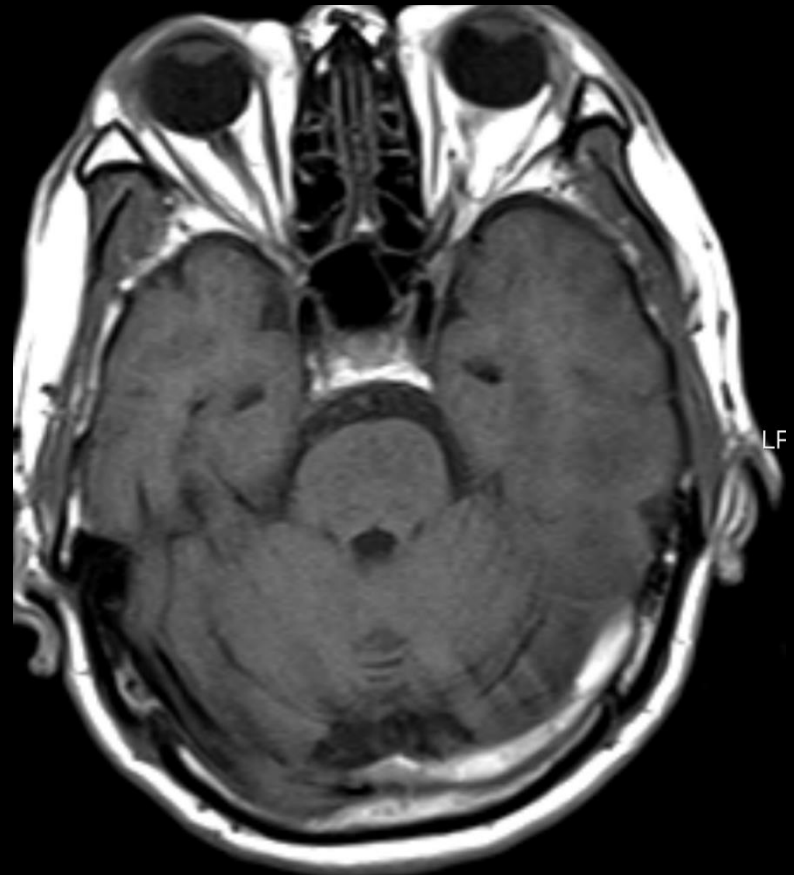
ANS : Fibrous dysplasia

76y/o male, patient with severe headache

What is the diagnosis & its cause in this case?



FLAIR or dark-fluid T2

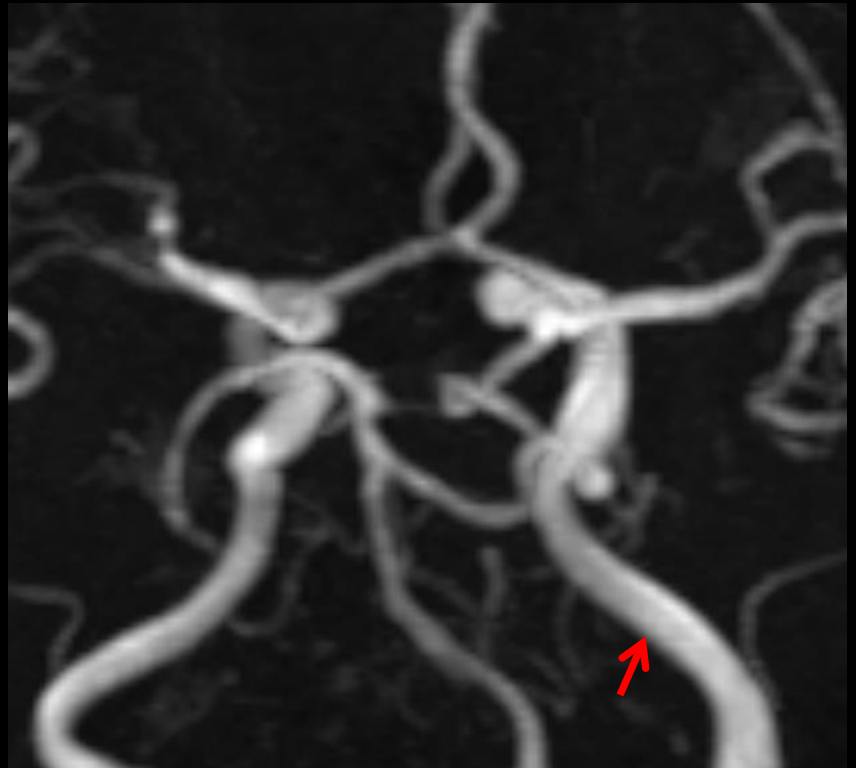
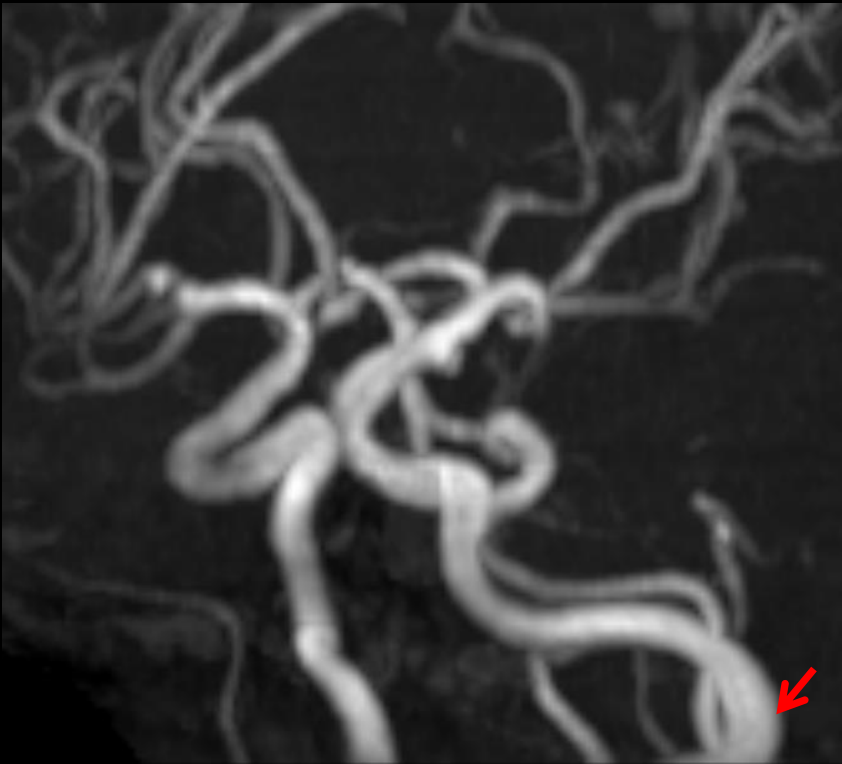


Pre-contrast T1 weighted

**ANS : Acute venous infarct & left
transverse sinus thrombosis**

Q3

What primitive carotid-vertebrobasilar connection is?



The red arrow is the left carotid artery

ANS : Persistent trigeminal artery

11 y/o boy, with seizure



Coronal T2 weighted

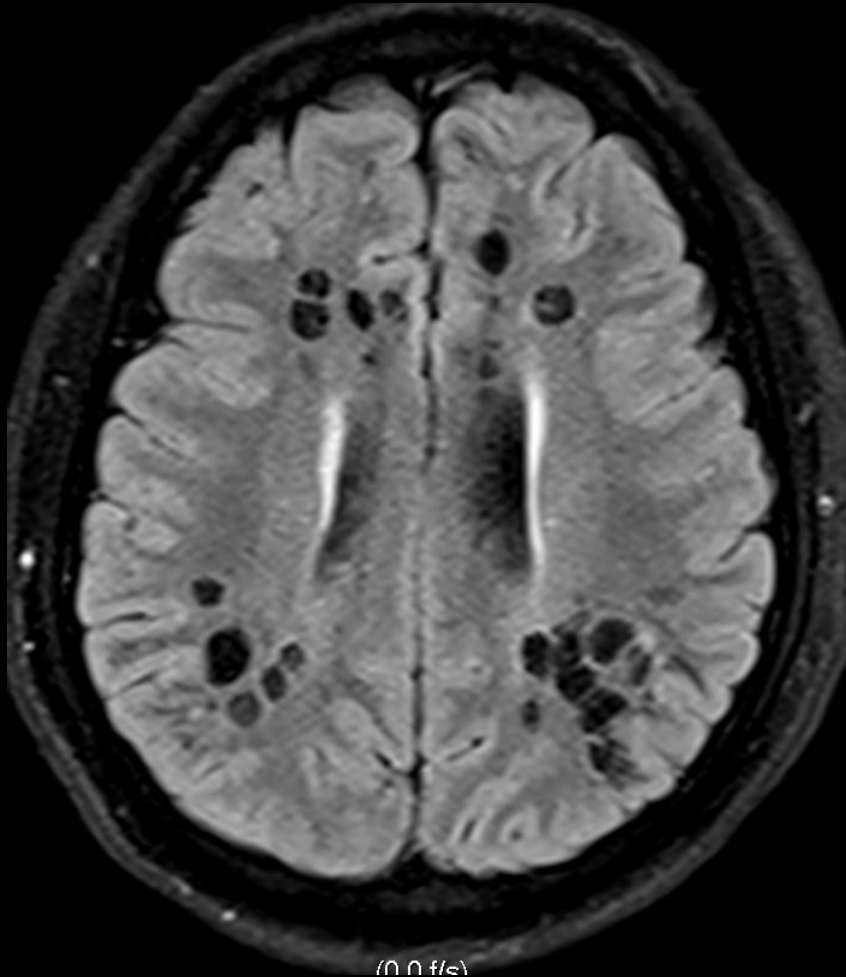


Sagittal T1 weighted with Gd.

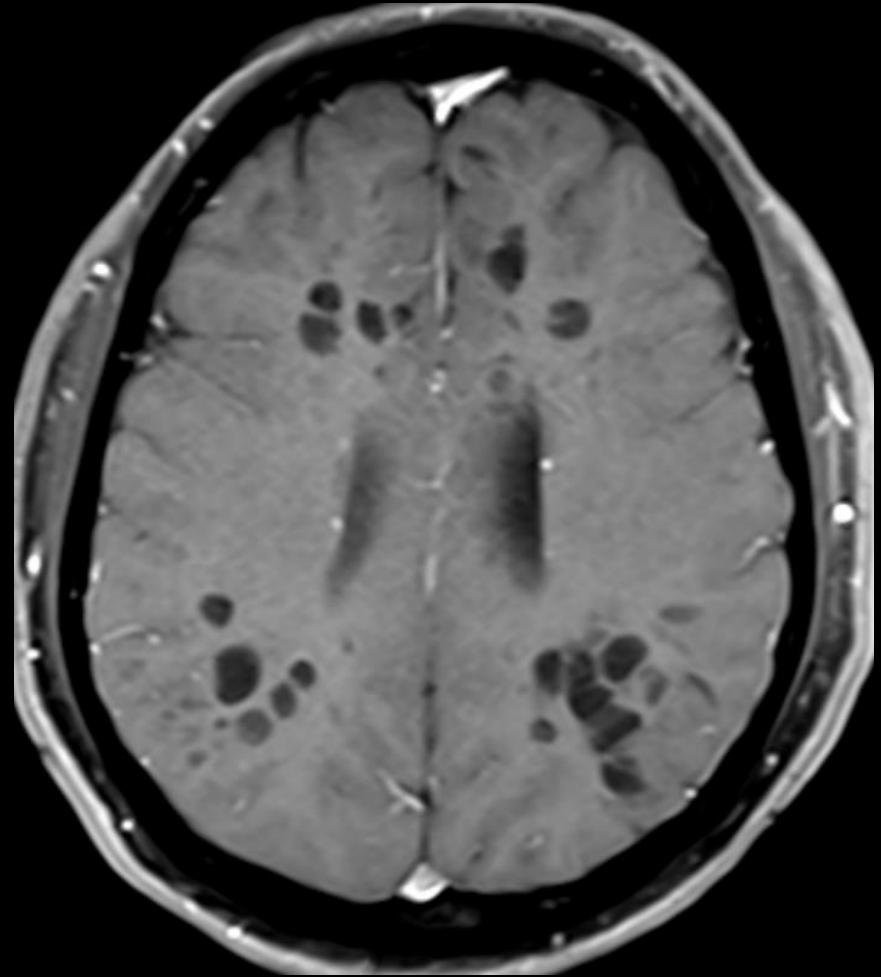
ANS : Ependymoma

Q5

42 y/o male, patient with head injury



FLAIR or dark water T2



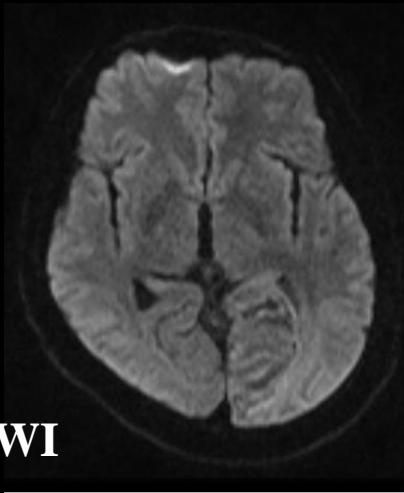
T1 weighted with Gd.

**ANS : Enlarged perivascular space *or*
dilated Virchow-Robin space**

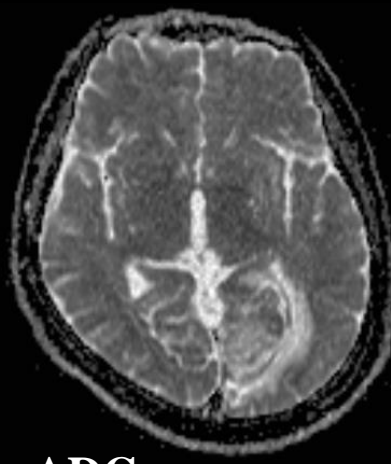
Q6

**44 y/o male,
Right homonymous hemianopia for 7 days**

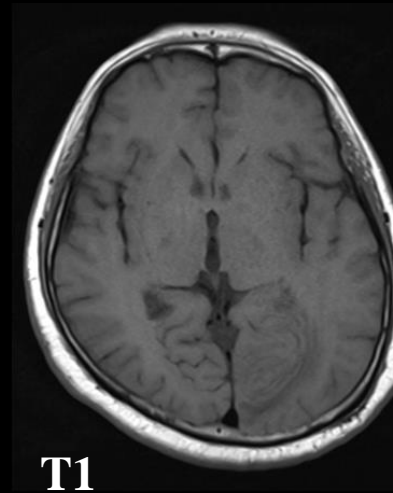
DWI



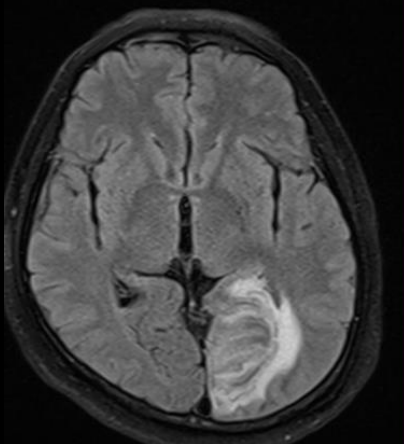
ADC



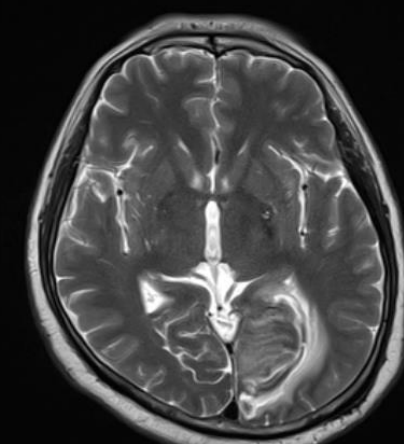
T1



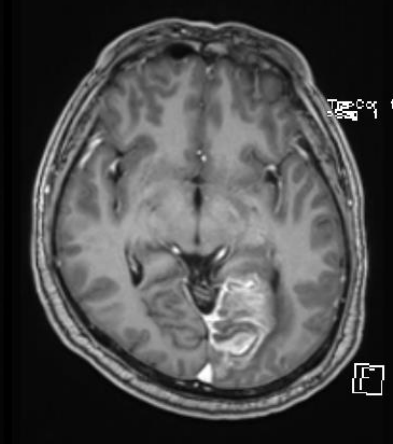
FLAIR



T2



CE T1

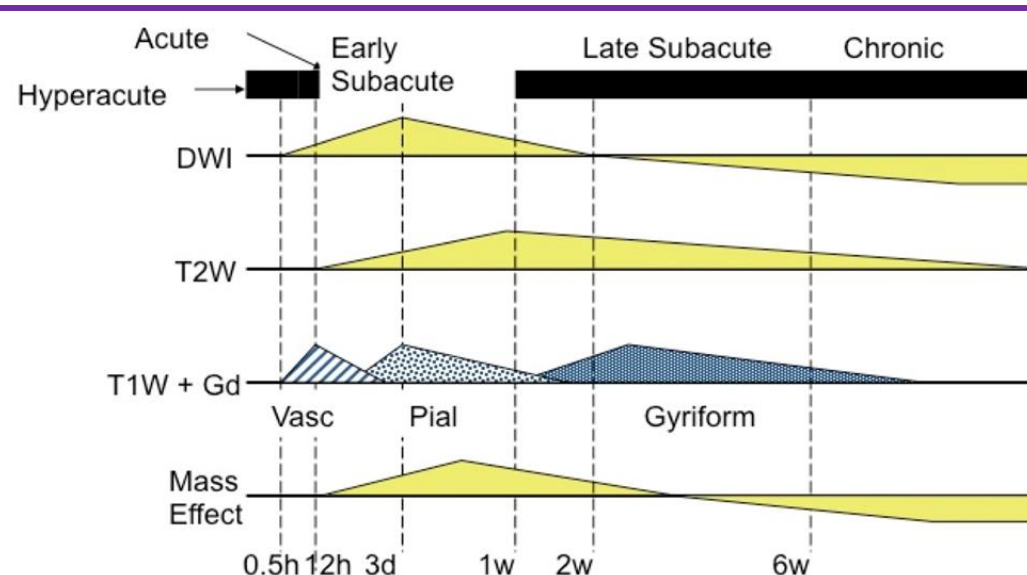


ANS : Subacute infarction at left occipital lobe

MR

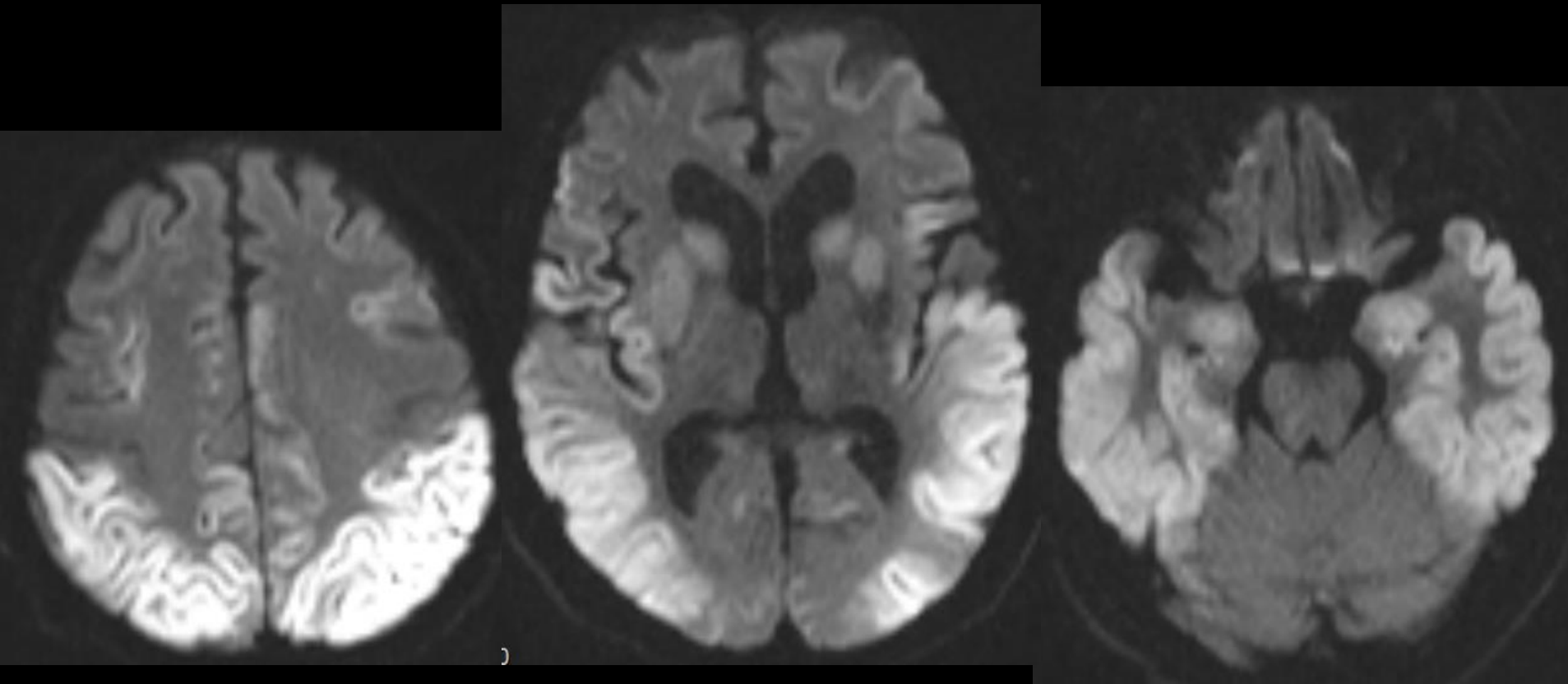
Infarction in DWI (DWI of acute excitatory brain injury, AJNR 26:216-228 Feb 2005)

	Hyperacute	Acute	Subacute	Chronic
Timing	30mins	8-32hrs (1day)	1-4wk	>1m
DWI	↑	↑	mild↑	↑-↓
ADC	↓	↓(max)	- (recovery)	↑
附註			Due to T2 shine through	Extracellular water↑



Q7

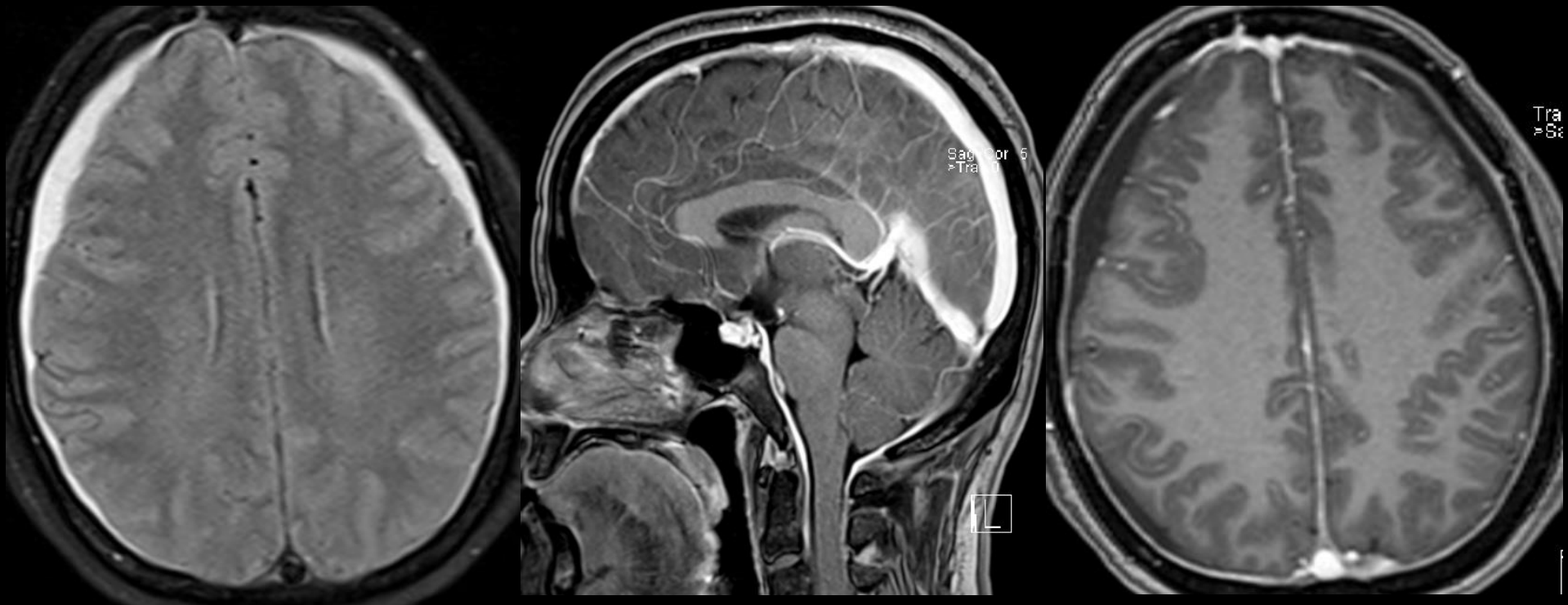
**69 y/o male, 到院前心跳停止,
Acute conscious change, sent to ER**



ANS : Hypoxic ischemic encephalopathy

Q8

50 y/o female, Orthostatic headache



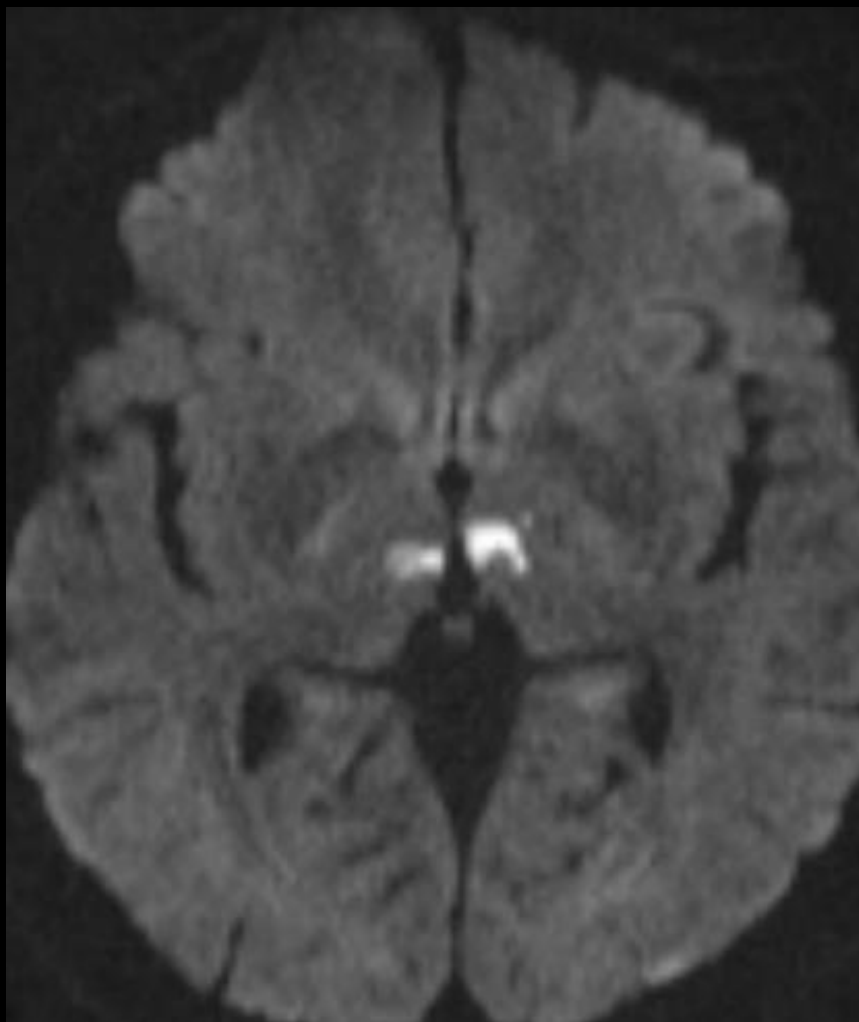
ANS : Spontaneous Intracranial Hypotension

Spontaneous Intracranial Hypotension

- Syndrome in which low CSF volume results in orthostatic headache
- Generally due to CSF leakage through a dural defect
- May be related to predisposing underlying structural weakness of the spinal meninges
- **Key Imaging Features:** related to Monro-Kellie hypothesis: loss of CSF from subarachnoid space → increase in total intracranial blood volume causing enlargement of dural venous sinuses, epidural vertebral venous plexus, and pituitary gland. Transudation of intravascular fluid into subdural space causes dural enhancement and subdural fluid collections. Mass effect from subdural collections and decreased surrounding CSF cause brain sagging.
- CT or MR myelography useful to find source of CSF leak
- Treatment: Epidural blood patch

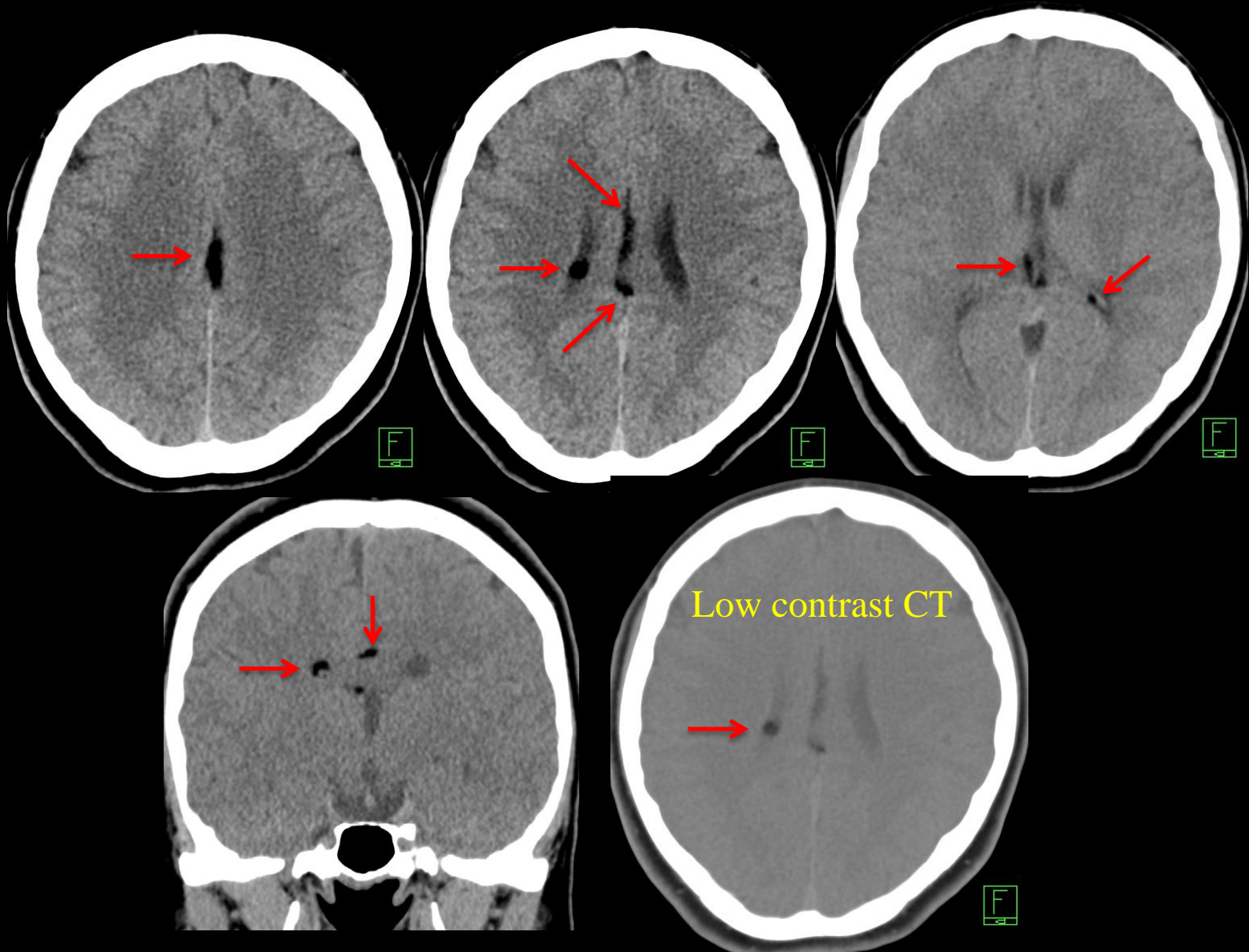
Q9

請問這是哪條血管堵塞造成的中風？



**ANS : Artery of Percheron or
Thalamoperforating arter**

20 y/o male, severe headache for days



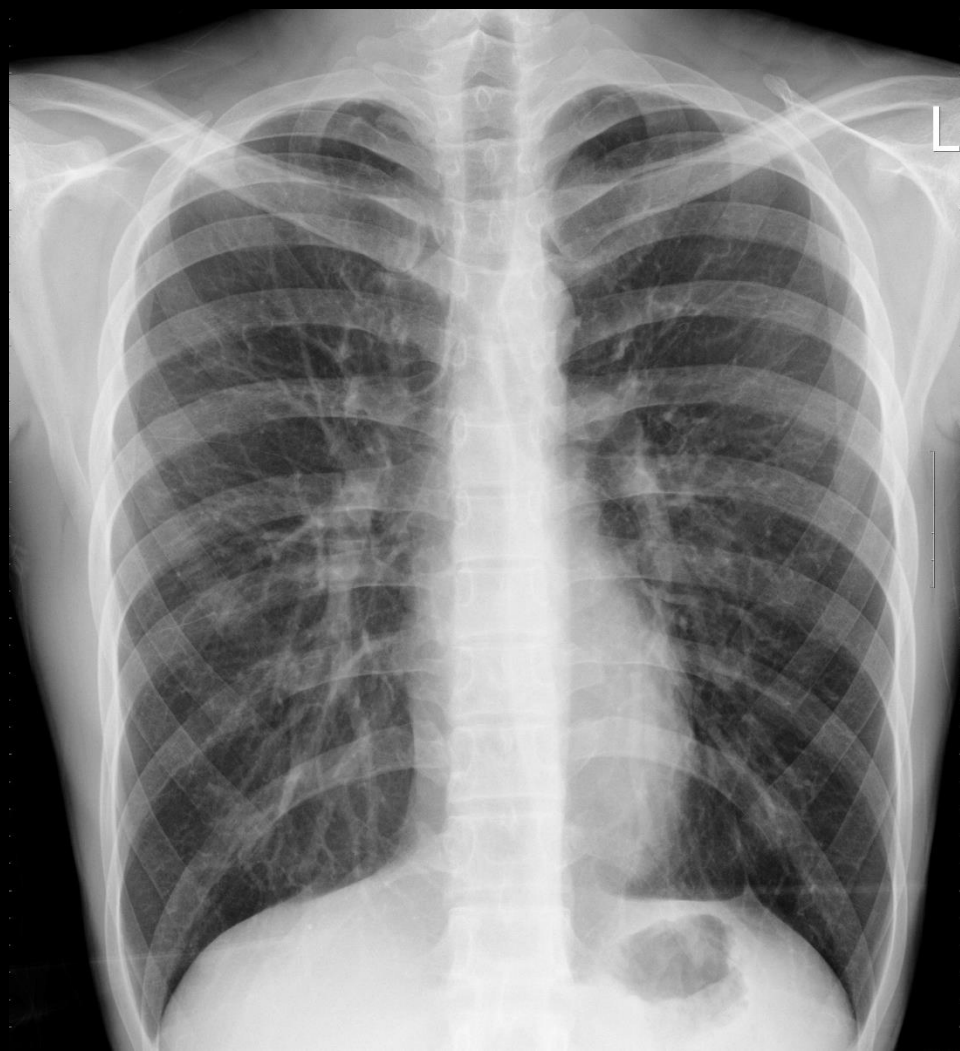
ANS : Ruptured dermoid cyst with chemical meningitis/ventriculitis

Ruptured intracranial dermoid cyst

- Rupture of an intracranial dermoid cyst is a rare event with considerable associated morbidity and potential mortality.
- Intracranial dermoid cystic tumors account for <1% of all intracranial masses.
- Dermoids are nonneoplastic, congenital ectodermal inclusion cysts that contain varying amounts of ectoderm derivatives to include apocrine, sweat, and sebaceous cysts as well as hair follicles, squamous epithelium, and possibly teeth.
- Dermoid cystic tumors arise from the inclusion of ectodermally committed cells at the time of neural tube closure during the third to fifth week of embryogenesis. These lesions are slow growing due to the active production of hair and oils from the internal dermal elements.
- When dermoid cystic tumors rupture and spread their contents into the ventricles and subarachnoid and/or subdural spaces, the most common clinical presentation is that of **headache and seizures**. Headache may be the consequence of compression of adjacent neural structures, chemical meningitis from cyst content irritation, or perhaps the effects of hydrocephalus if present.
- Radiological findings: **Midline fat containing mass with fat spreading to subarachnoid space or ventricle.**

Q11

**29 y/o male,
Underlying Marfan syndrome**



ANS : Pectus excavatum

Q12

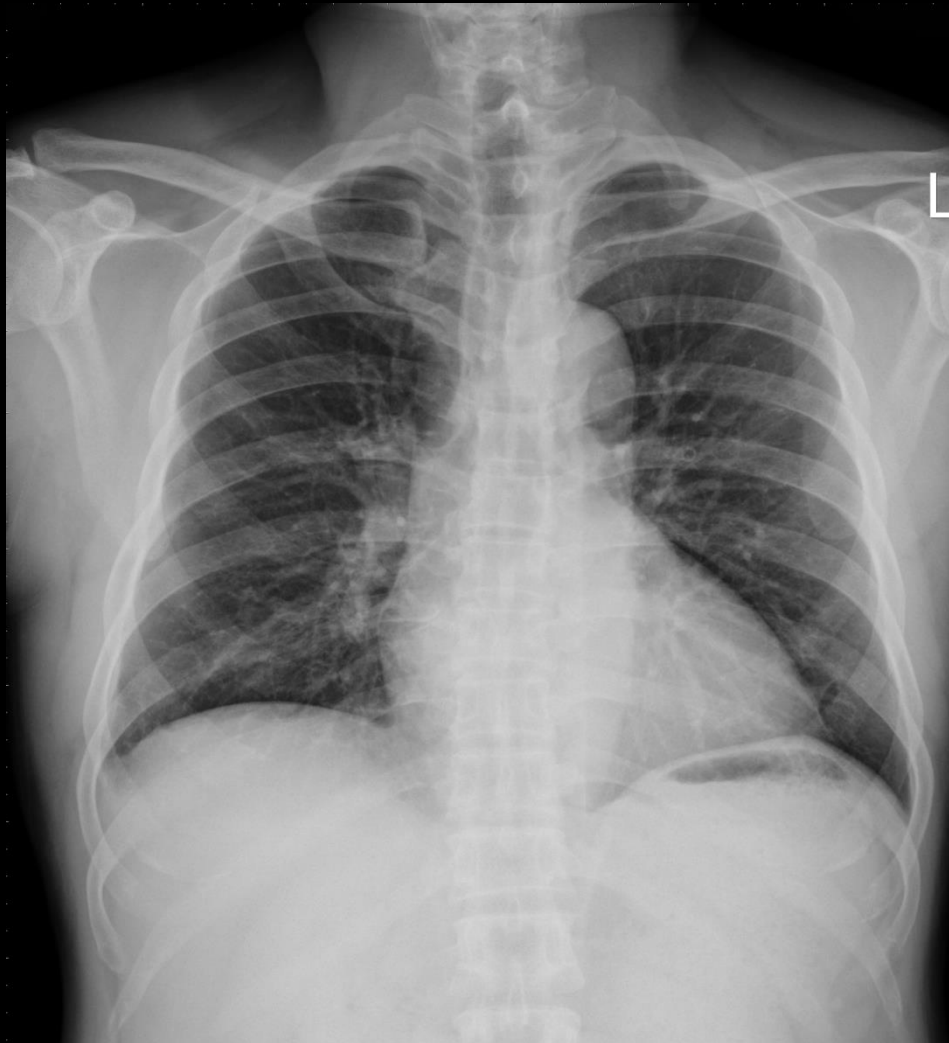
90 y/o female, Chest discomfort for years



ANS : Hiatal hernia

Q13

**54 y/o male,
Trauma in a traffic accident**



ANS : Hypoplasia of bilateral 1st ribs

Q14

20 y/o male, Right chest pain

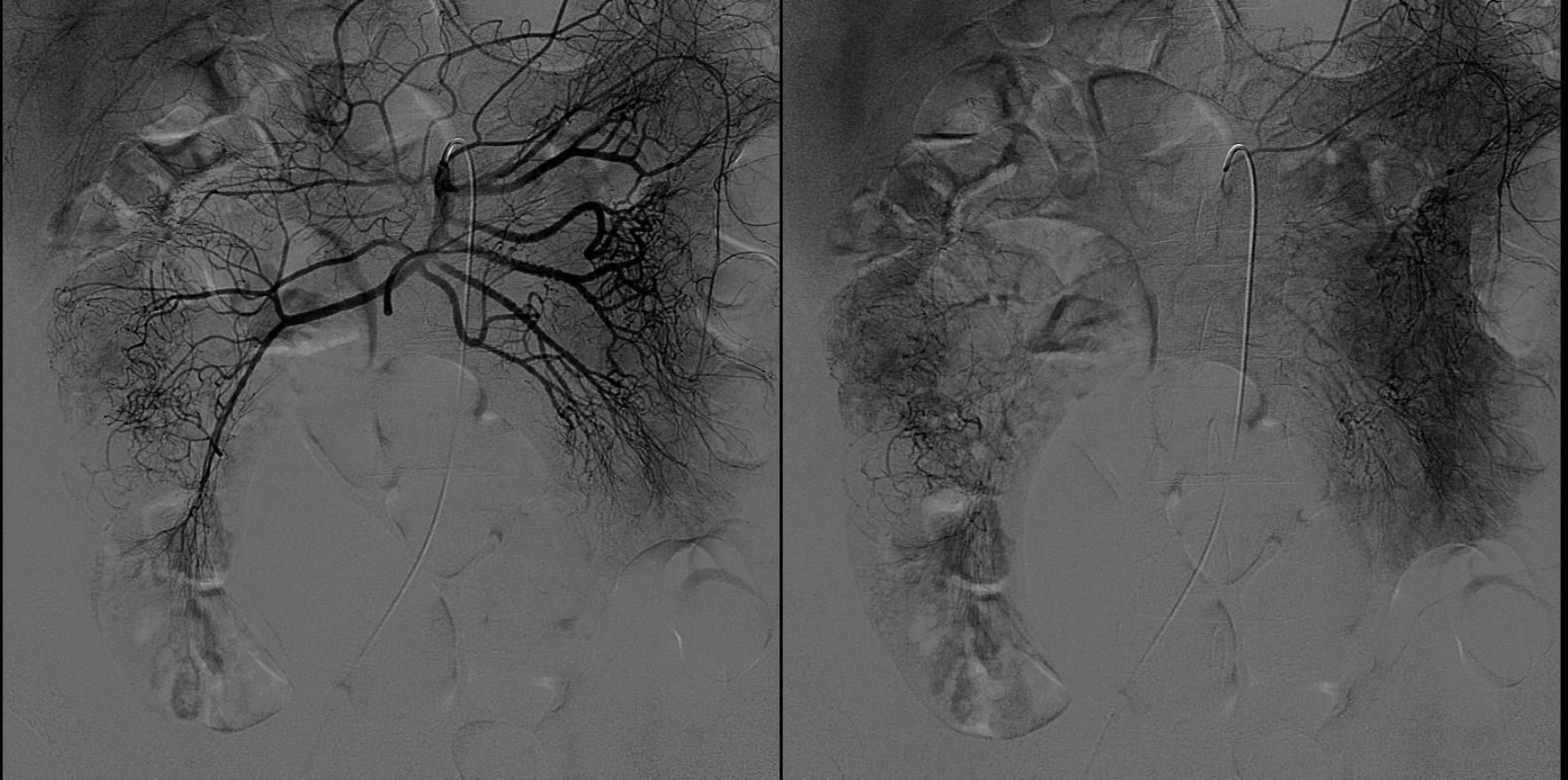


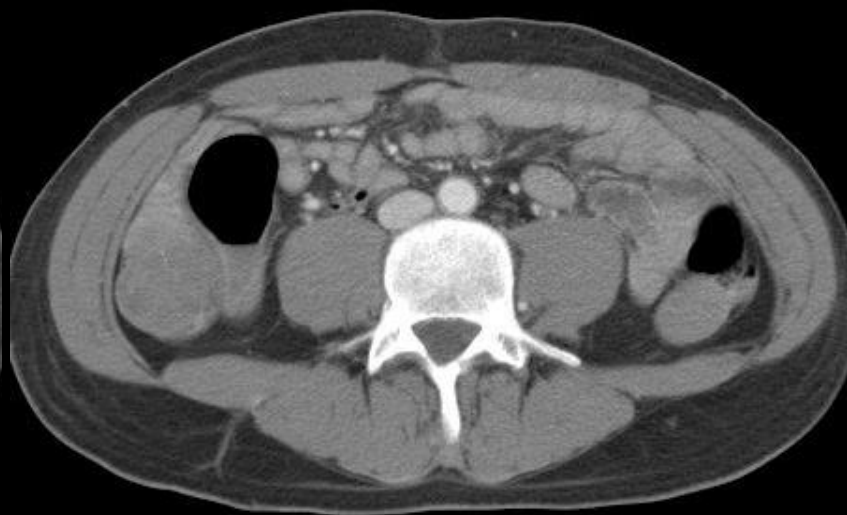
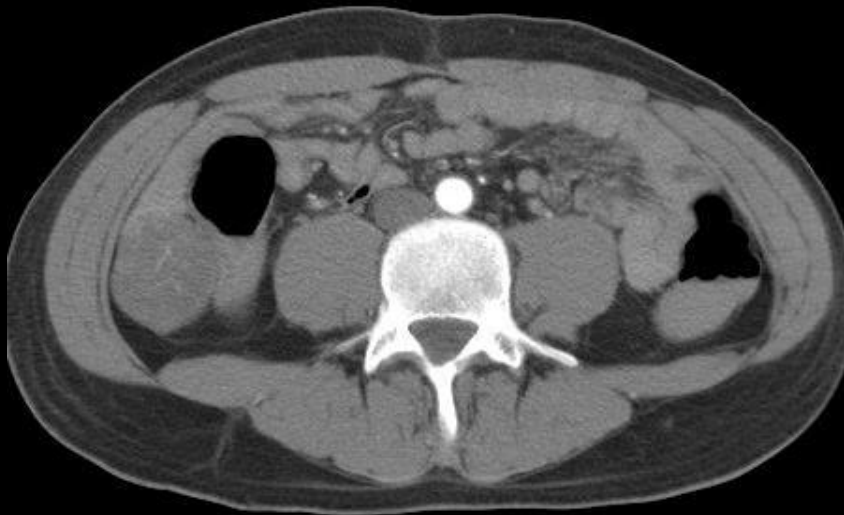
ANS :

- 1. Rt-sided spontaneous pneumothorax**
- 2. A right cervical rib**

Q15-1

35 y/o female, GI bleeding





**ANS : Gastrointestinal stromal tumor
(GIST) of terminal ileum**

Q16

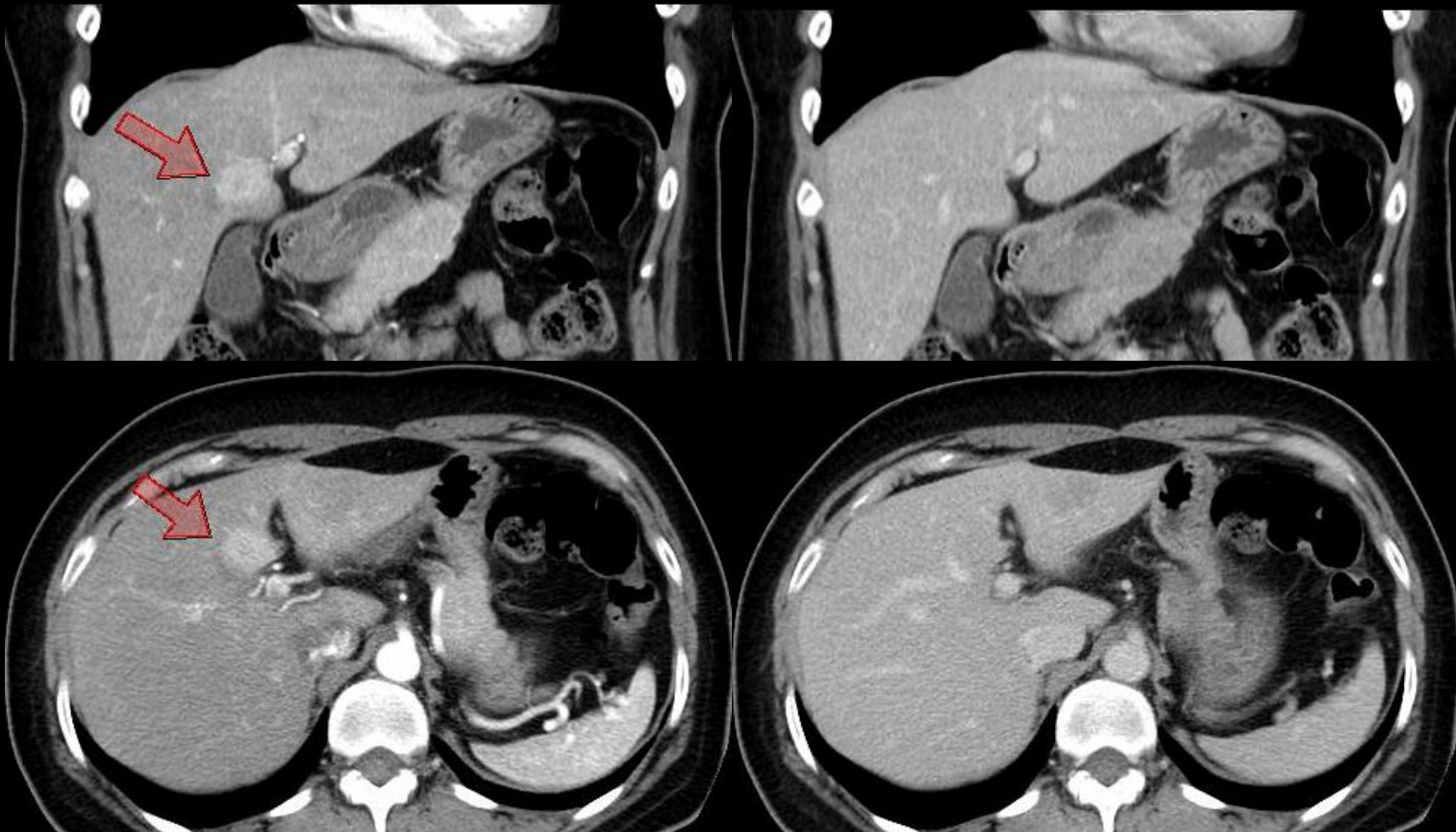
**67 y/o female, left upper quadrant(LUQ)
mass by 超音波 & 內視鏡**



**ANS : Gastrointestinal stromal tumor
(GIST) of stomach**

Q17

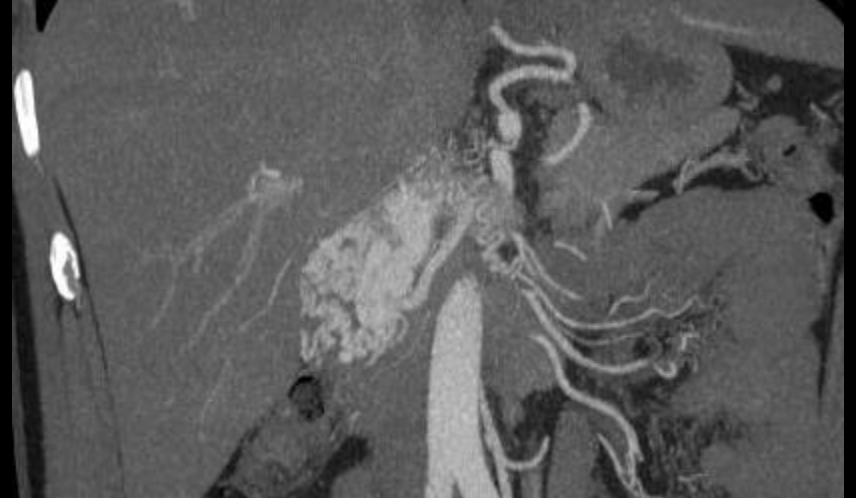
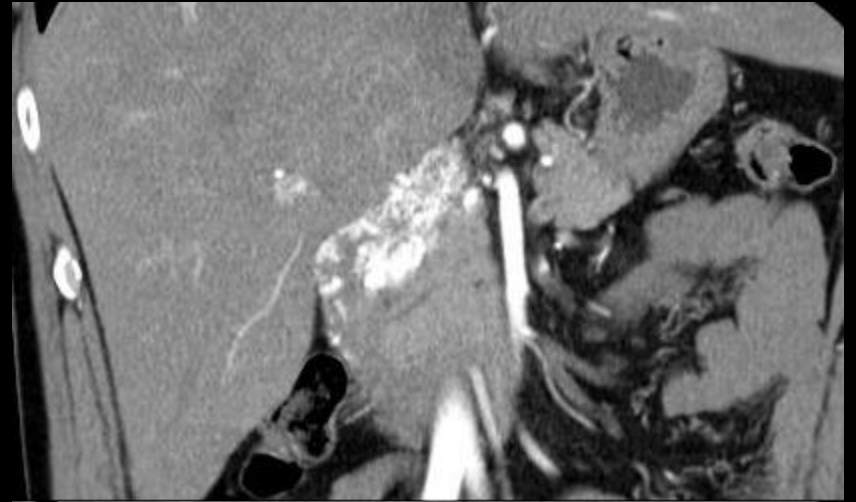
**45 y/o female,
incidental finding of hepatic nodule,
HBV(-), HCV(-)**



ANS : Focal nodular hyperplasia (FNH)

Q18

41y/o female, back pain



**ANS : Arteriovenous malformation
(AVM) of pancreas**

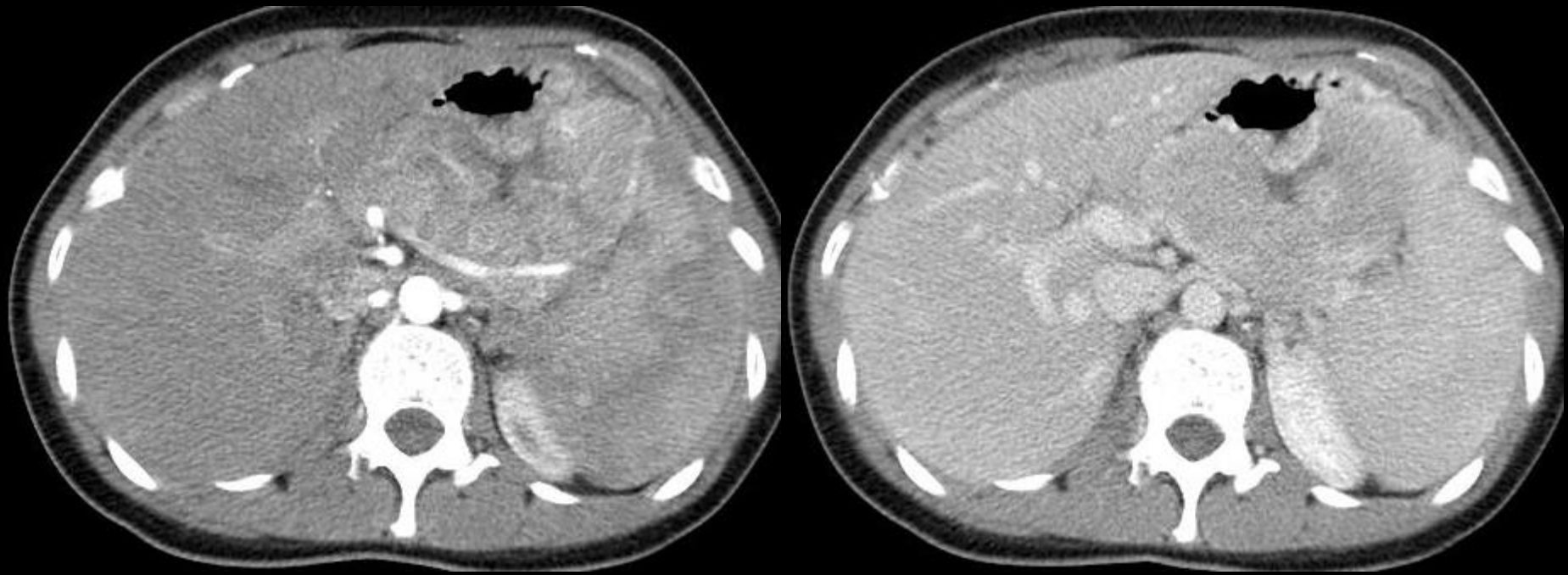
Q19

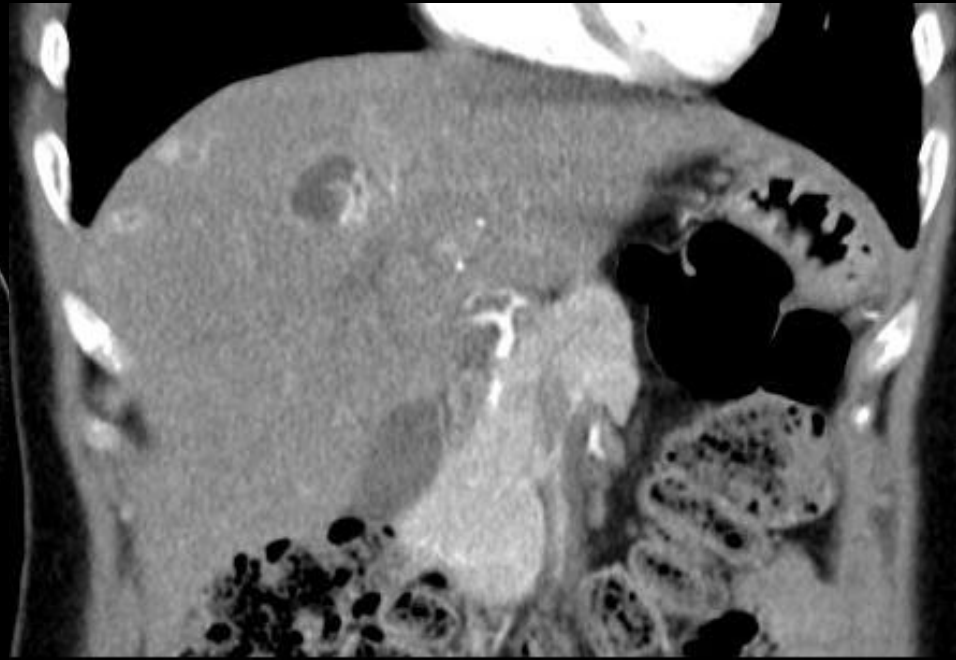
65 y/o female, lower abdominal pain



**ANS : Migration of intrauterine device
(IUD) outside the uterus**

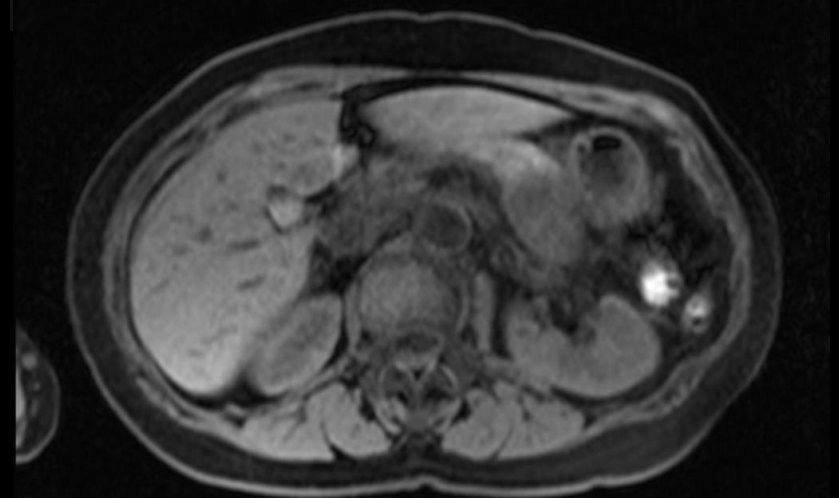
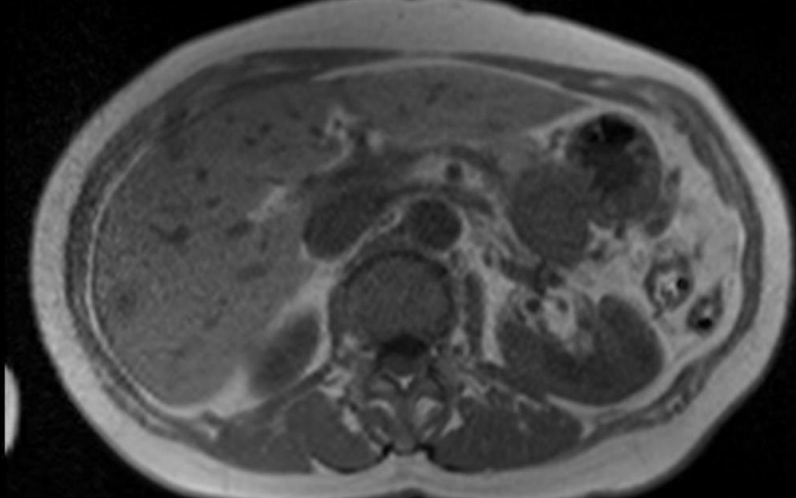
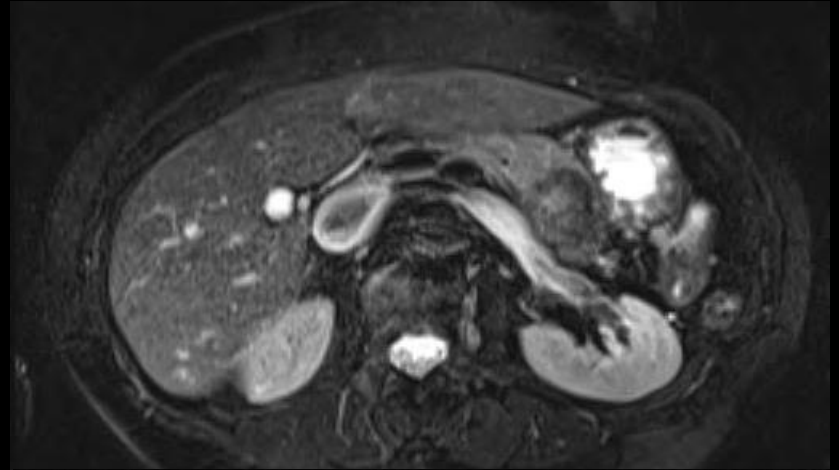
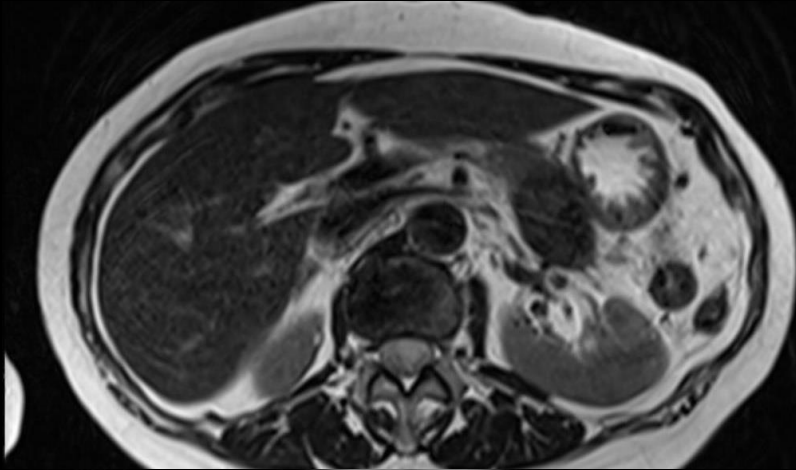
32 y/o female, abdominal pain



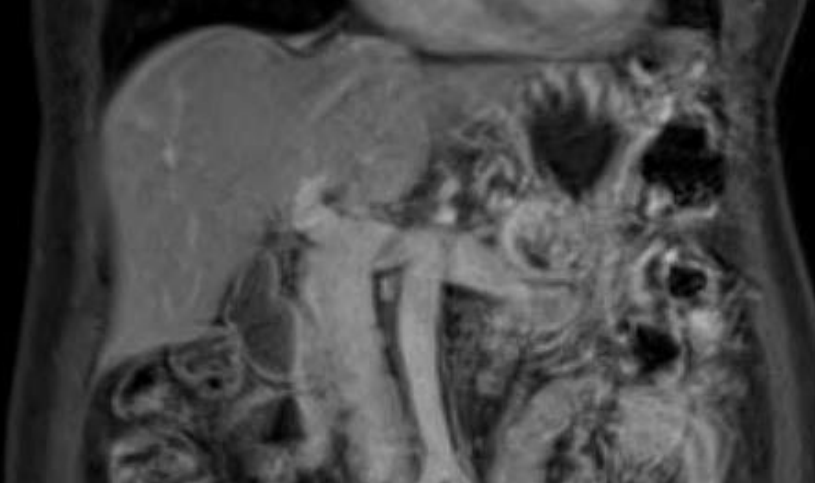
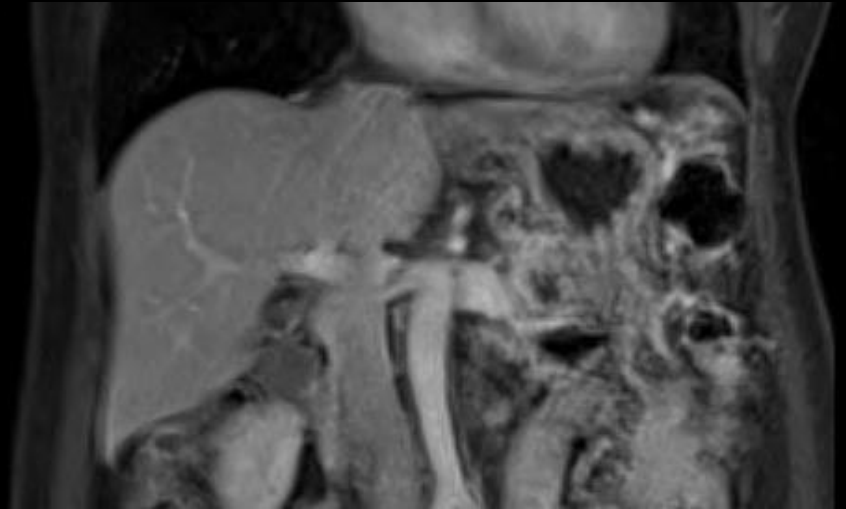
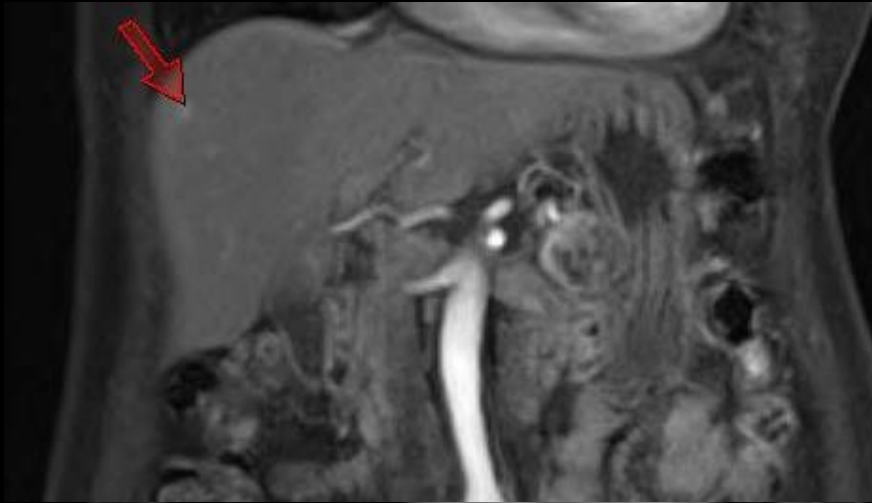


ANS : Neuroendocrine tumor with liver metastasis

65 y/o female, frequent syncope

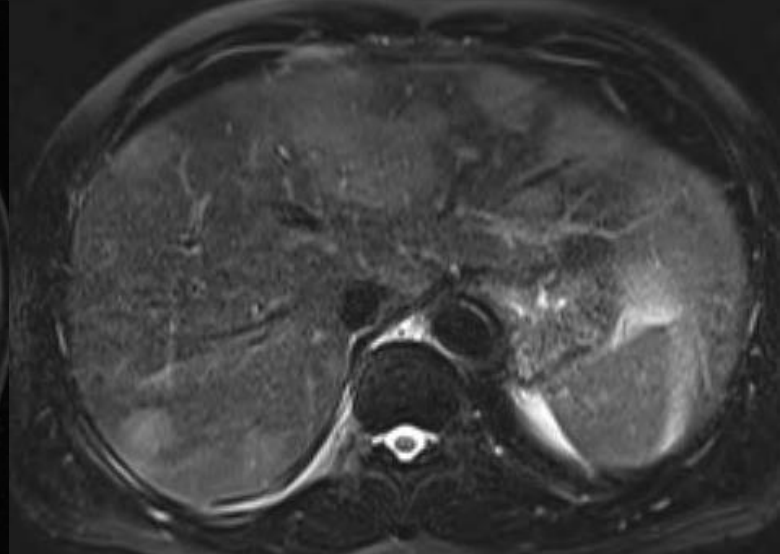
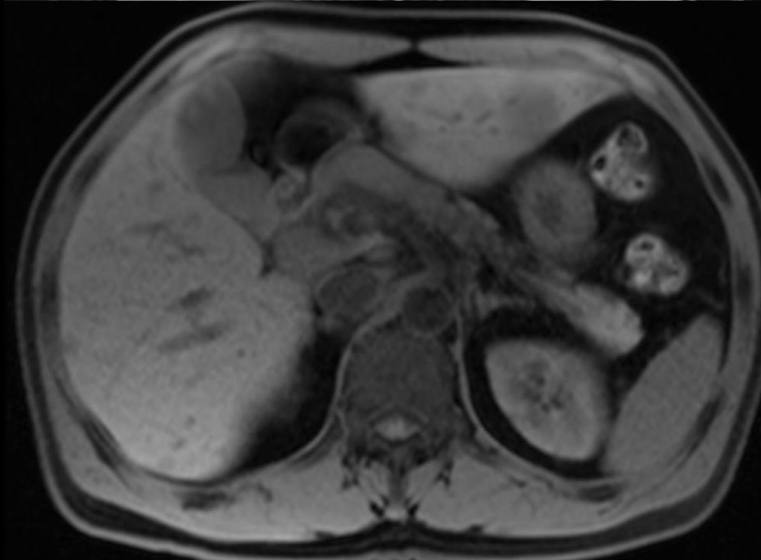
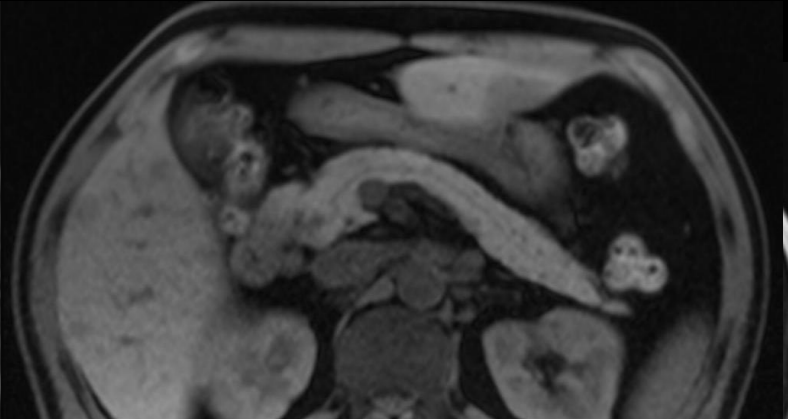
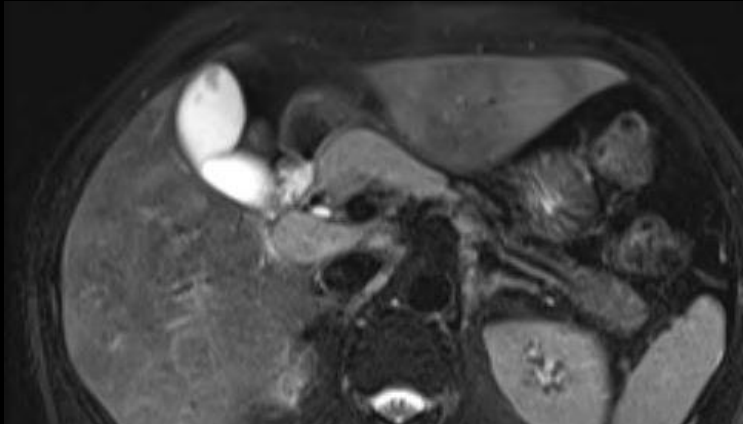


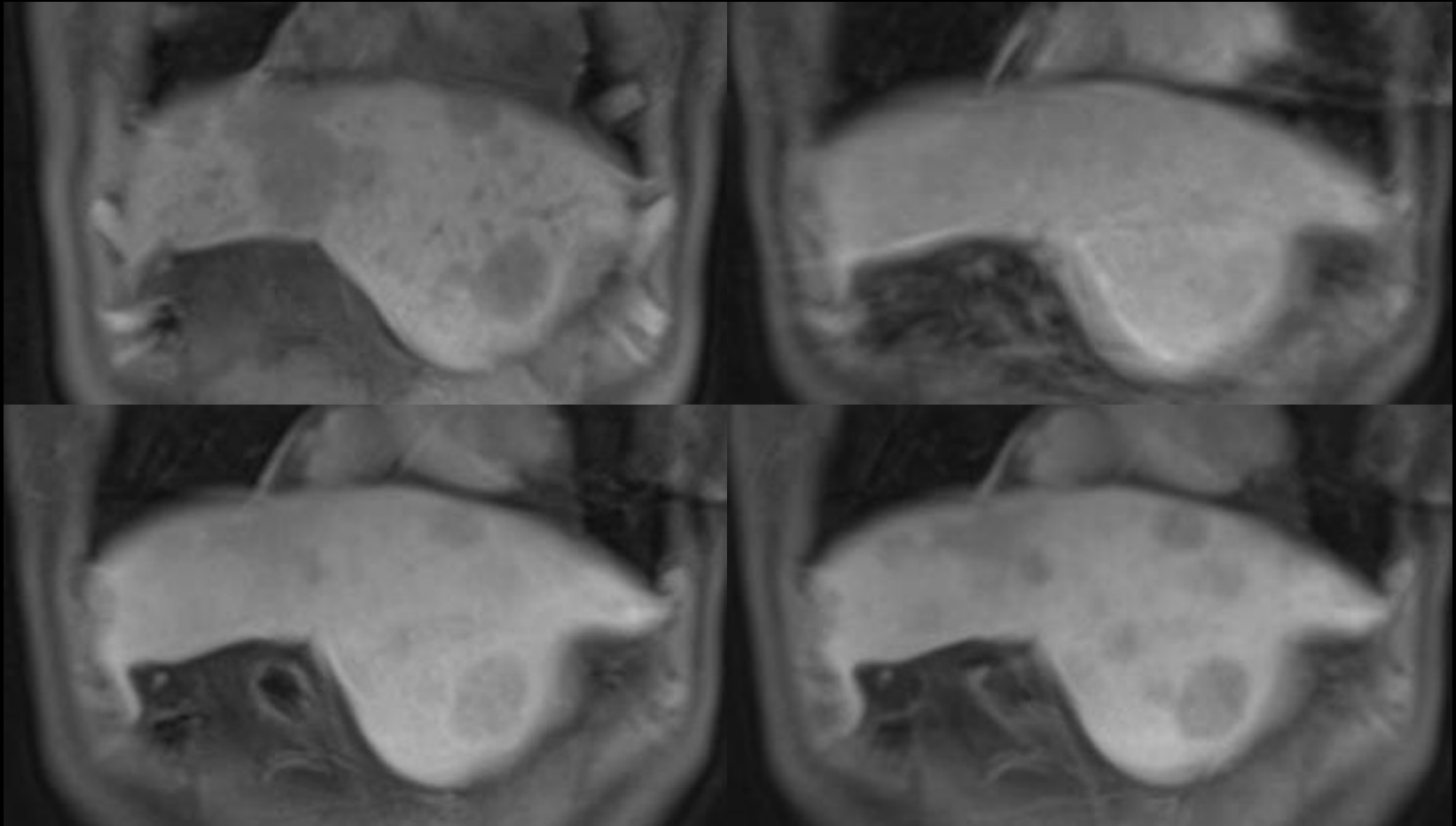
Q21-2



ANS : Insulinoma with liver metastasis

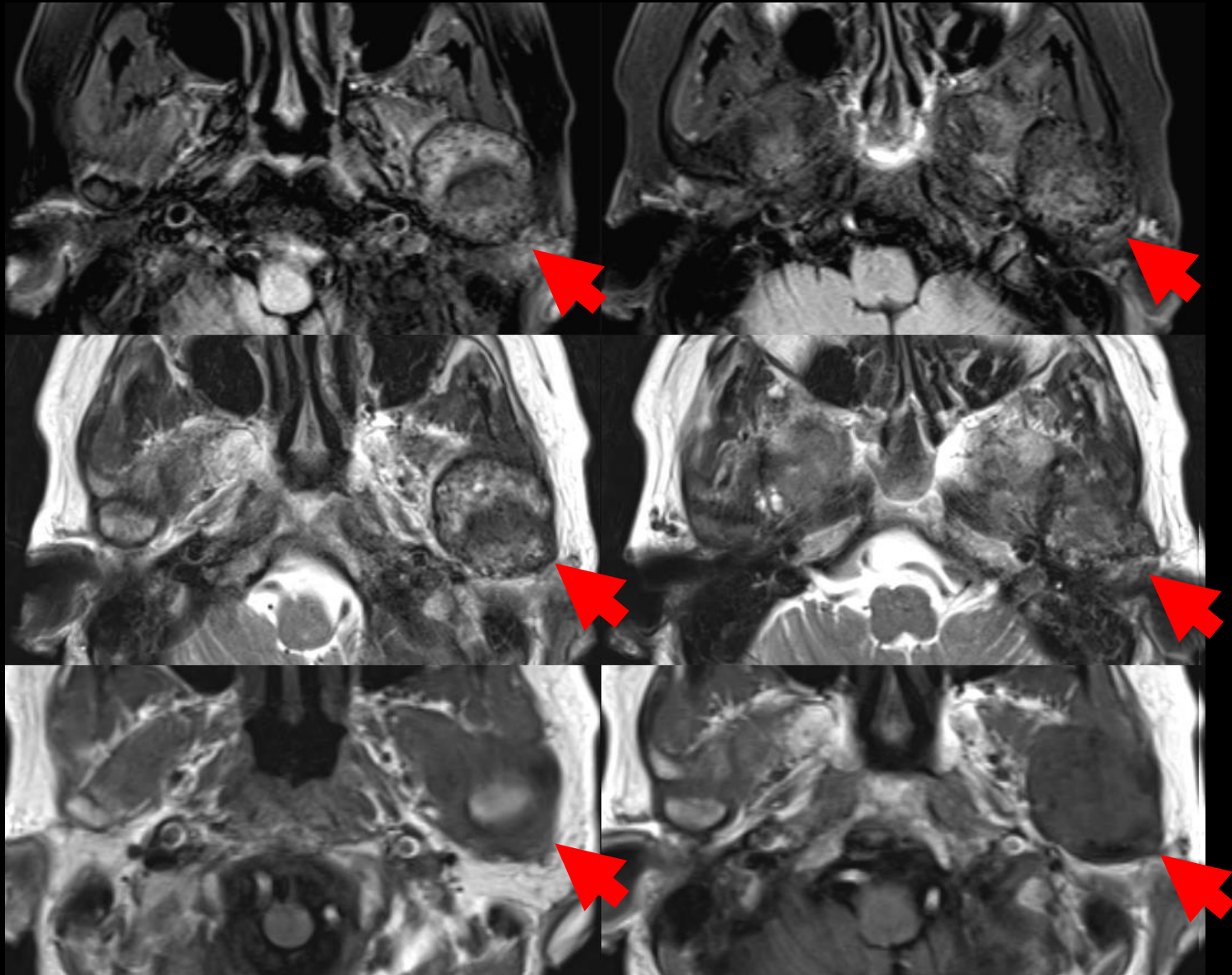
**54 y/o male,
HBV(+) with regular F/U, elevated LFTs.**

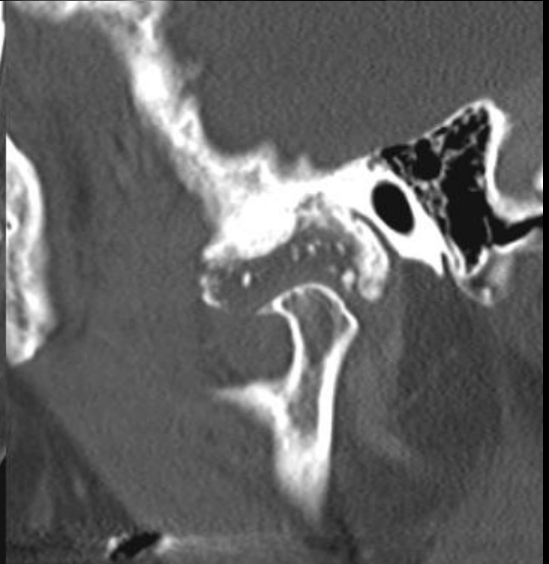
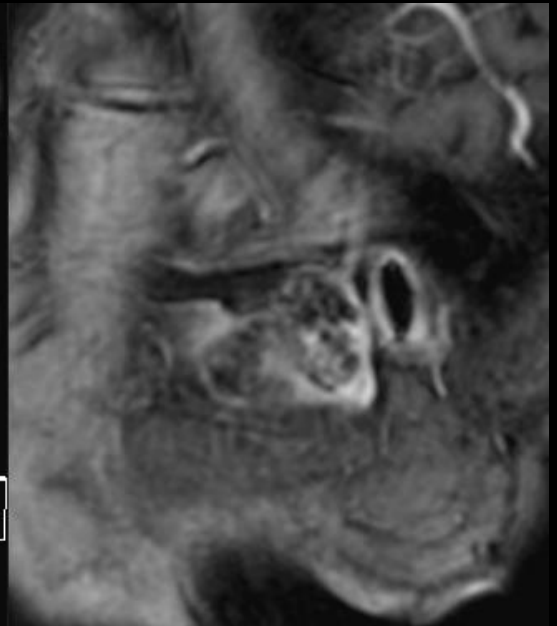
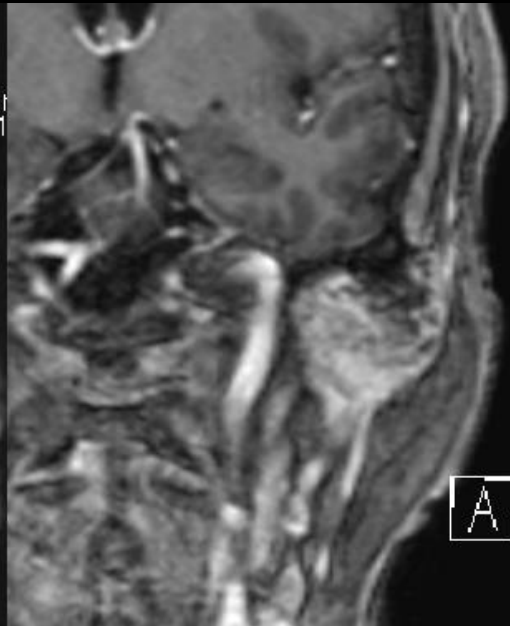
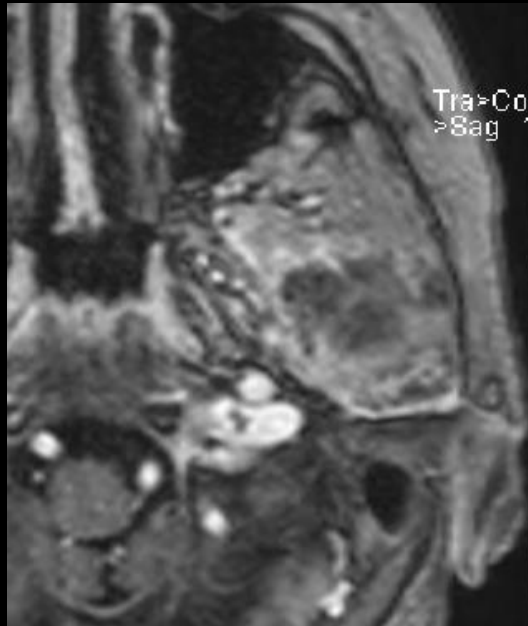




ANS : Liver involvement of lymphoma

65 y/o female, 紅色箭頭所指?

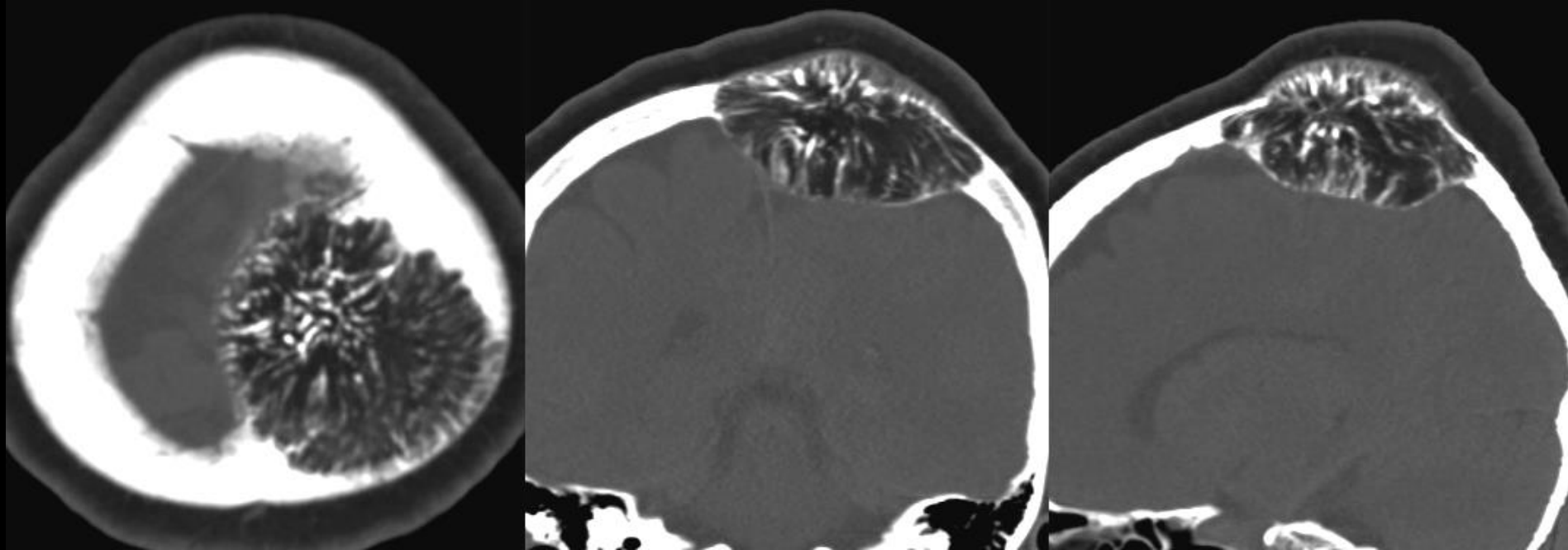
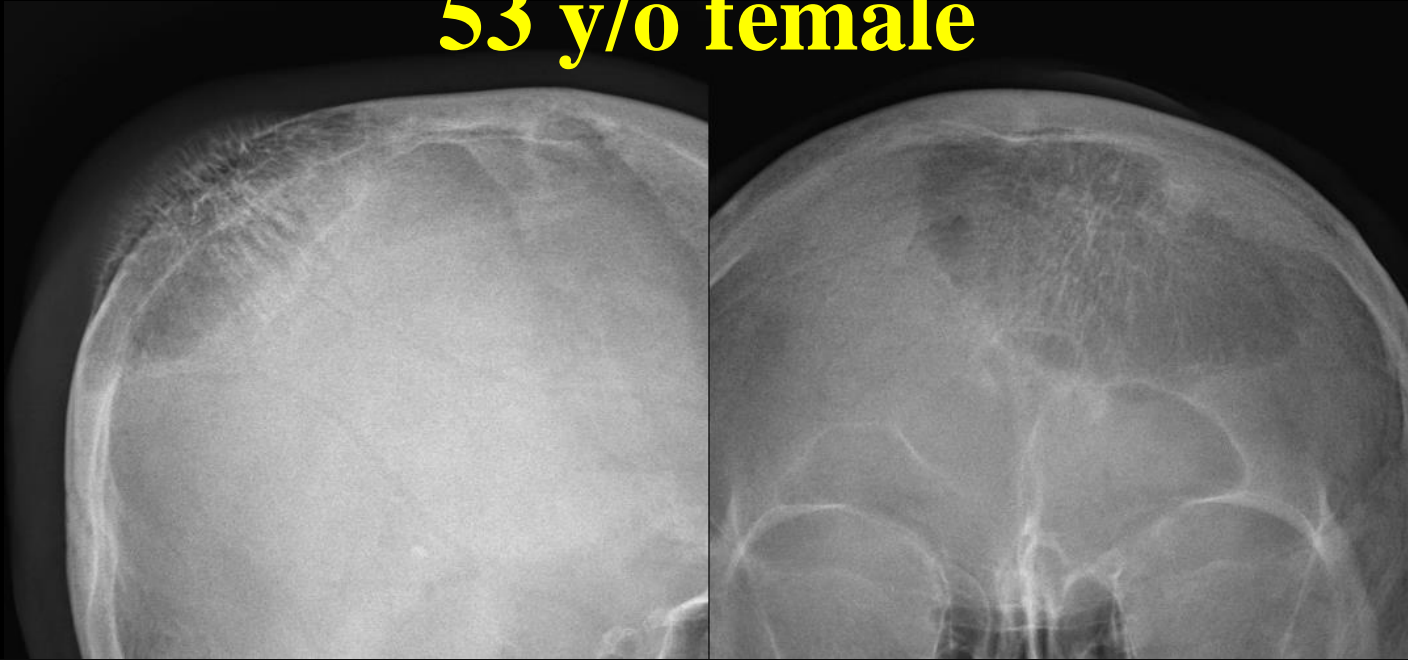


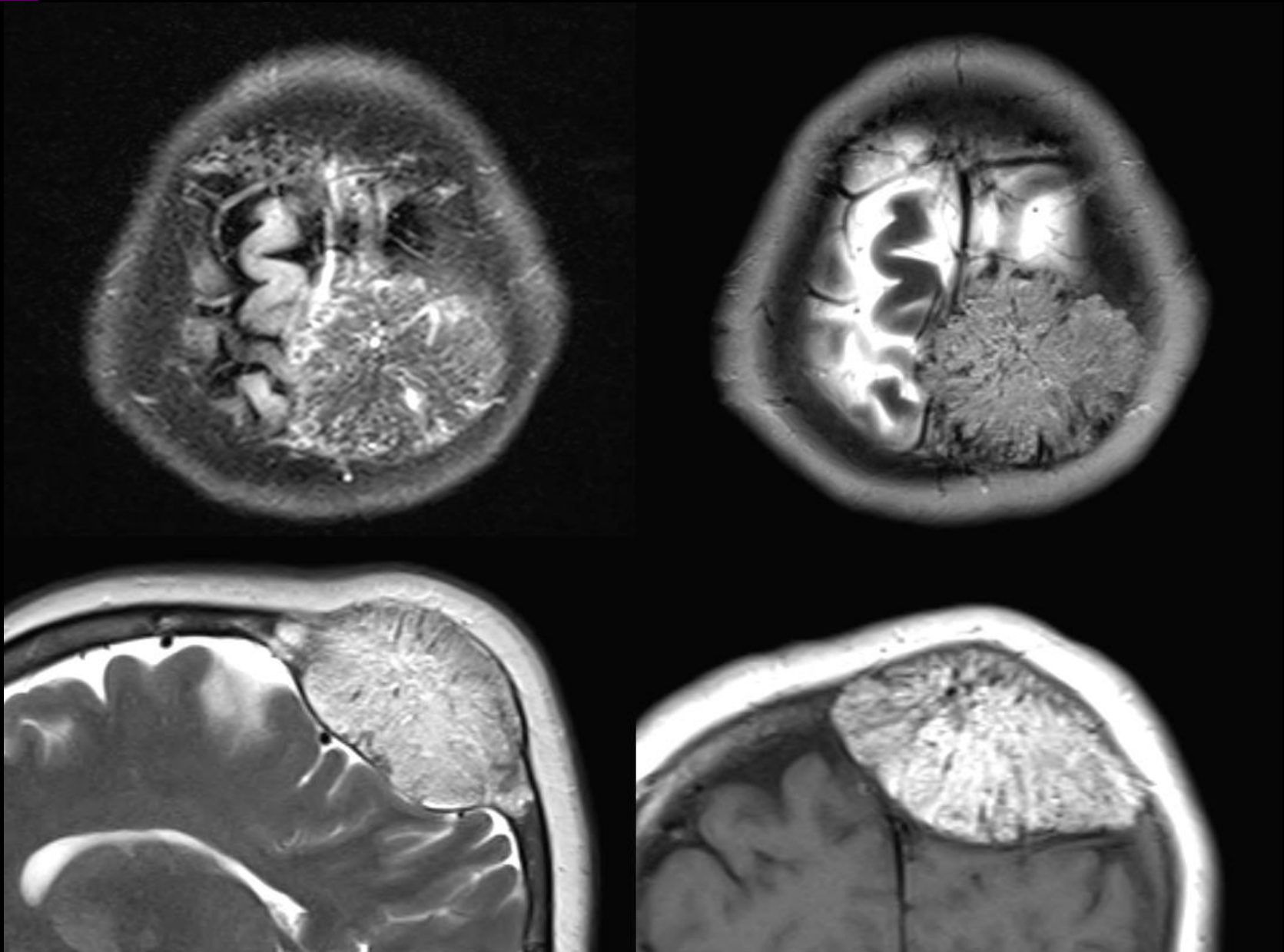


**ANS : Temporomandibular Joint (TMJ)
synovial osteochondromatosis**

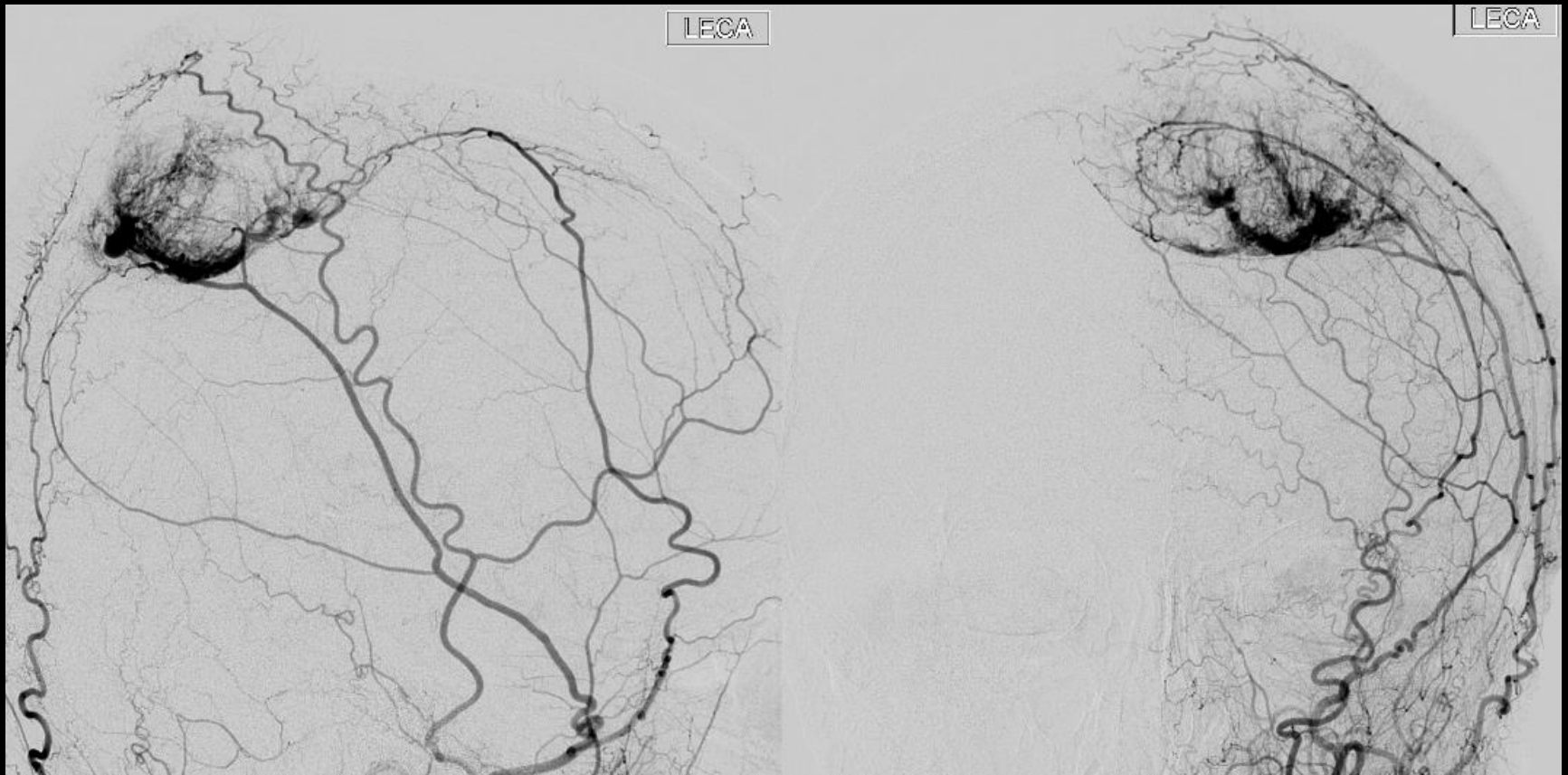
Q24-1

53 y/o female



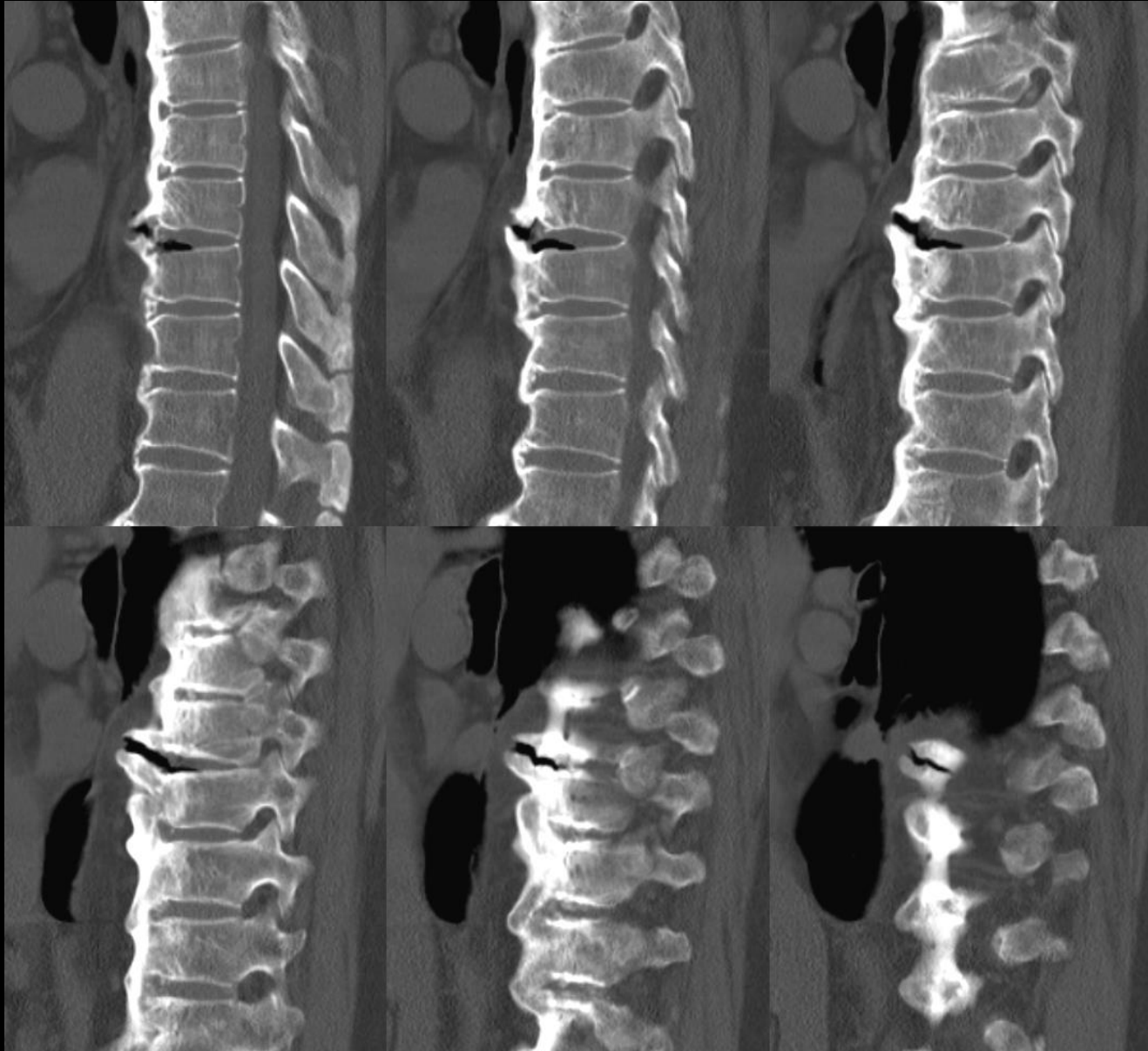


ANS : skull intraosseous cavernous hemangioma



Q25

70 y/o male



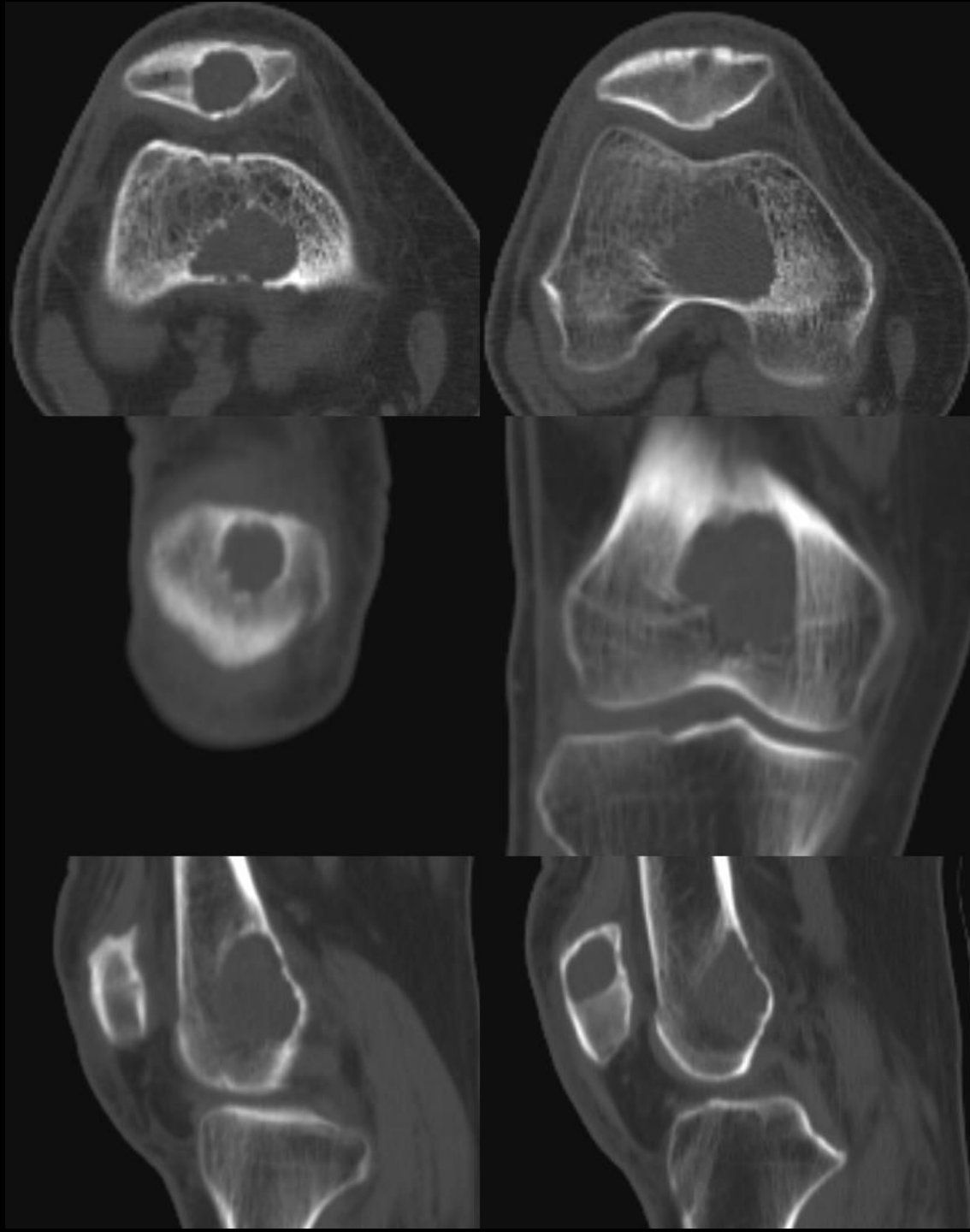
**ANS : diffuse idiopathic skeletal
hyperostosis (DISH)**

**[synonym: senile ankylosing spondylosis,
ankylosing hyperostosis, Forestier
disease] with intra-articular (trans-
articular) fracture.**

Q26-1

69 y/o, Knee pain ,Hypercalcemia





ANS : brown tumor.

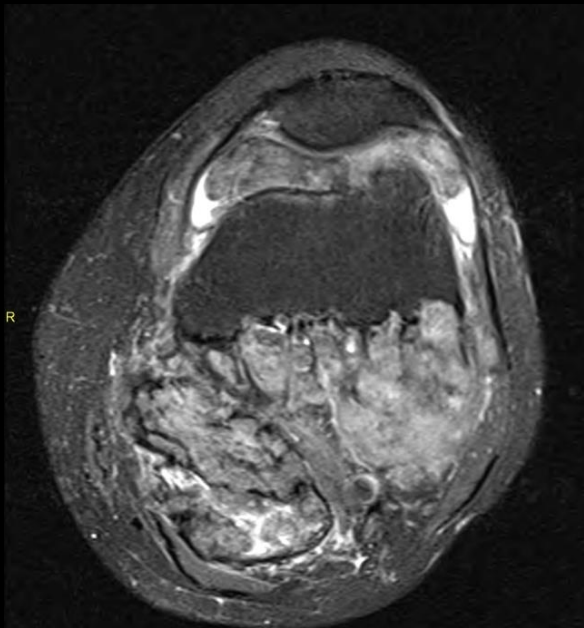
Clinical information:

**Lab: Hypercalcemia, hypophosphatemia,
elevated parathyroid hormone**

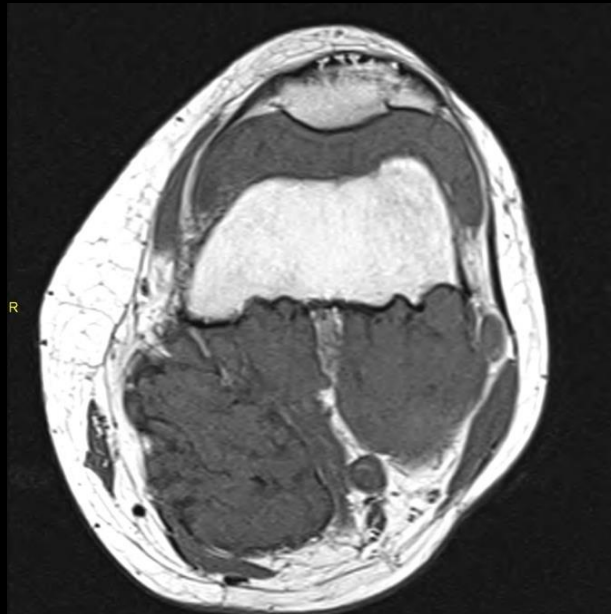
**Tumor excision pathology: osteoclastoma,
identical pattern of giant cell tumor.**

Q27

**60 y/o female,
left knee painful swelling for several
months**



PDW FS



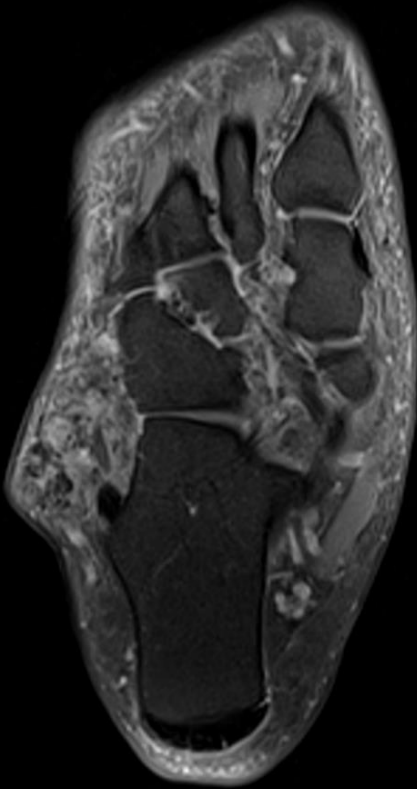
T1W



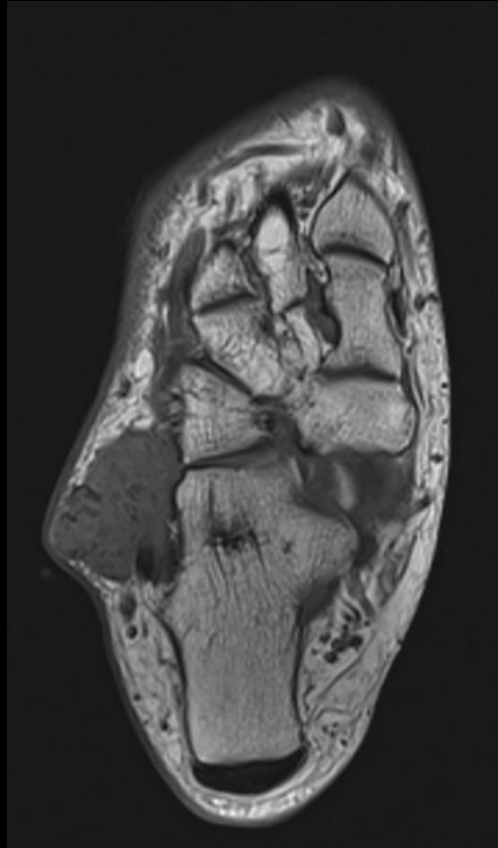
PDW FS

**ANS : Tenosynovial giant cell tumor,
diffuse type, or Pigmented
villonodular synovitis (PVNS)**

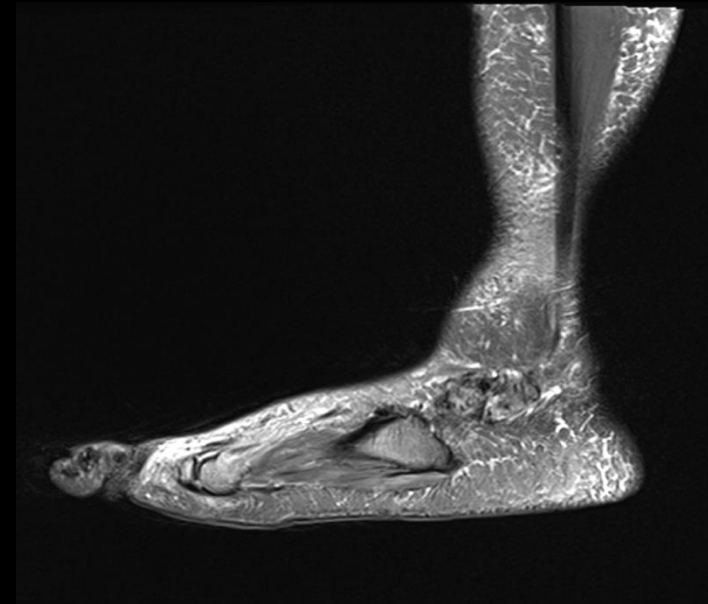
48 y/o female, right ankle mass



PDW FS



TIW

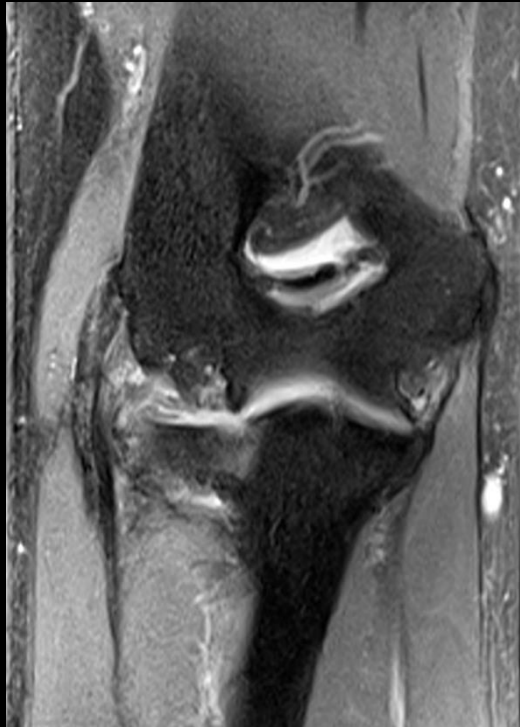


PDW FS

**ANS : Tenosynovial giant cell tumor
arising from peroneus longus
tendon**

Q29

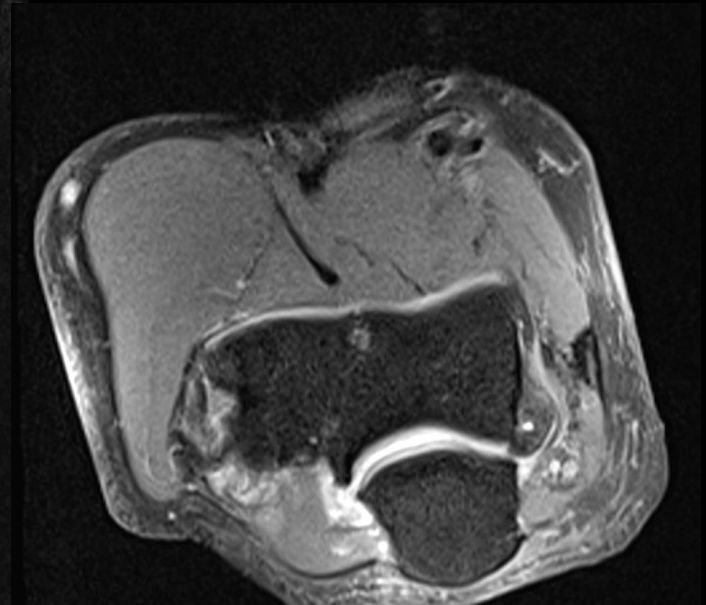
**59 y/o male,
right elbow pain for months**



PDW FS



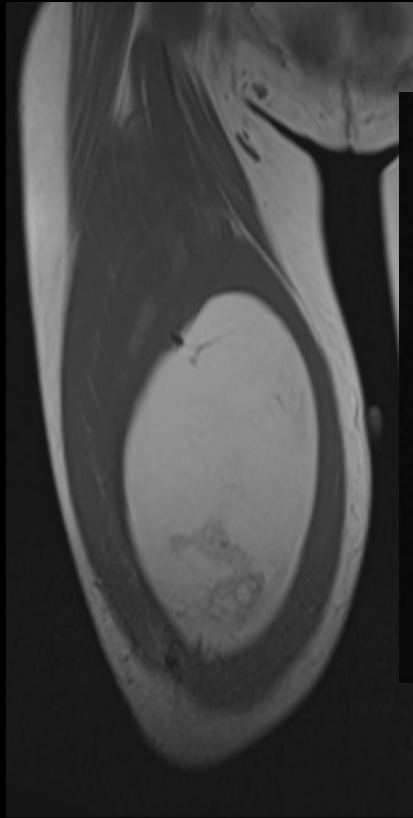
PDW FS



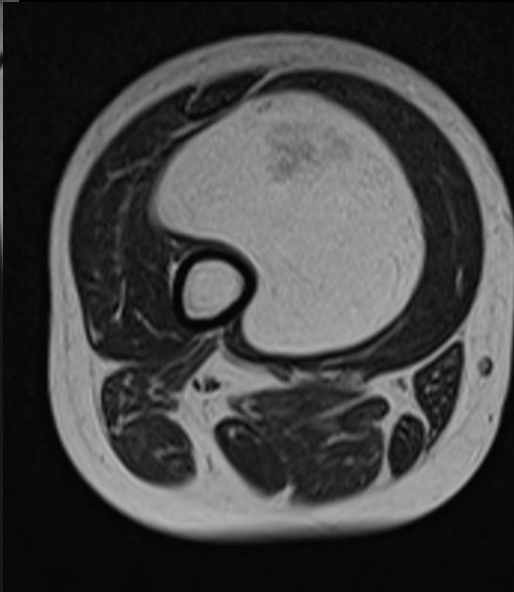
PDW FS

**ANS : Tear of common extensor tendon
or tennis elbow**

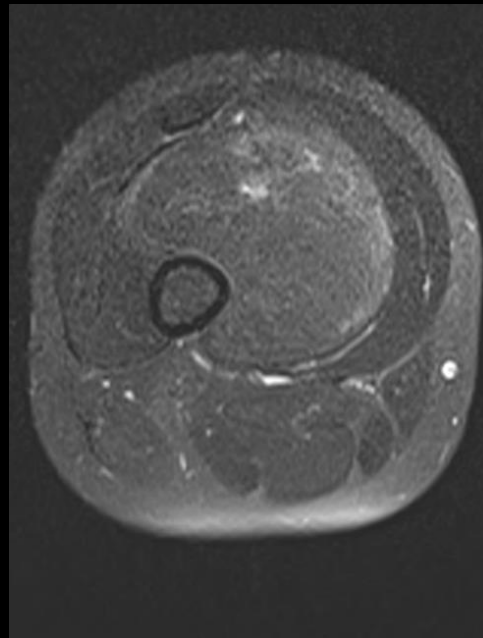
47 y/o female, right thigh tumor



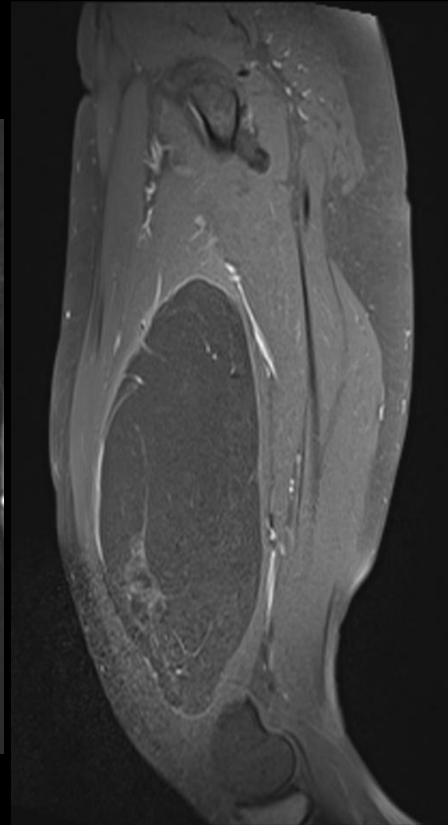
T1W



T1W



T1W FS + C

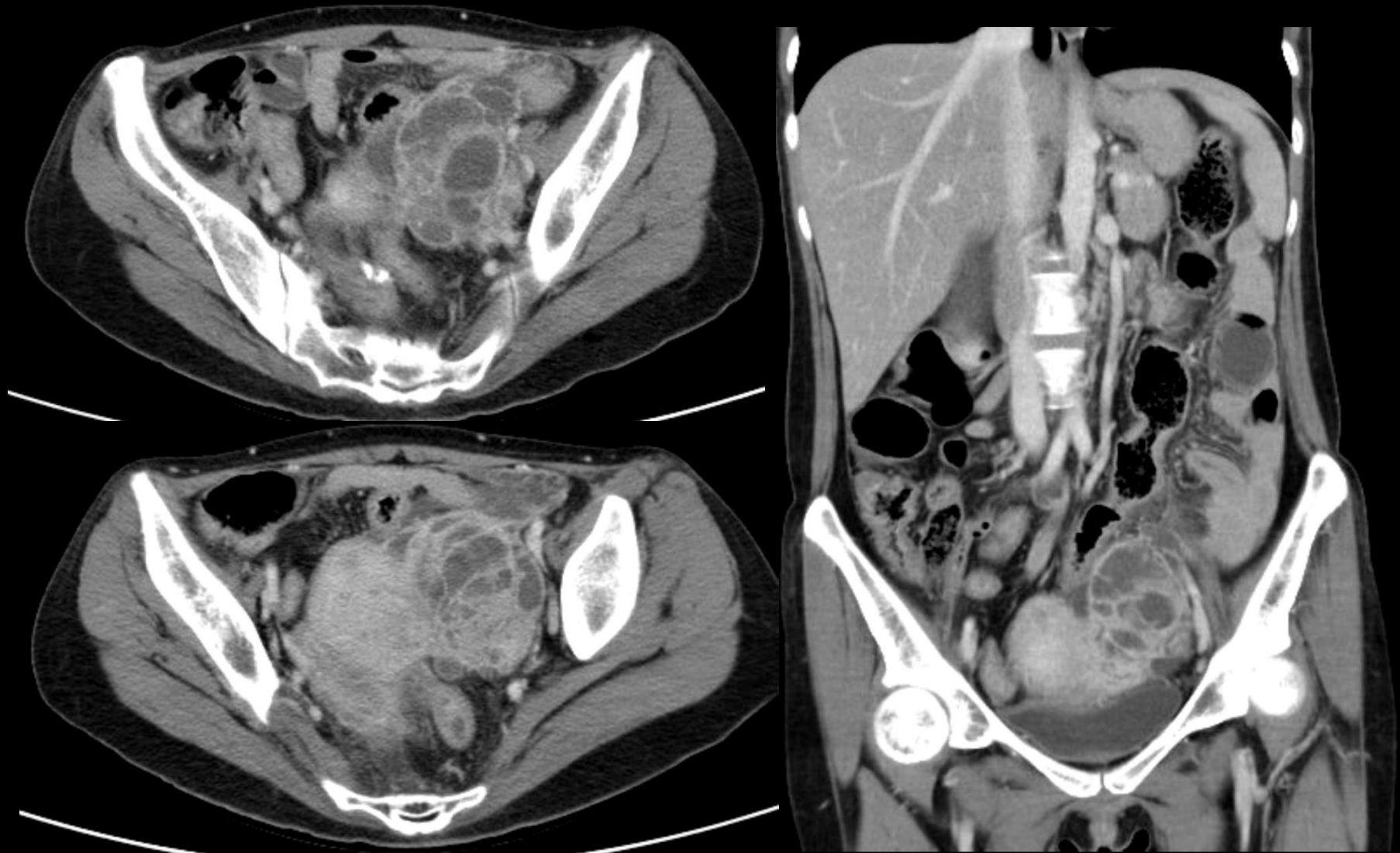


T1W FS + C

ANS : Well-defined liposarcoma

Q31

**38 y/o female,
progressive abdominal pain for one
month with fever**



ANS : Tubo-ovarian abscess

Q32

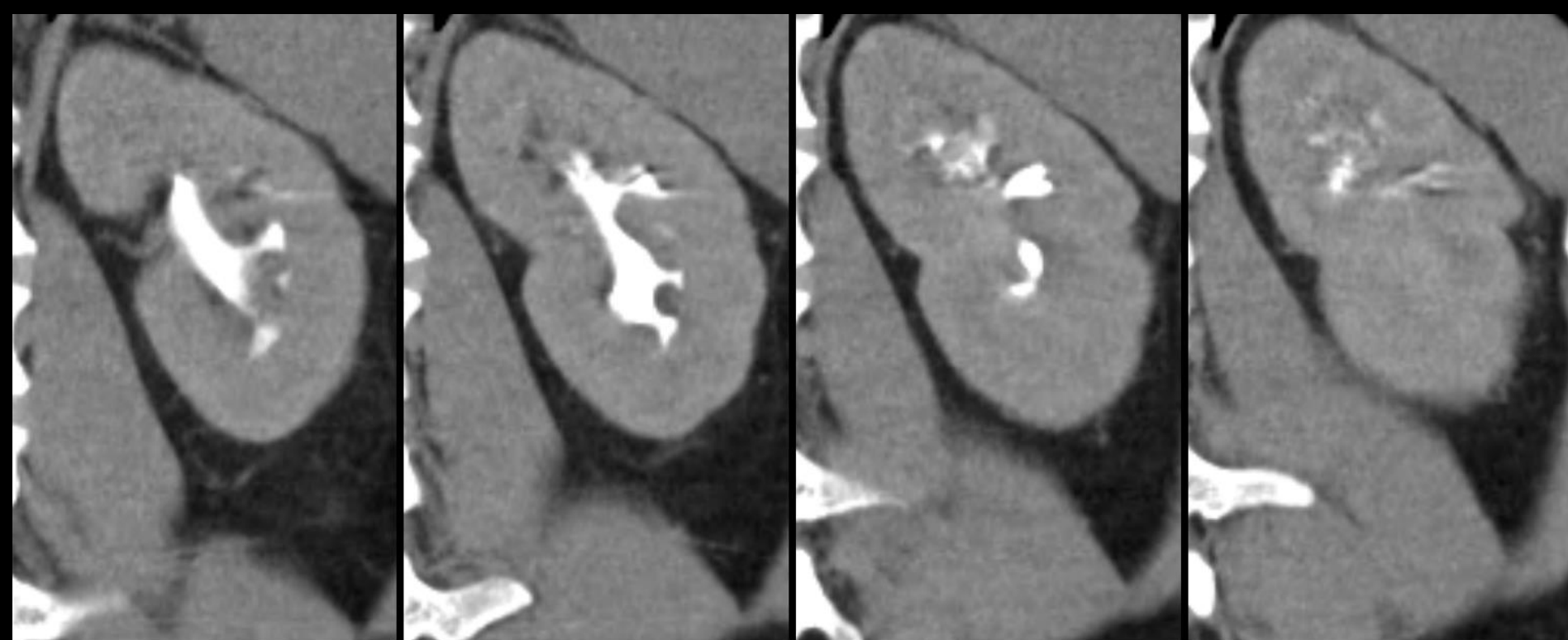
**51 y/o male,
Intermittent painless gross hematuria
for more than one month**



**ANS : Urachal cancer
(urachal adenocarcinoma)**

Q33

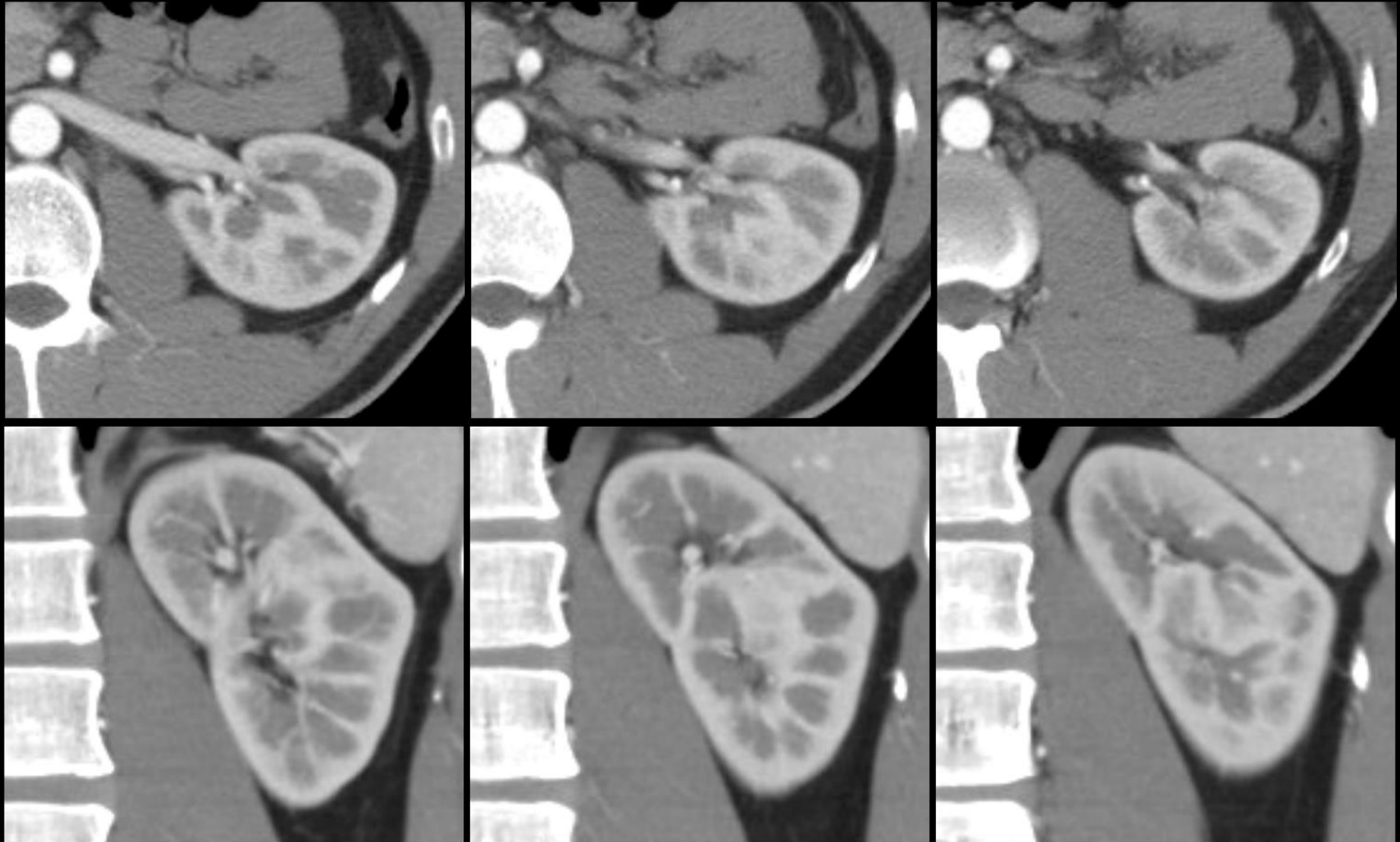
**38 y/o male,
Intermittent painless gross hematuria for
months**

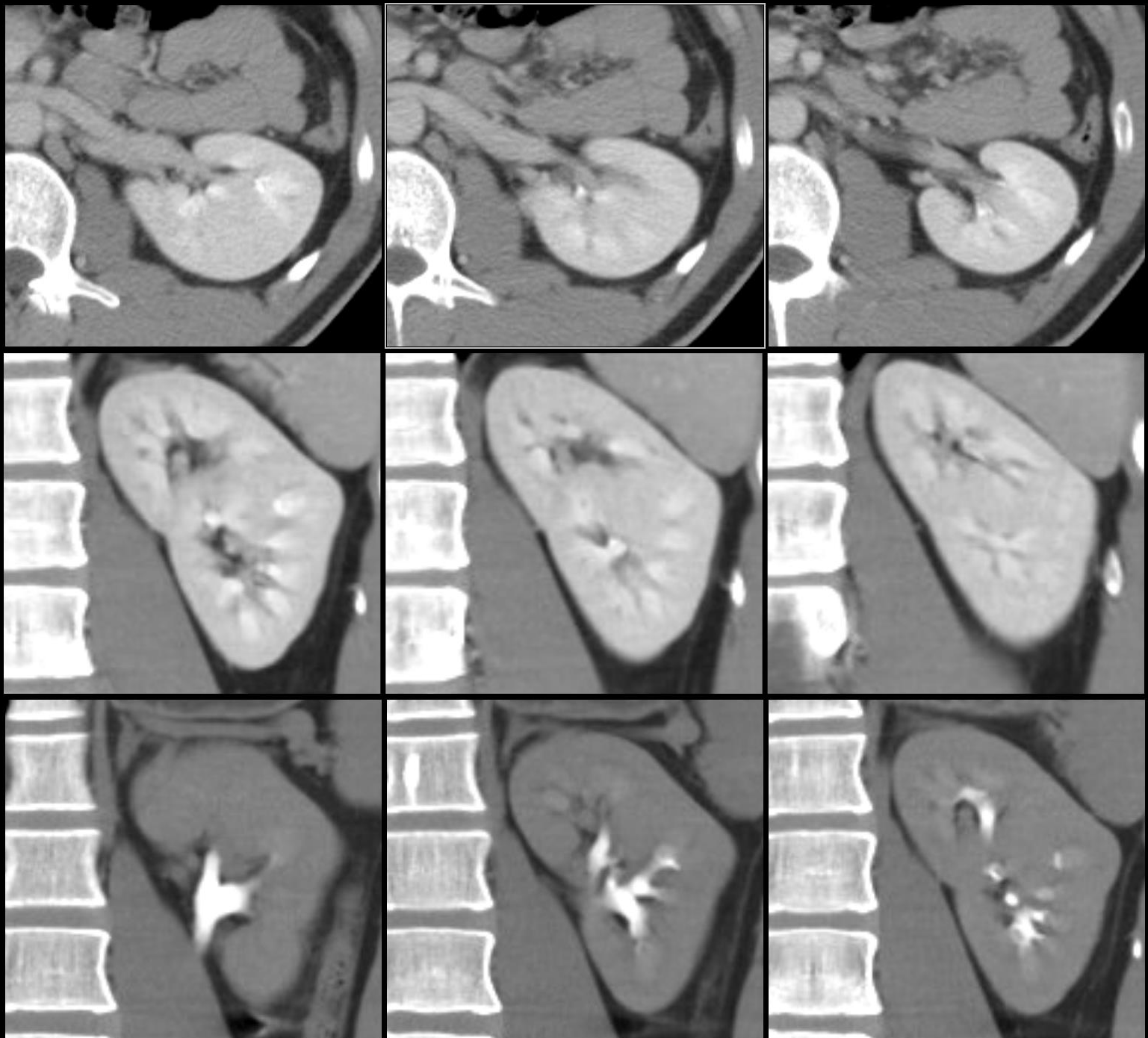


ANS : Urothelial carcinoma in upper calyx of left kidney

Q34-1

33 y/o male, suspected left renal mass

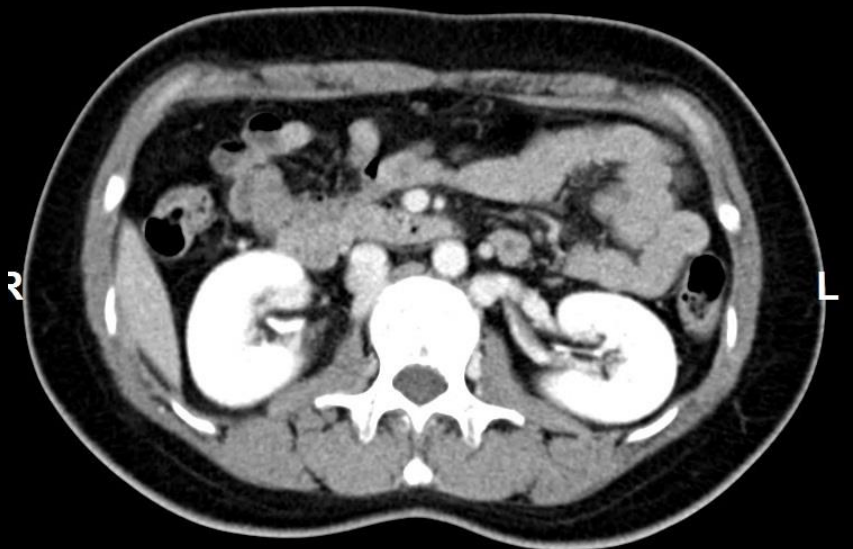




**ANS : Hypertrophied column of Bertin
(Hypertrophic column of Bertin)**

Q35

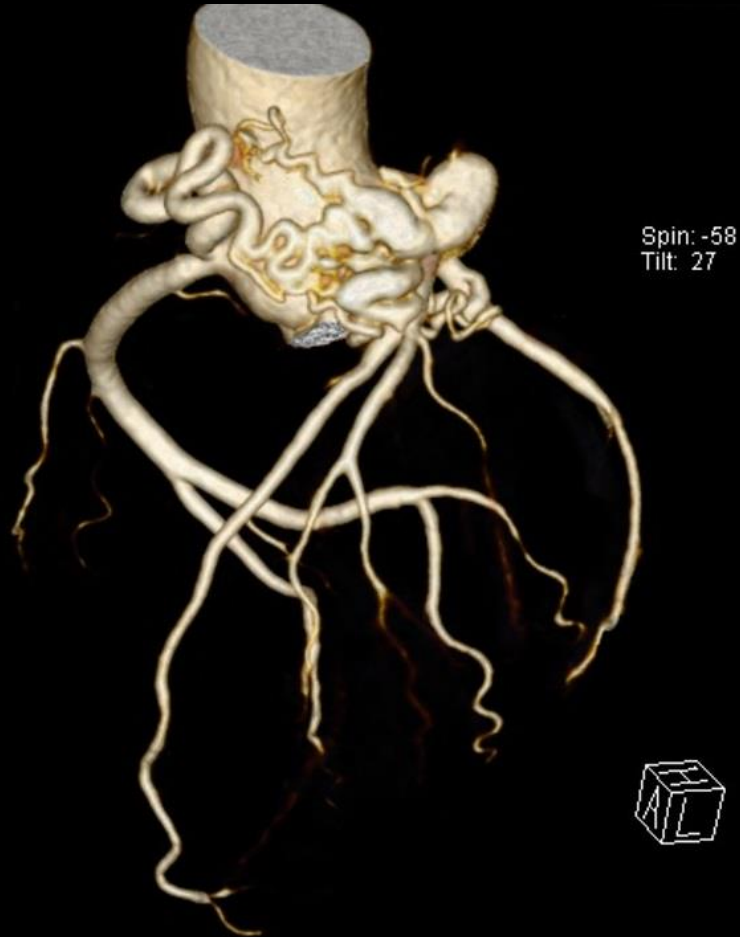
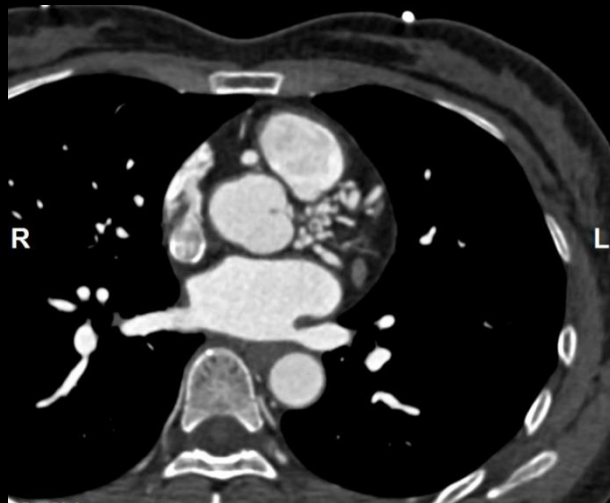
**35 y/o female,
low abdominal fullness**



**ANS : Azygos continuation of the
inferior vena cava**

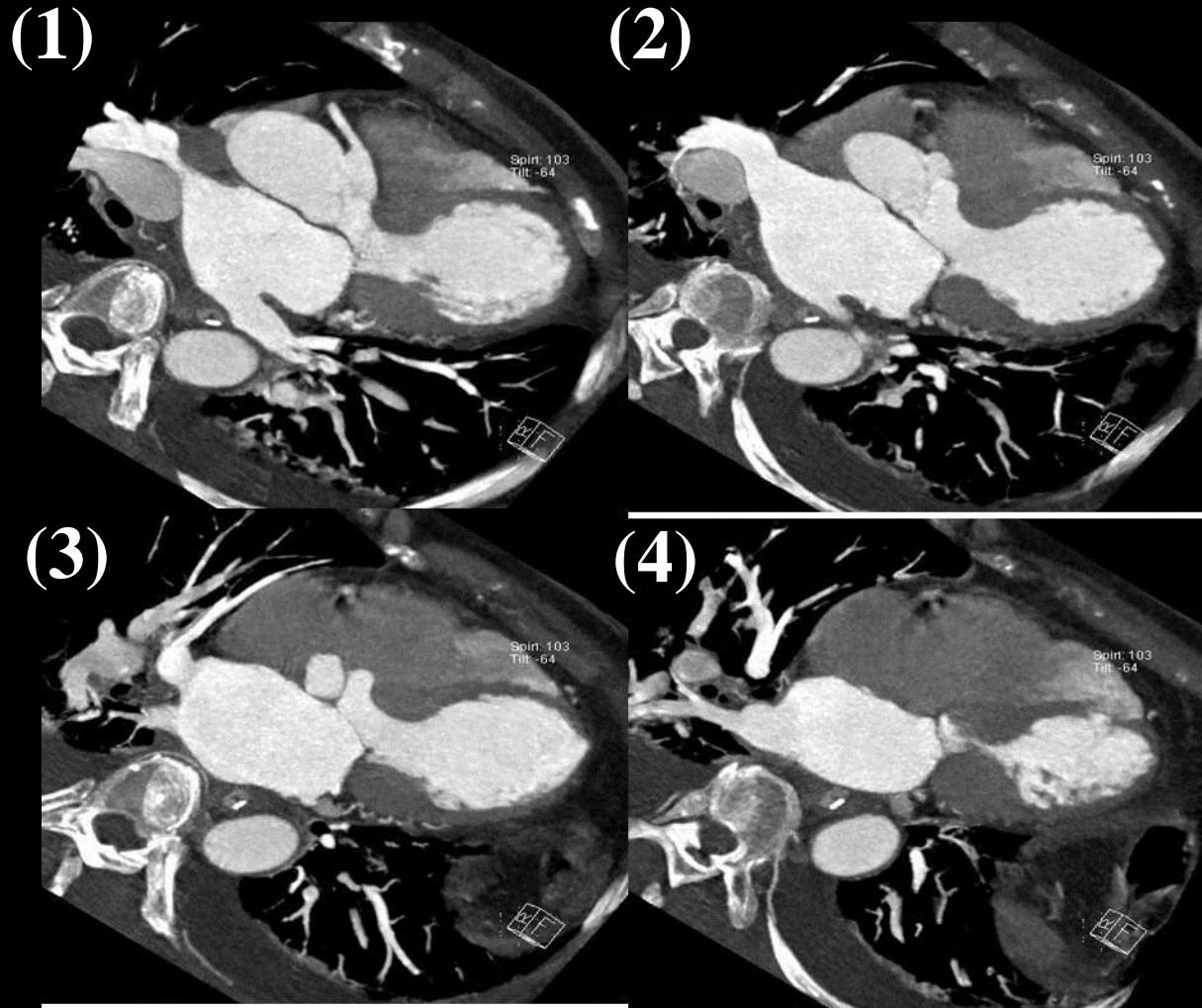
Q36

**52 y/o female,
easy fatigue and dyspnea for months**



ANS : Coronary A-V fistula

62 y/o female, patient with acute chest pain?



A multi-phase coronary CTA (1) to (4) from diastolic to systolic phases

ANS：以下皆可

- Tako-tsubo cardiomyopathy
(章魚壺心肌症)**
- Apical ballooning syndrome**
- Broken heart syndrome**
- Stress-induced cardiomyopathy**

Q38

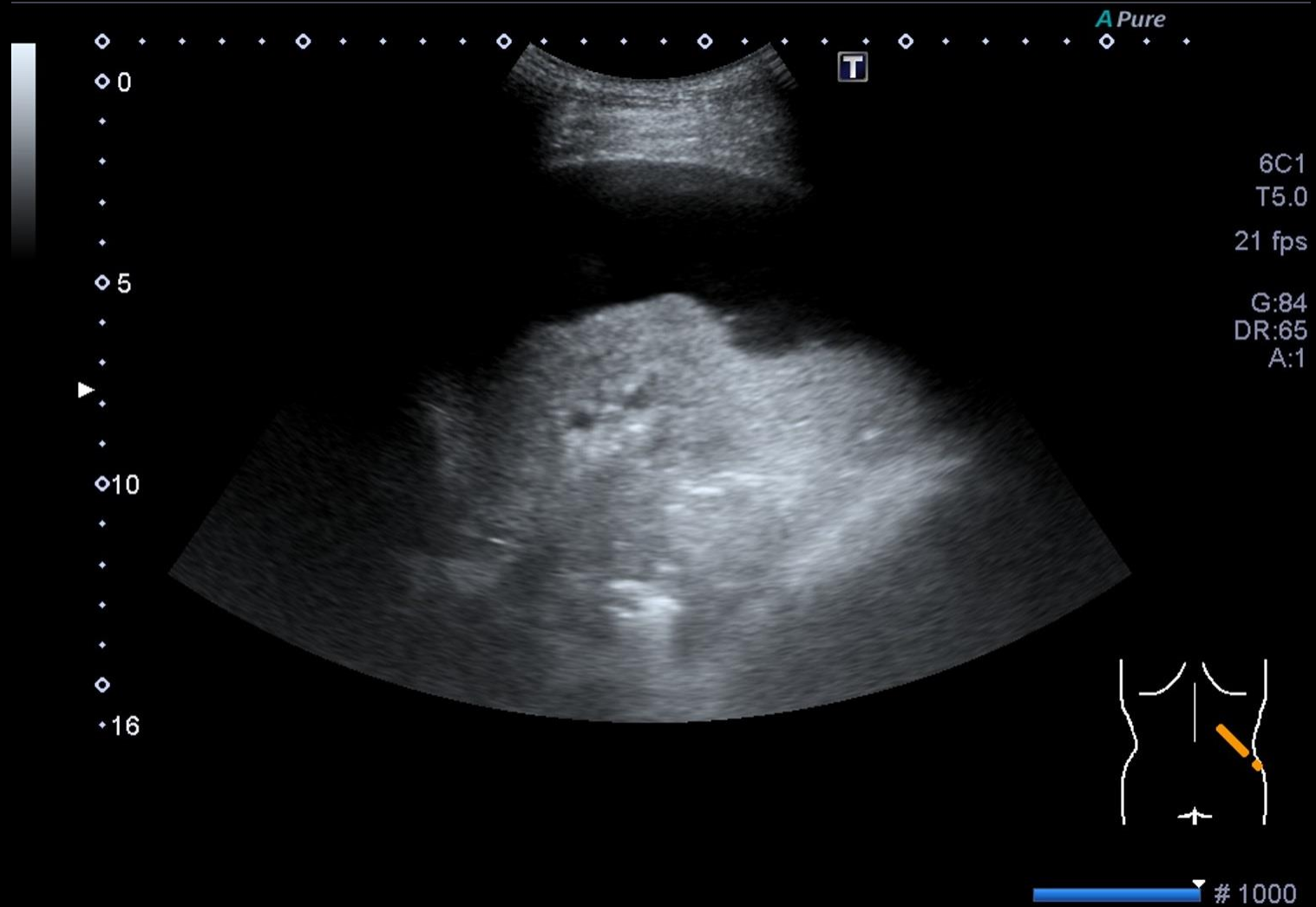
36 y/o male, asymptomatic

What vascular anomaly is found?

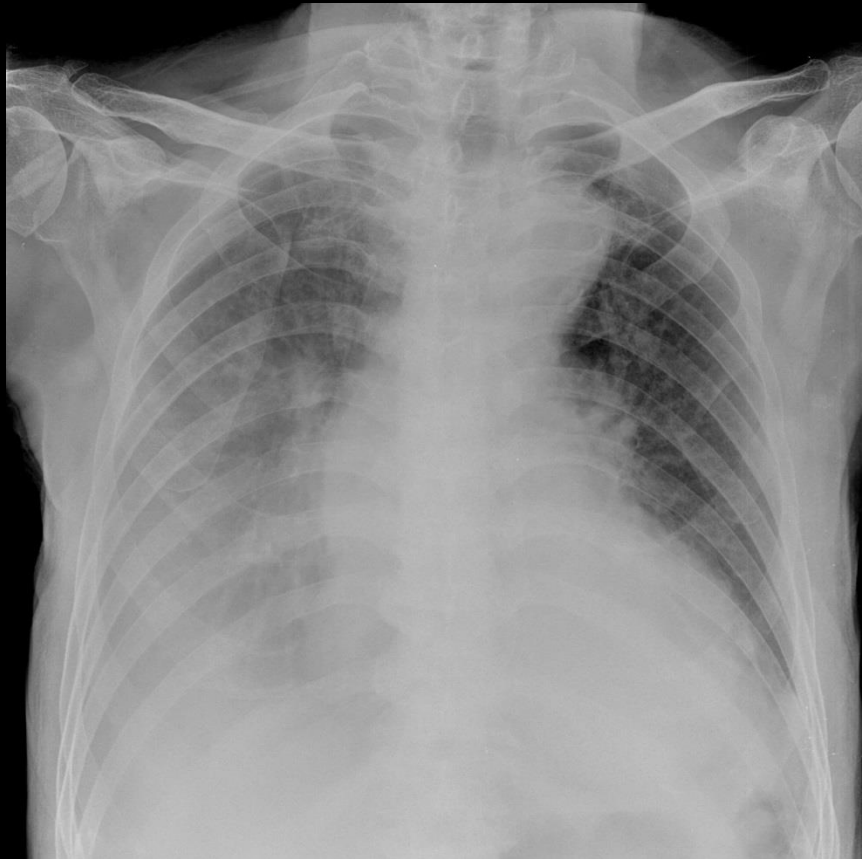


**ANS : Anomalous origin of the Right
Coronary Artery (RCA) from the
left coronary sinus**

83 y/o male, Dyspnea

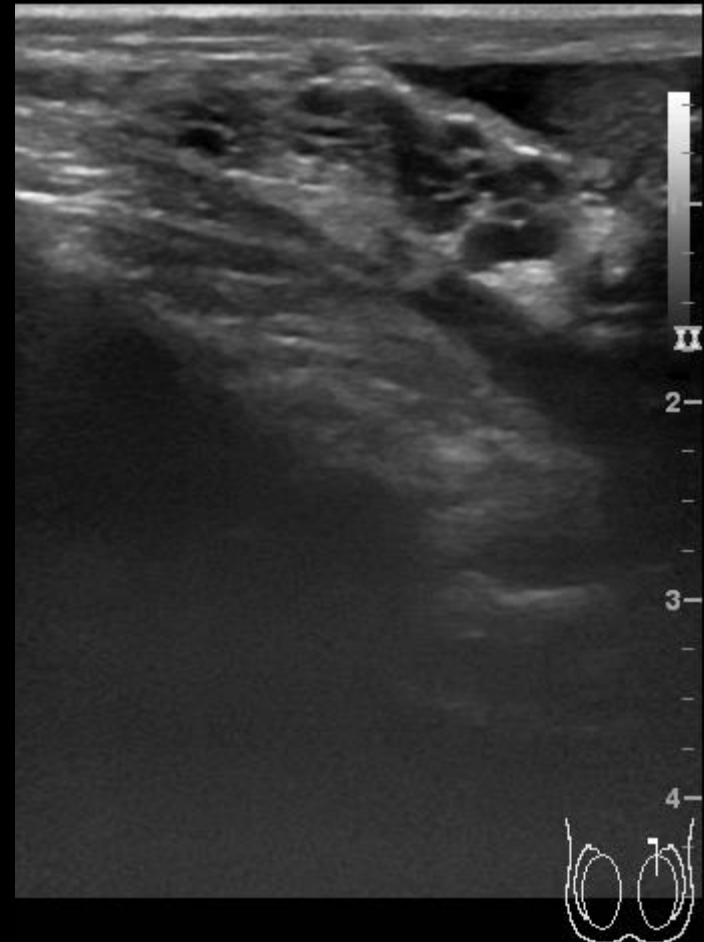
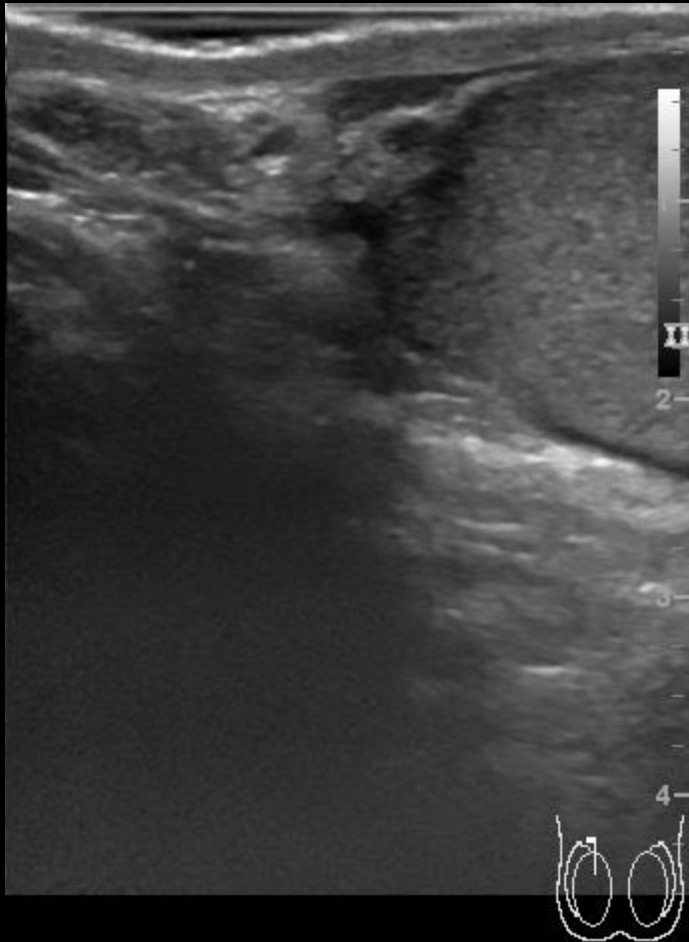


ANS : Right pleural effusion



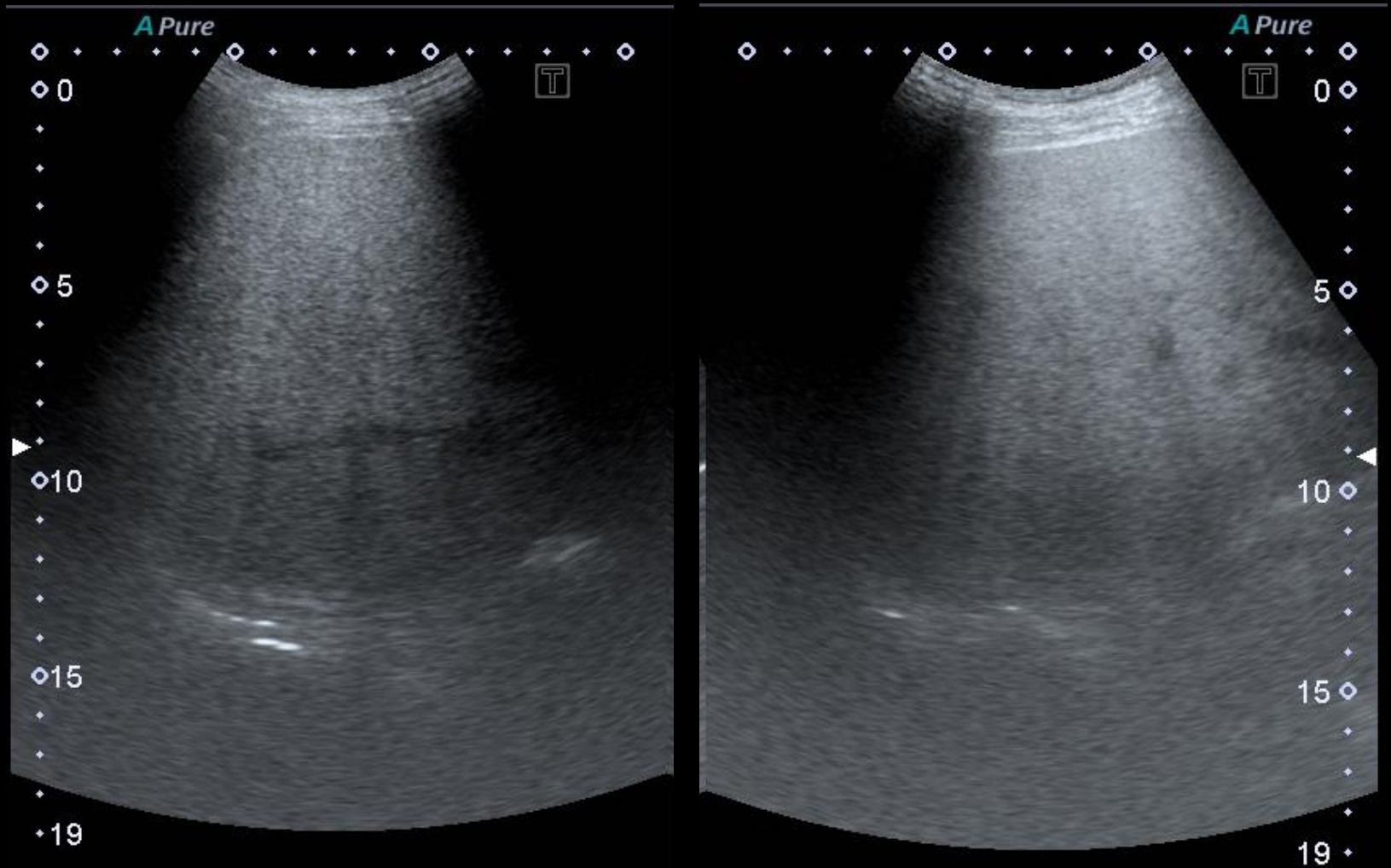
Q40

**32 y/o male,
Low abdominal fullness and dull pain**



ANS : Left varicocele

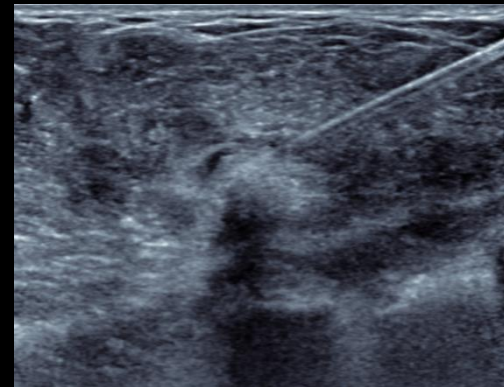
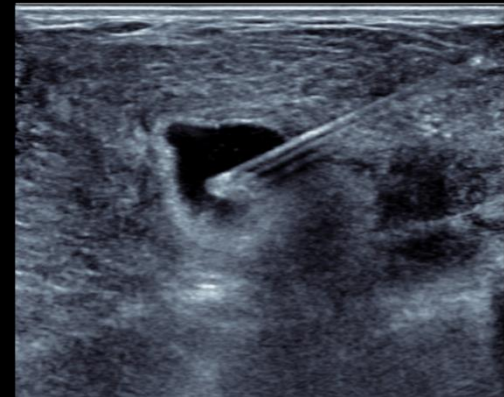
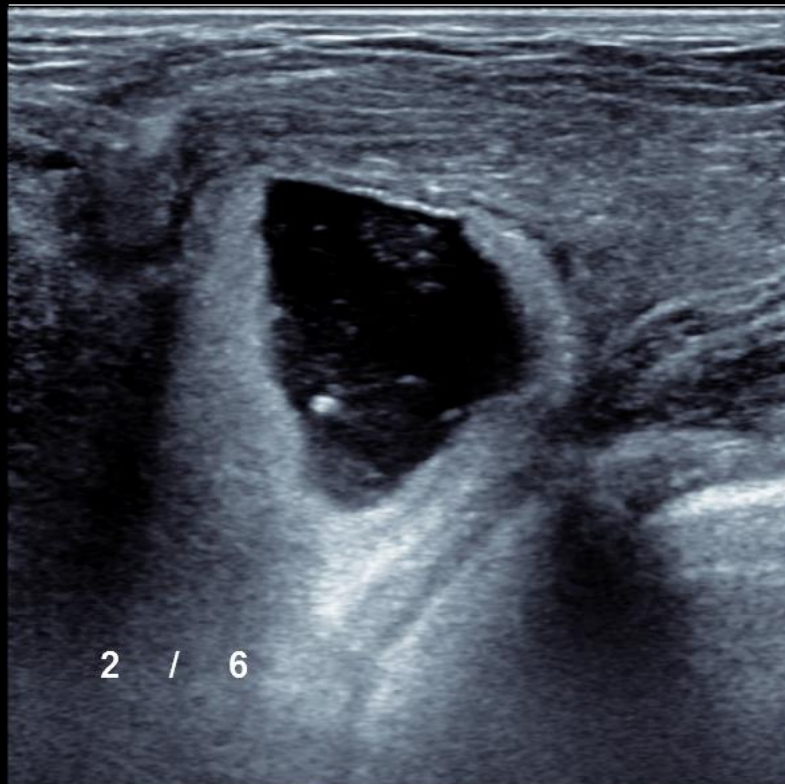
43 y/o male, Health exam



ANS : Fatty liver

Q42

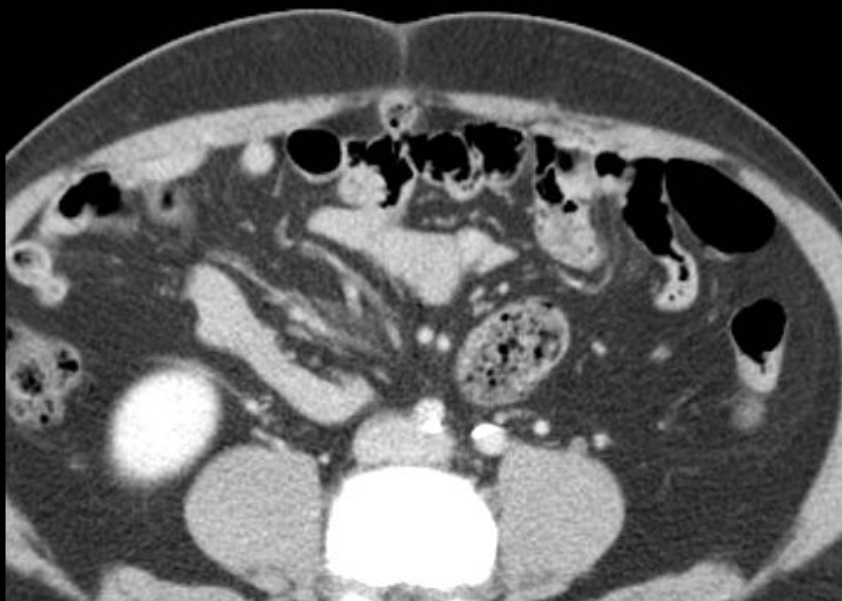
**30 y/o female,
left breast pain with lump for about 4 days**

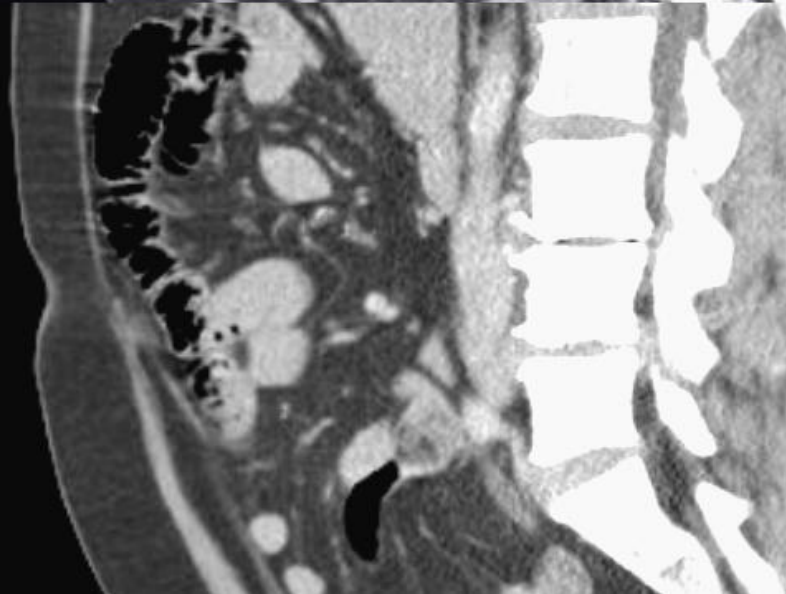
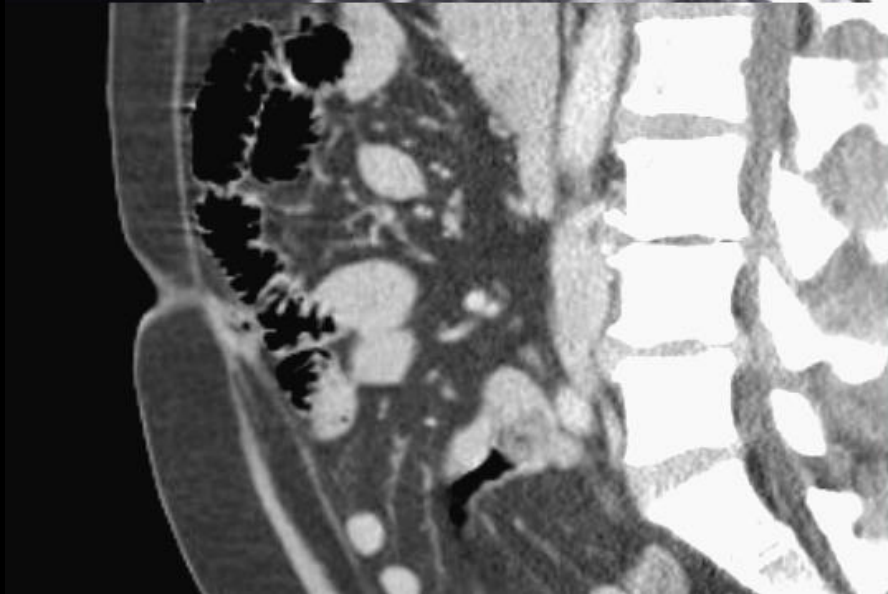
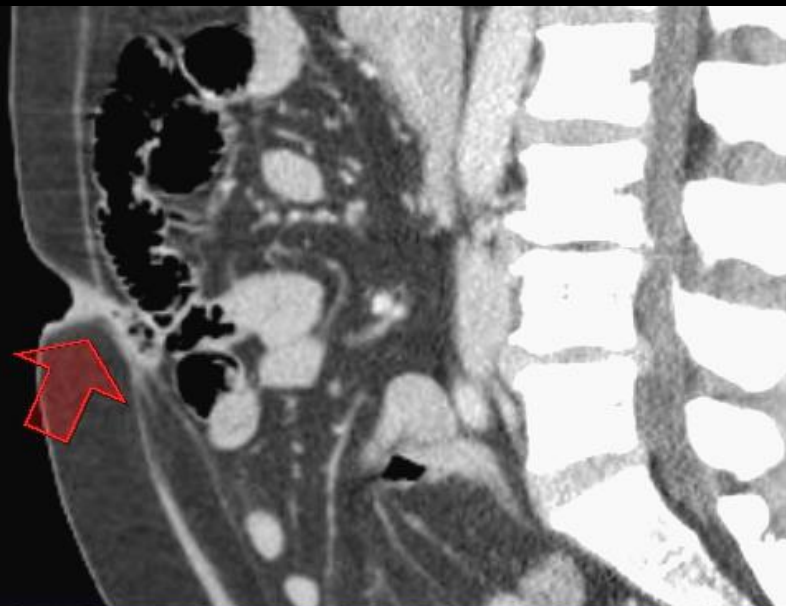
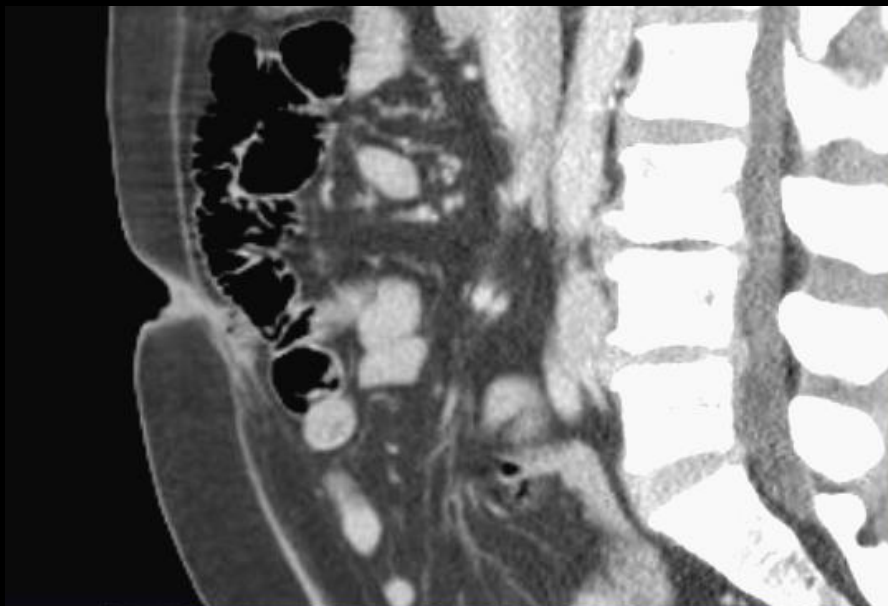


ANS : Breast cyst

Q43-1

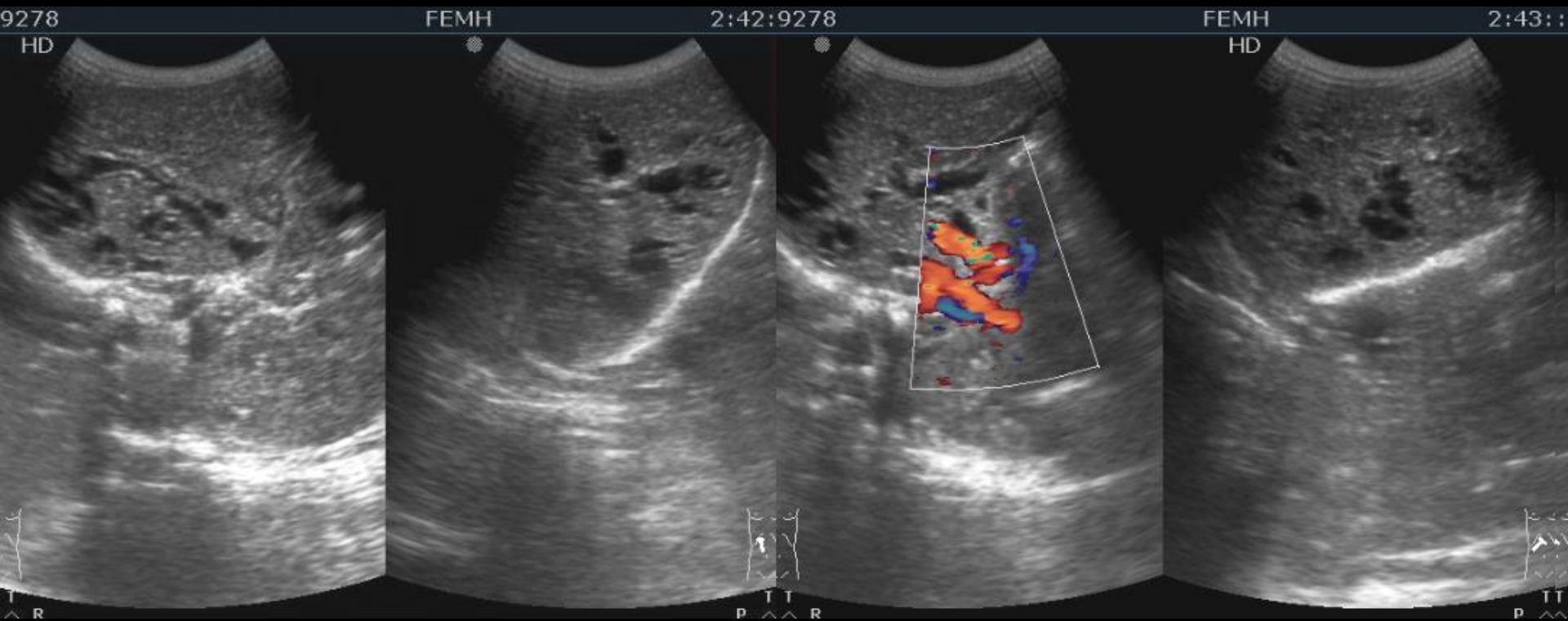
紅色箭頭所指？

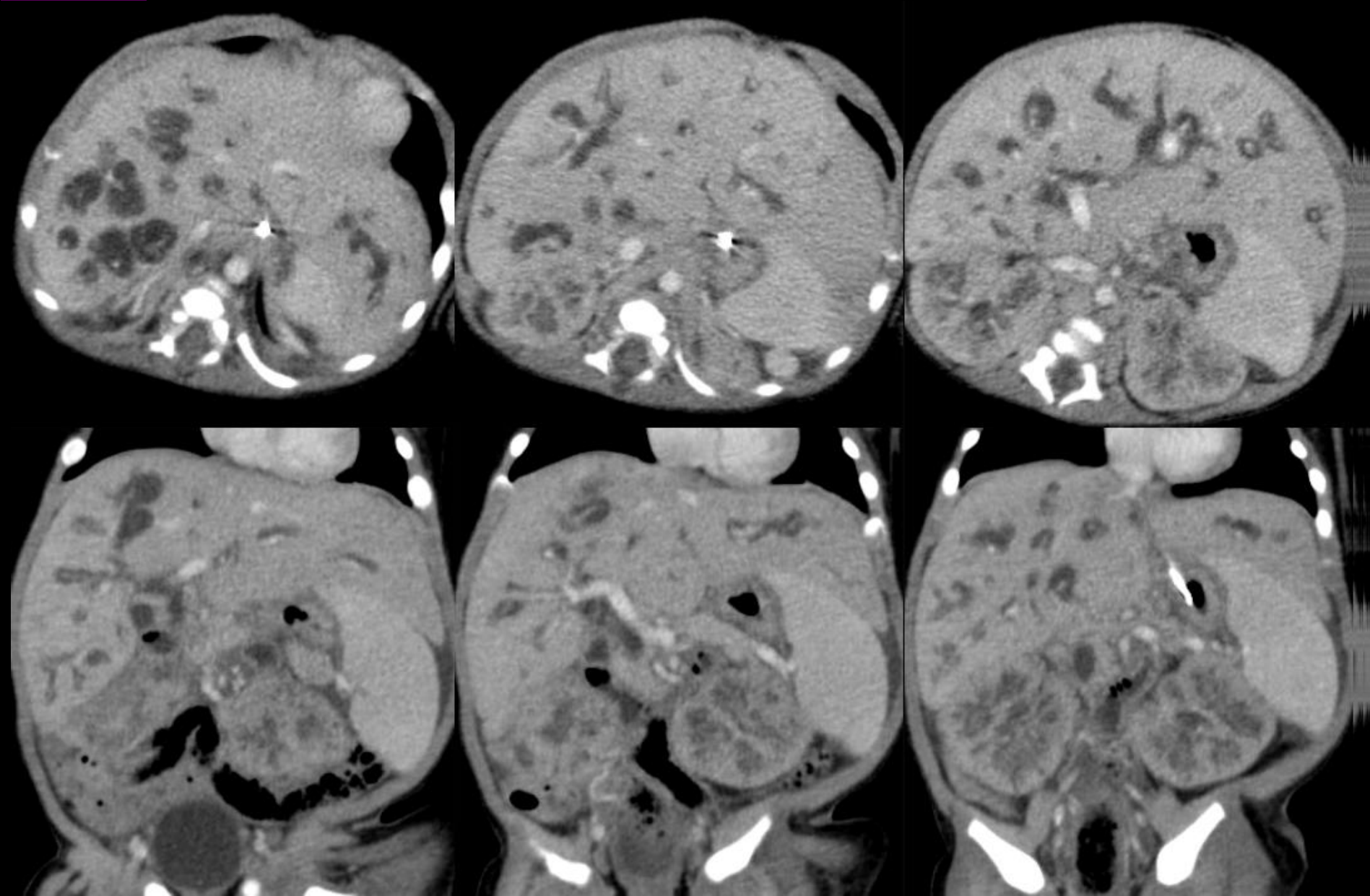




**ANS : omphalomesenteric duct
(vitelline duct) fistula**

6 y/o male, neonate

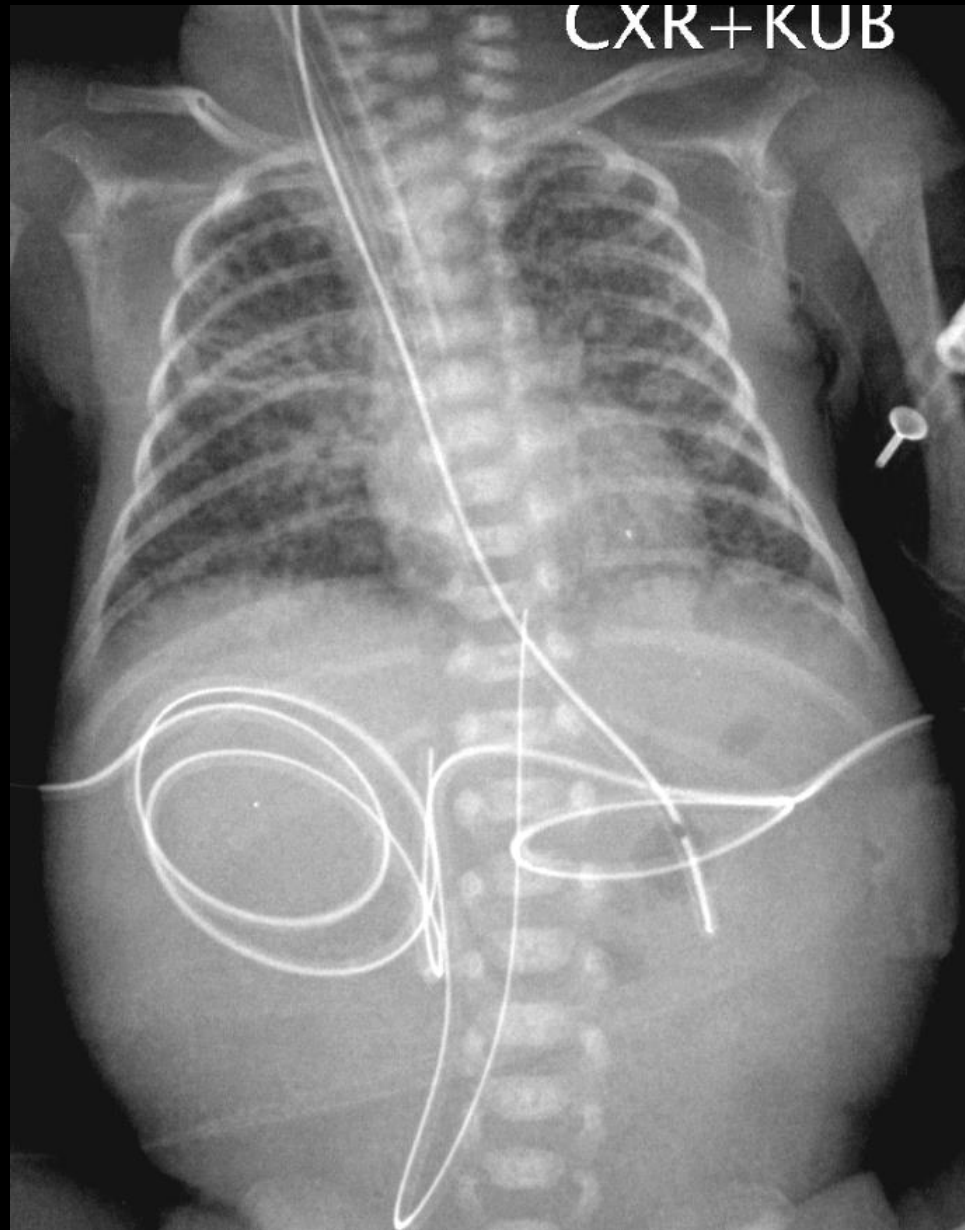




ANS : Caroli disease

Q45

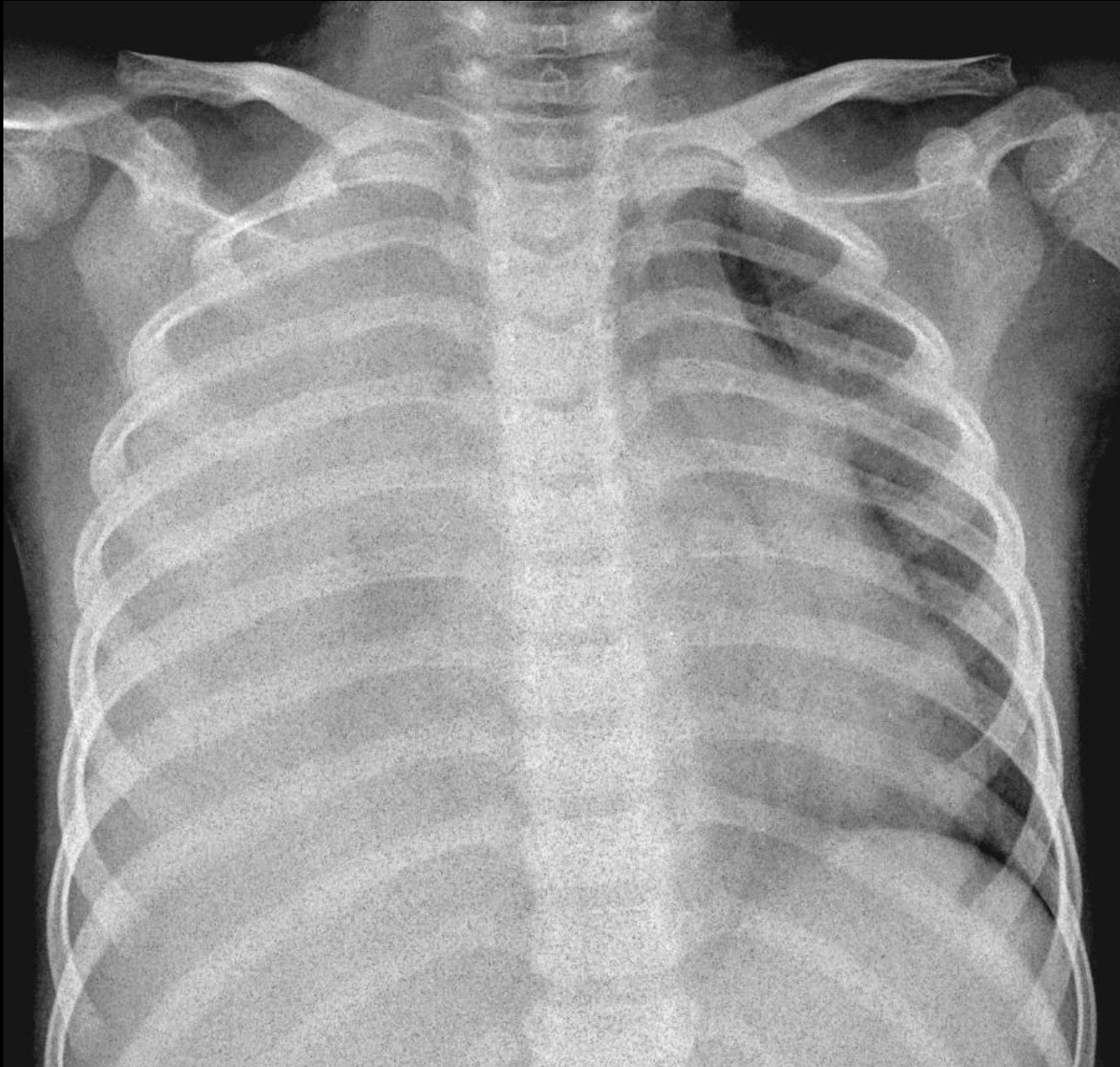
3 y/o male, neonate, prematurity

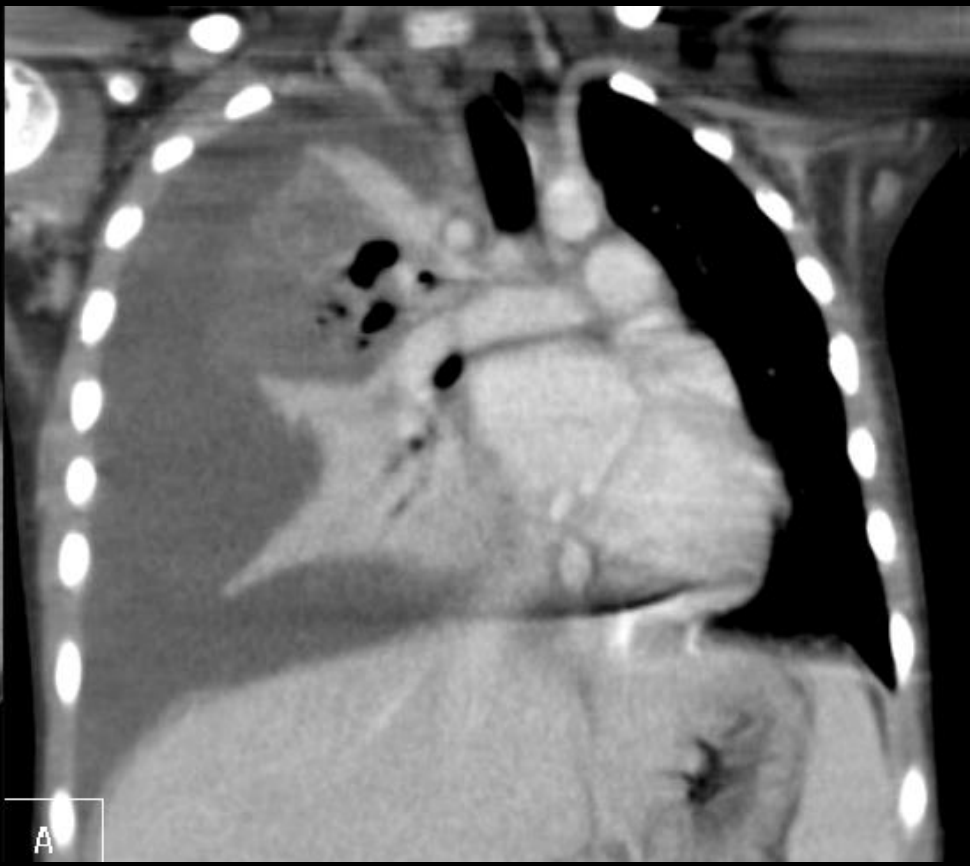


**ANS : pulmonary interstitial
emphysema (PIE)
[ventilator-associated barotrauma]**

Q46-1

9 y/o female, fever and cough

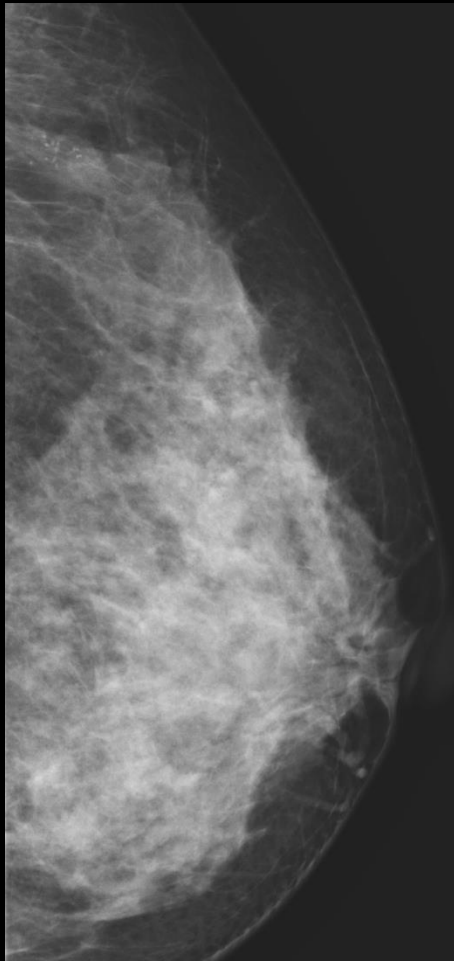




ANS : necrotizing pneumonia

Q47

46 y/o female, screening mammography



Left CC view

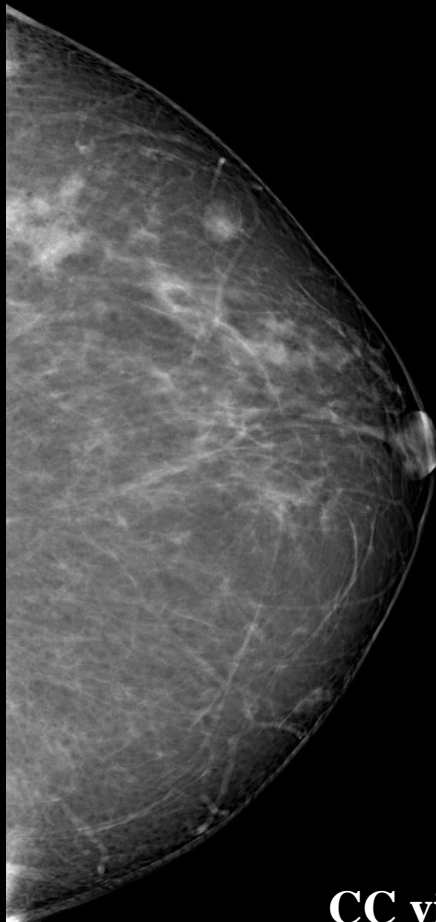


Spot magnification view

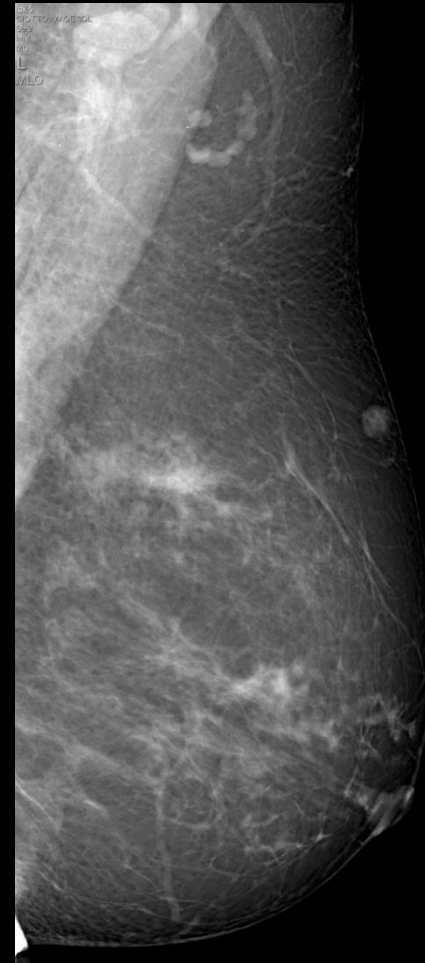
ANS : lobular carcinoma in situ (LCIS)

Q48

**52 y/o female,
left breast vague mass**



CC view

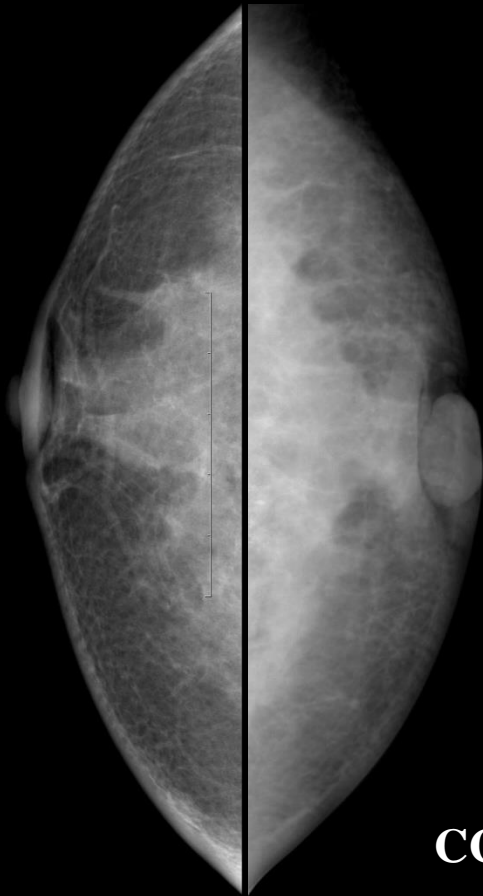


MLO view

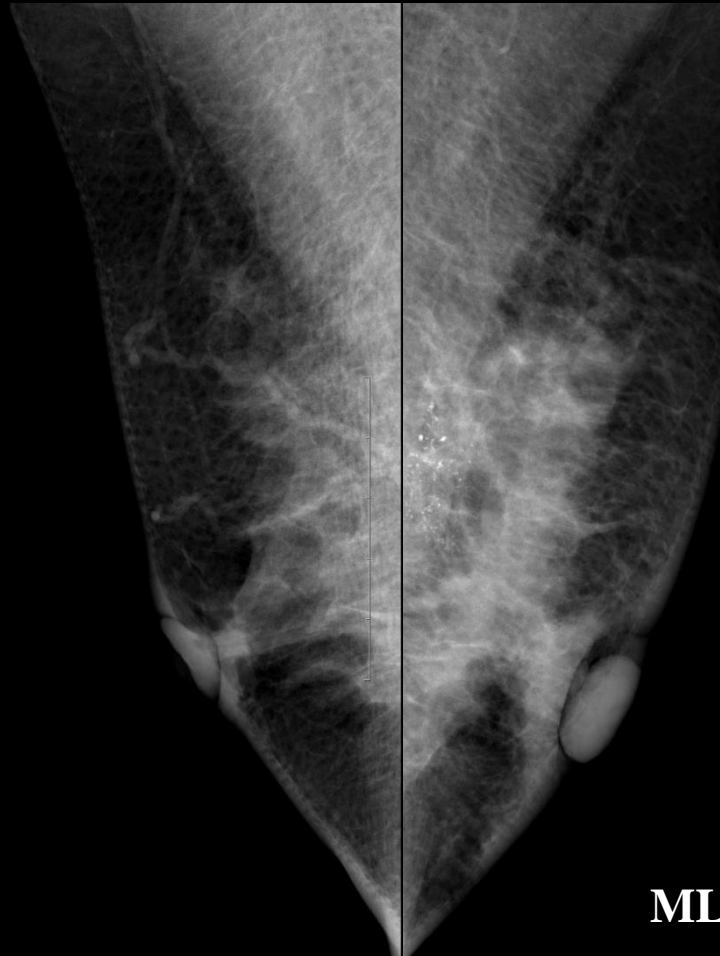
ANS : DCIS (ductal carcinoma in situ)

Q49

**44 y/o female,
left breast edema & intermittent pain**



CC view

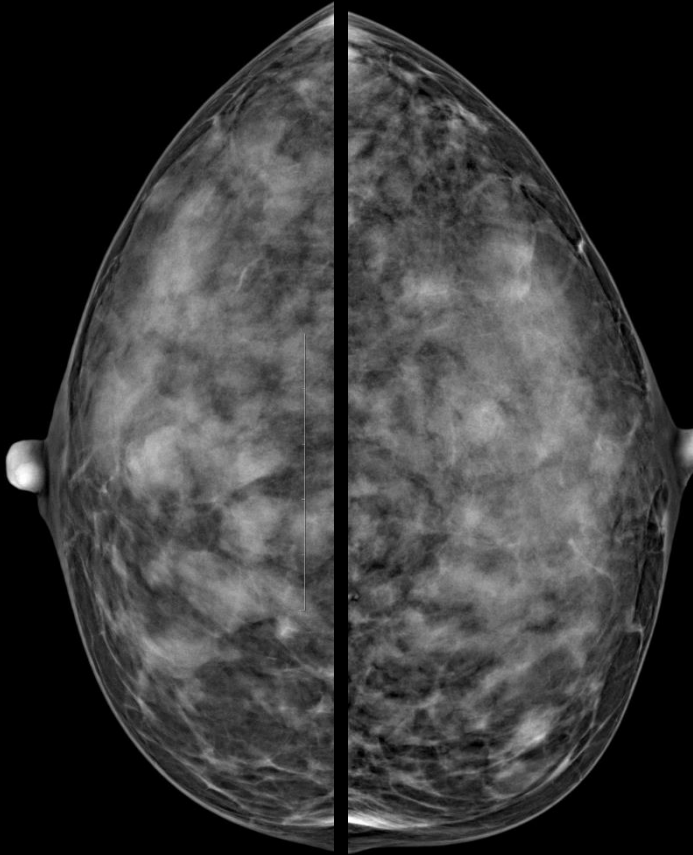


MLO view

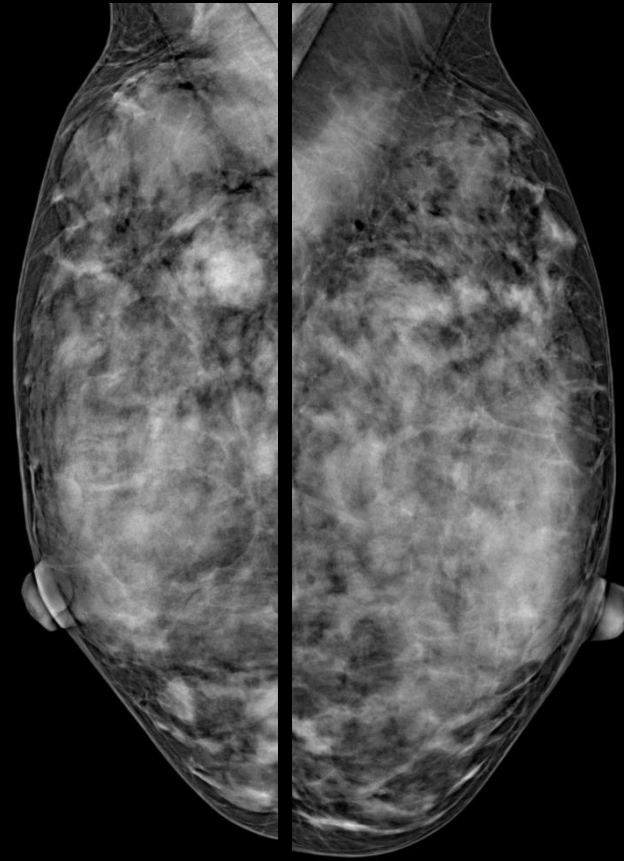
**ANS : Invasive carcinoma
(inflammatory carcinoma)**

Q50

56 y/d female, screening mammography



CC view



MLO view

ANS : Fibroadenoma