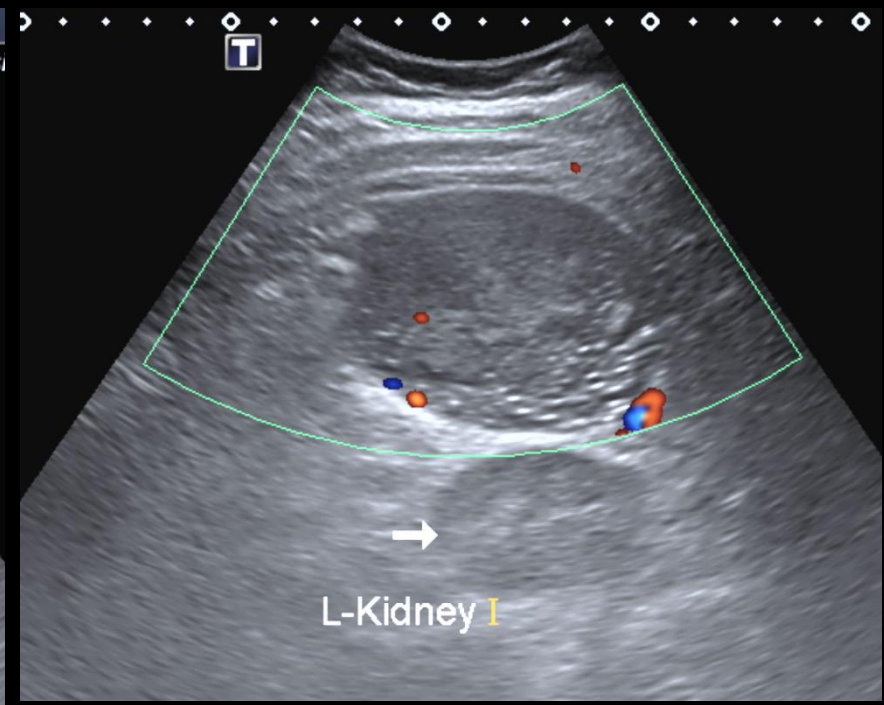
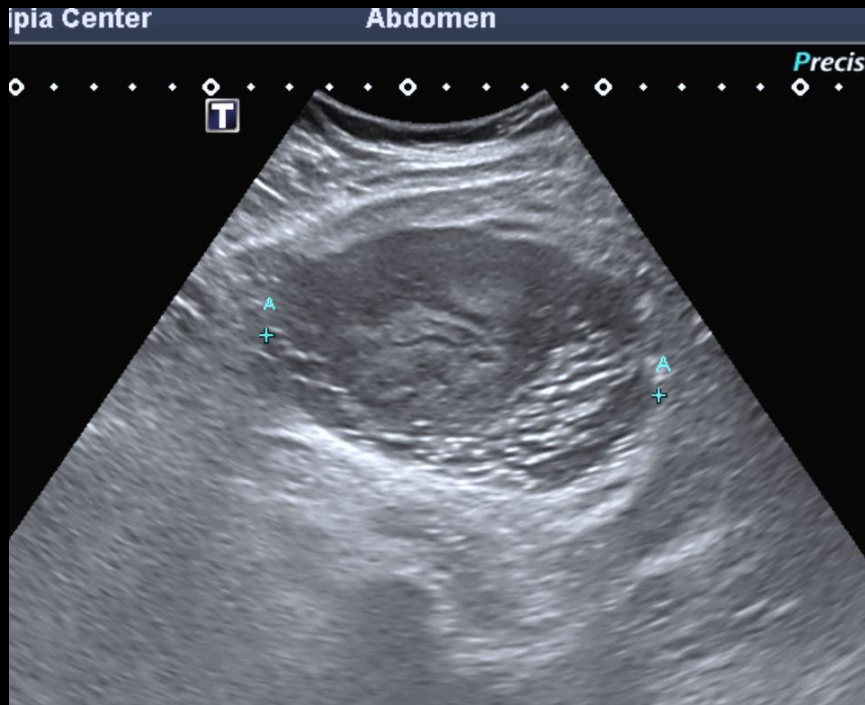


# CASE 1

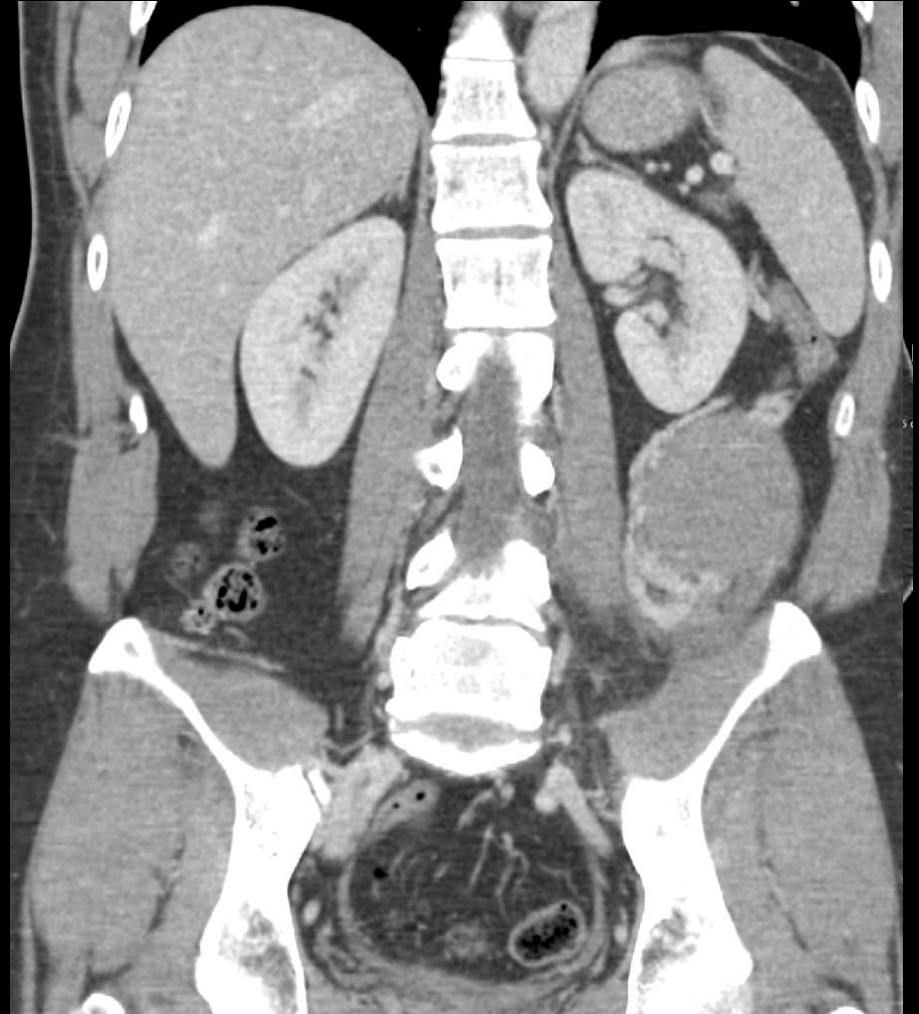
- M/38
- C/C : left lower abdominal pain (onset : 1 day ago)

# US

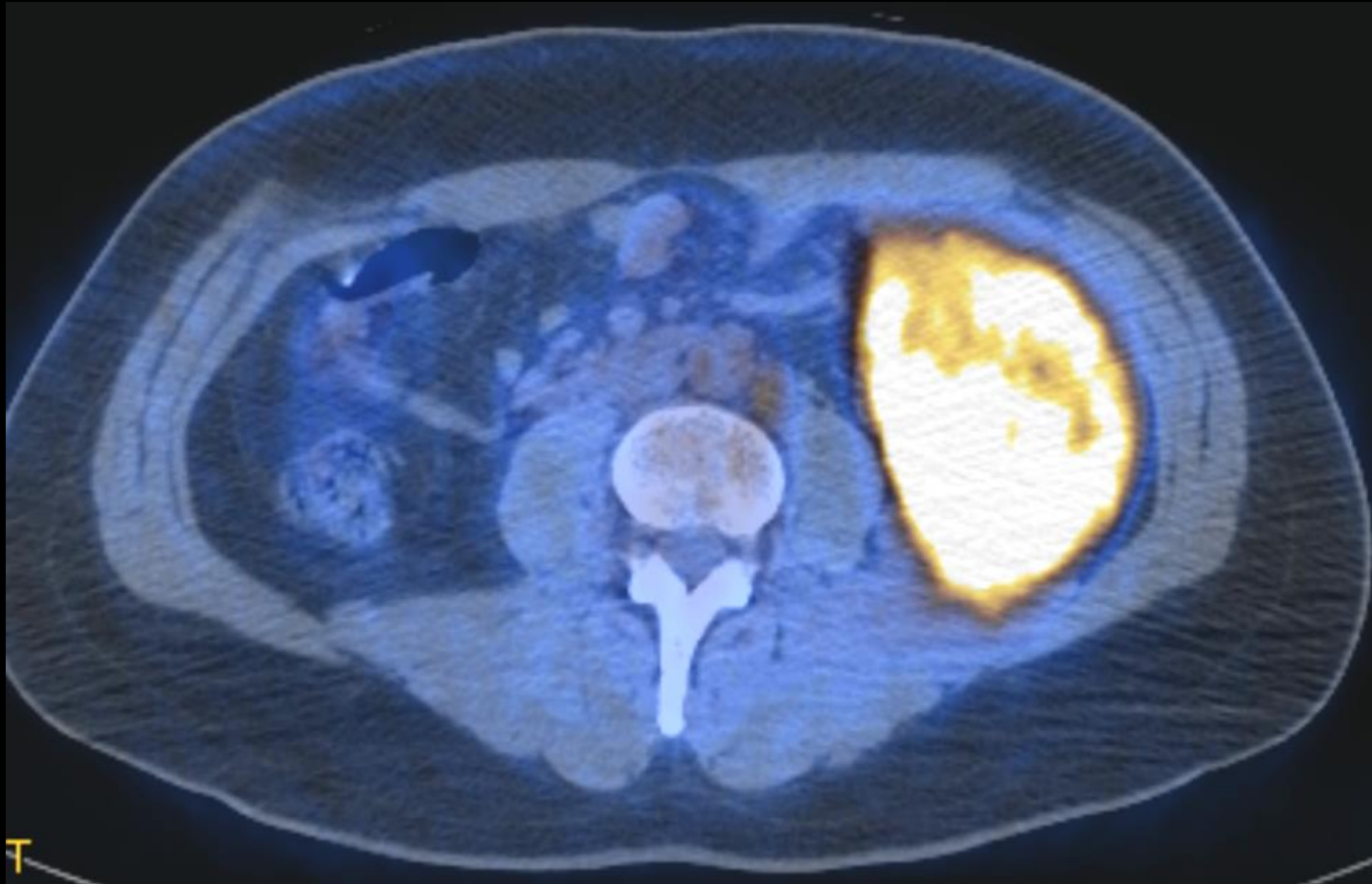


Size : 10 x 8 cm

# CT



# PET/CT





# 문제 1

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Lymphoma
  - 2) Desmoid tumor
  - 3) RCC
  - 4) Germ cell tumor
  - 5) Colonic GIST

# 정답

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Lymphoma
  - 2) Desmoid tumor
  - 3) RCC
  - 4) Germ cell tumor
  - 5) Colonic GIST

# Invisible Lt Testis

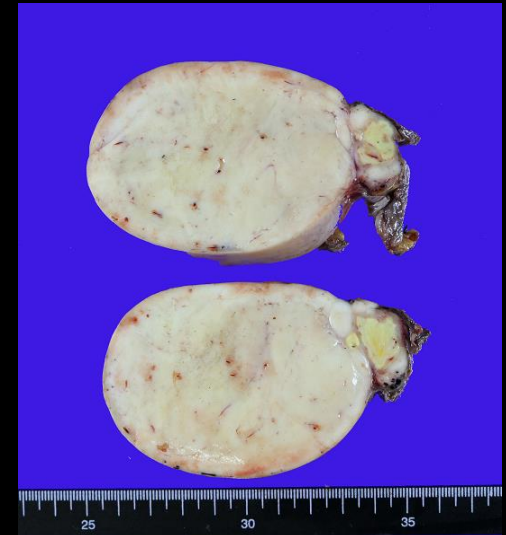


# Pathologic Findings

Tissue labeled "abdominal mass", mass excision:

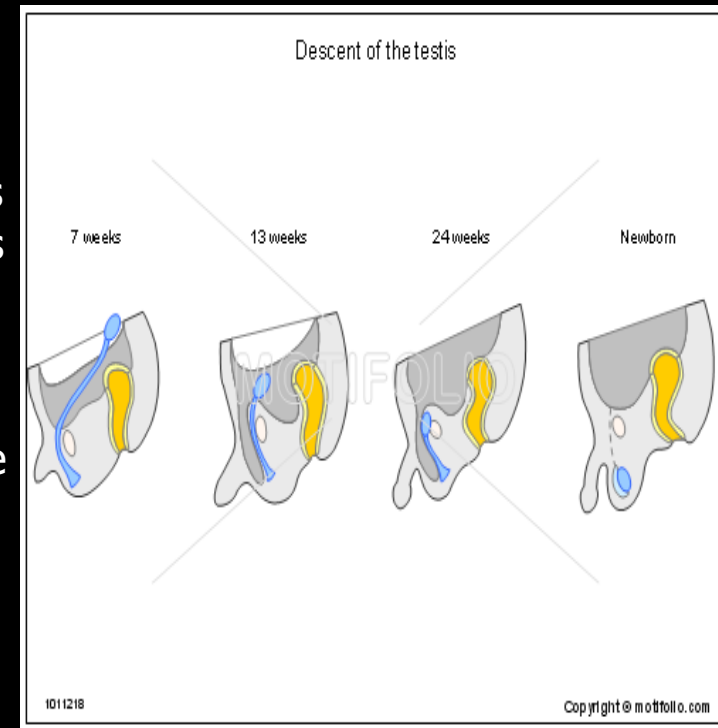
## Seminoma

- 1) tumor size: 10 x 8.5 x 6.5 cm
- 2) lymphovascular invasion: not identified
- 3) negative resection margins
- 4) metastasis to 2 out of 6 lymph nodes with extranodal extension  
(2/6: "#1", 1/1; "#2", 0/1; "#3", 1/4)



# Descent of Testes

- At an early period of fetal life : **back part** of the abdominal cavity, behind the peritoneum, and each is attached by the mesorchium, to the mesonephros
- 7th ~ 12th week : **gubernaculum shortens** and pulls the testes, the deferent duct and its vessels downwards
- 3rd ~ 7th month : the **testes** stay in the area of the **inguinal canal** so they can enter into it. They reach the scrotum at roughly the time of birth under the influence of the **androgen hormone**.
- 1st year
  - Upper part of the vaginal process becomes obliterated
  - Lower portion persists as the tunica vaginalis testis



# Seminoma in Undescended Testis

- Location : anywhere along developmental testicular descent pathway
  - Distally to the external inguinal ring(66%) , intracanalicular (16%, in the inguinal canal), intraabdominal (10%), surgically absent (3%)
- Undescended testis can be associated with **cancer, infertility, torsion**
- Malignancy (3.5–14.5%)
  - Peak age : 3<sup>rd</sup> - 4<sup>th</sup> decades
  - **Seminoma (m/c, especially abdominally located testis)**, embryonal cell carcinoma, teratocarcinoma, and choriocarcinoma
- Clinical presentations
  - **Asymptomatic ; usually detected as large tumor**
  - Abdominal pain, and secondary symptoms from mass effect
  - Simulate appendicitis or retroperitoneal mass



# Image findings

## <CT>

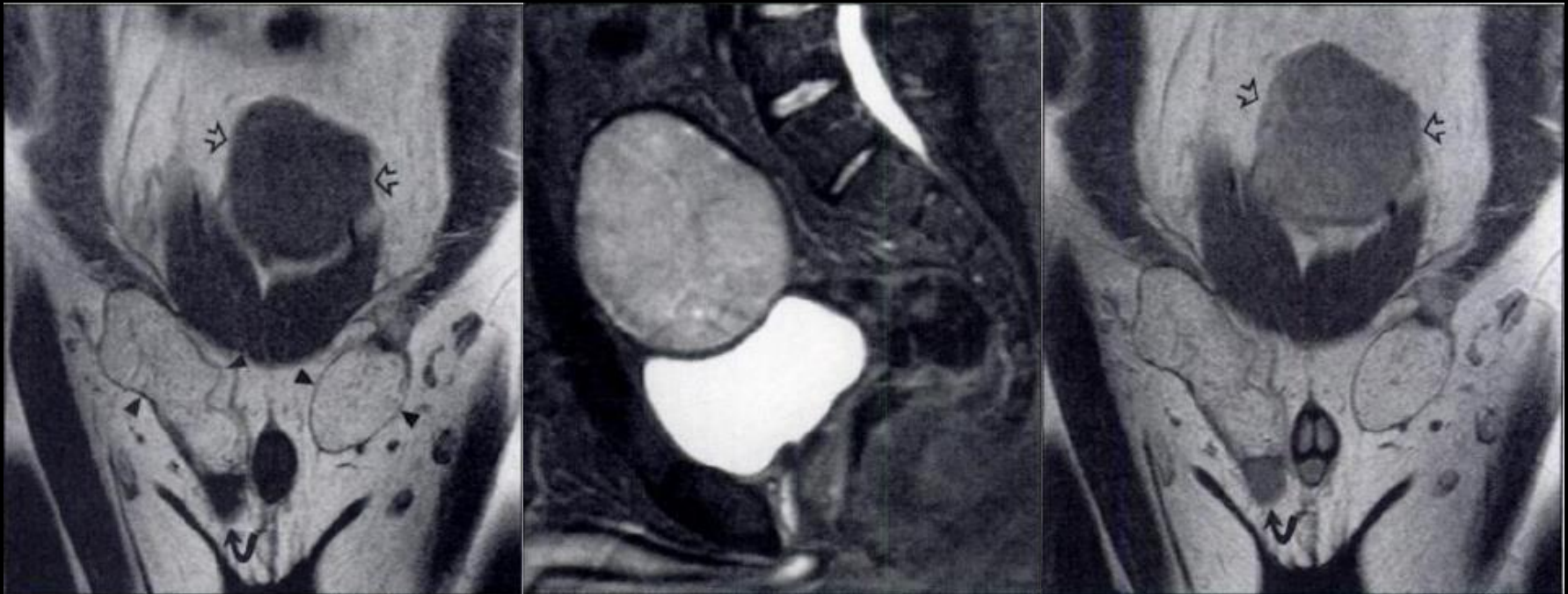
- Homogeneous soft tissue density mass along the expected course of testicular descent
- **Testicular vascular pedicle sign**
  - Consists of testicular vessels feeding and draining the testicle
  - Testicular vein and pampiniform plexus will drain the undescended testis



# Image findings

## <MRI>

- Iso-intense to muscle on T1WI
- Relatively high SI on T2WI
- Markedly enhanced on T1CE



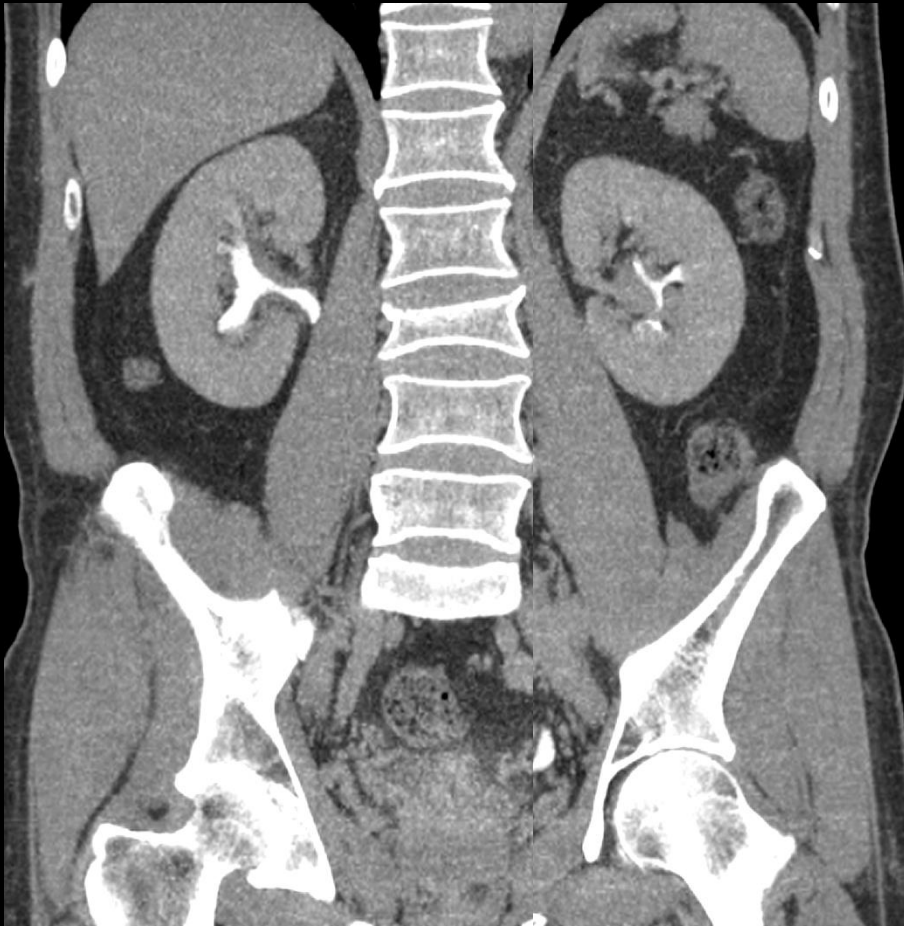
## CASE 2

- M/62
- C.I. : abnormal CT finding on health check-up

# CT Urography



# CT Urography





## 문제 2

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Lymphoma
  - 2) Tuberculosis
  - 3) IgG4-related disease
  - 4) Metastasis
  - 5) Urothelial cancer



# 정답

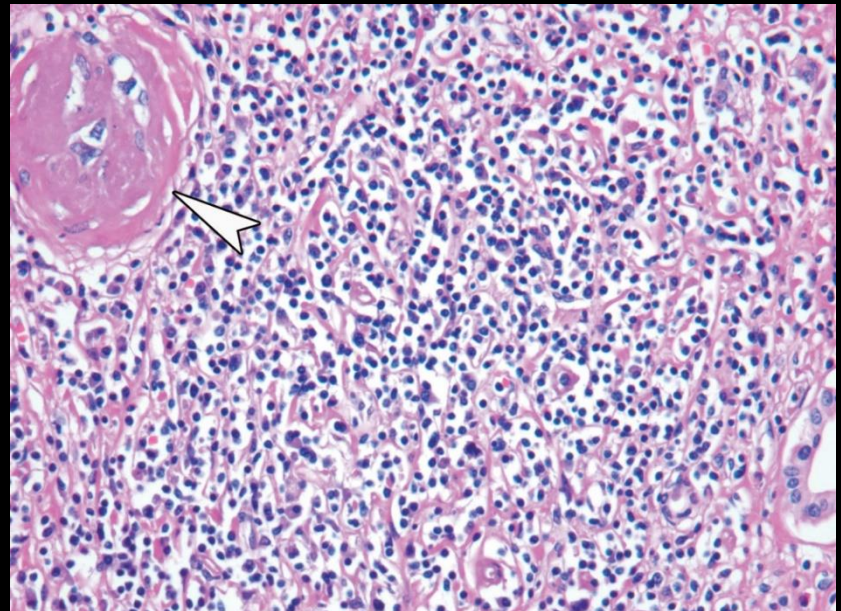
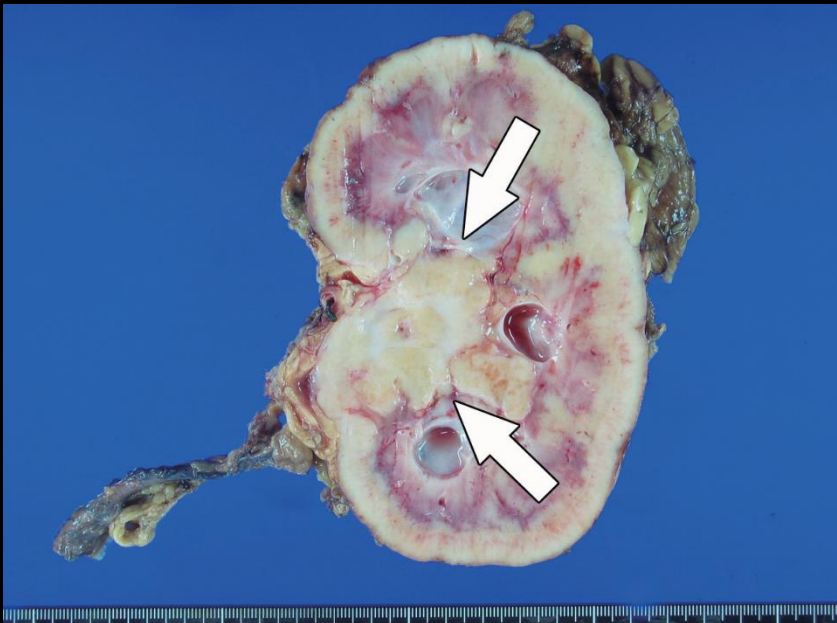
- 다음 중 가장 가능성이 높은 진단은?
  - 1) Lymphoma
  - 2) Tuberculosis
  - 3) IgG4-related disease
  - 4) Metastasis
  - 5) Urothelial cancer

# Pathologic Report

- CT guided bx for soft tissue in left renal sinus :
  - Sclerosing fibrosis with diffuse lymphoplasmacytic infiltration, suspicious for **IgG4-related disease**

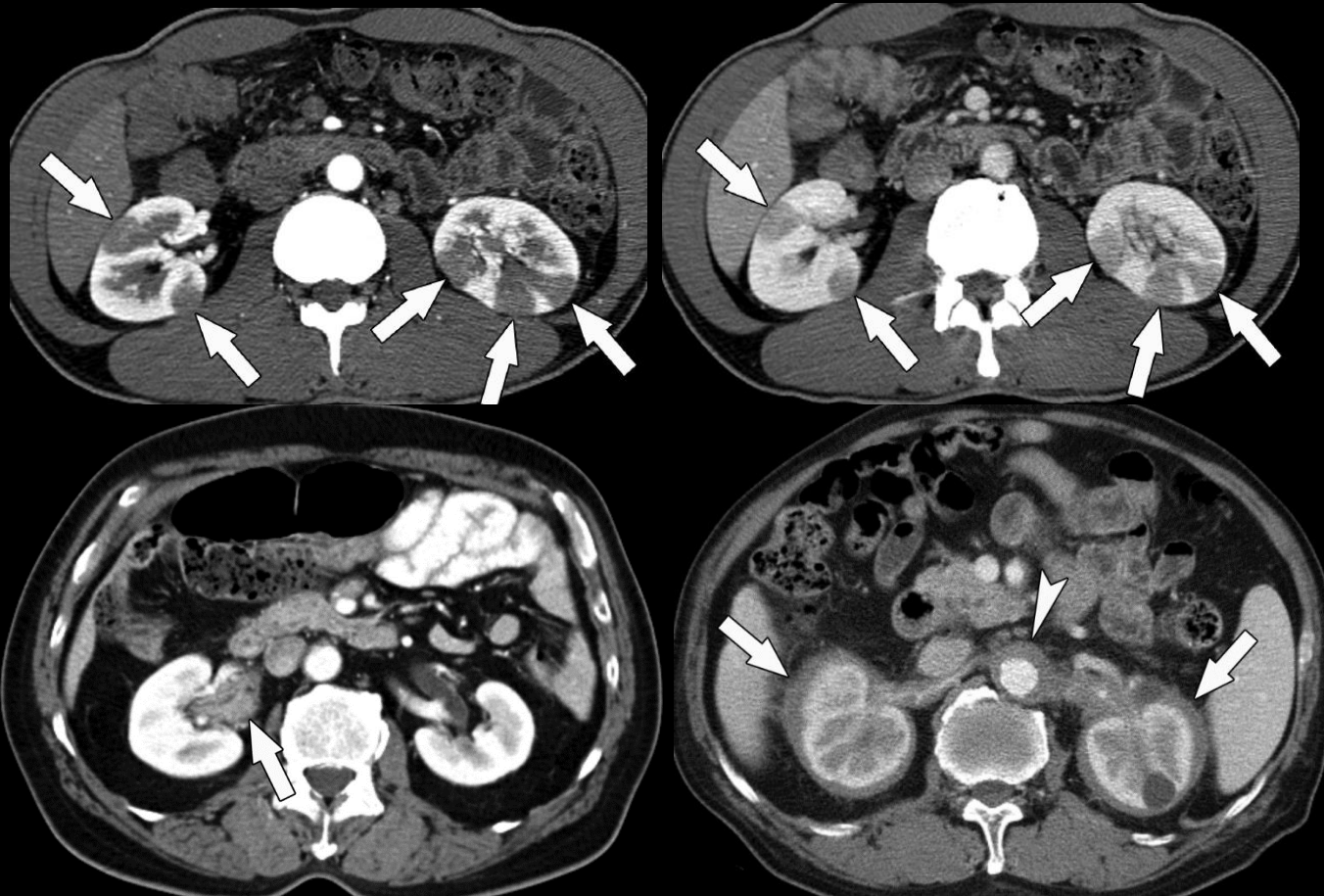
# IgG4-RD

- Multi-organ systemic fibroinflammatory disease
- IgG4-related KD
  - Usually affects middle-aged or elderly patients and shows definite male predominance (73–90%)



# IgG4-KD

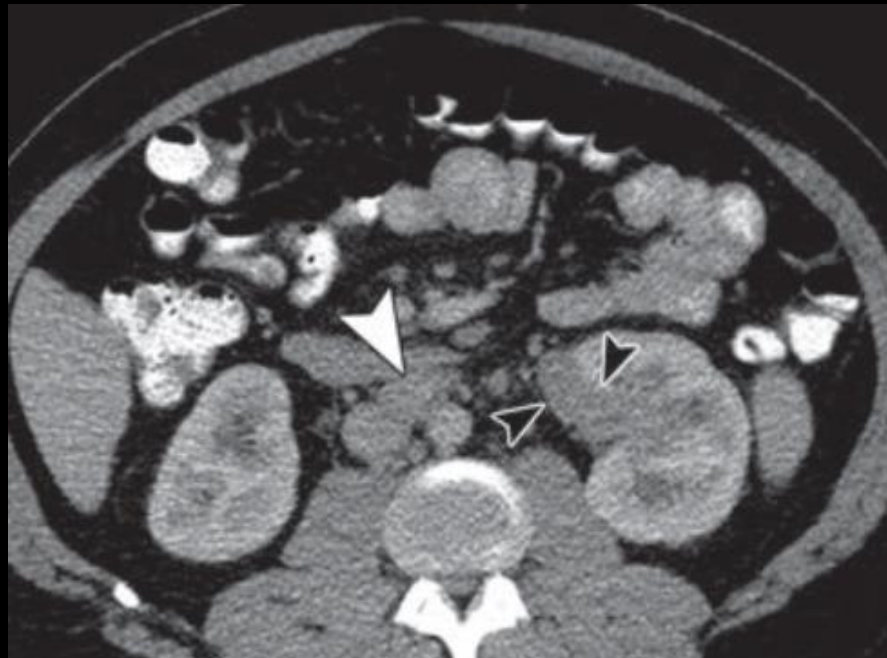
- 3 types based on their location
  - renal parenchymal (mc), renal pelvic, perinephric lesion



# D/Dx: Peripelvis soft tissue lesions

- **Lymphoma**

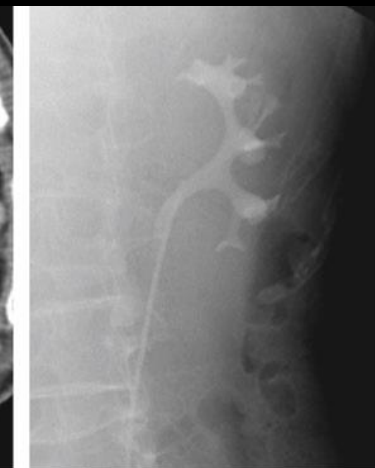
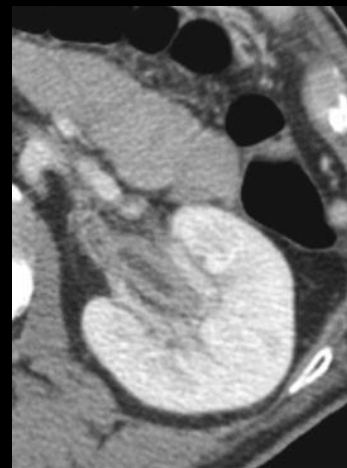
- More bulky & frequently accompany multiple, retroperitoneal lymphadenopathies



# D/Dx: Peripelvis soft tissue lesions

- **IgG4-KD**

- Relatively common bilaterality, uncommon hydronephrosis
- Wall thickening appears circumferential, enhances homogeneously
- Border with adjacent fatty tissue is distinct, little infiltration of surrounding tissues
- Mainly located in submucosal layer
- Normal enhancement of intima, luminal surface of excretory phase remains smooth





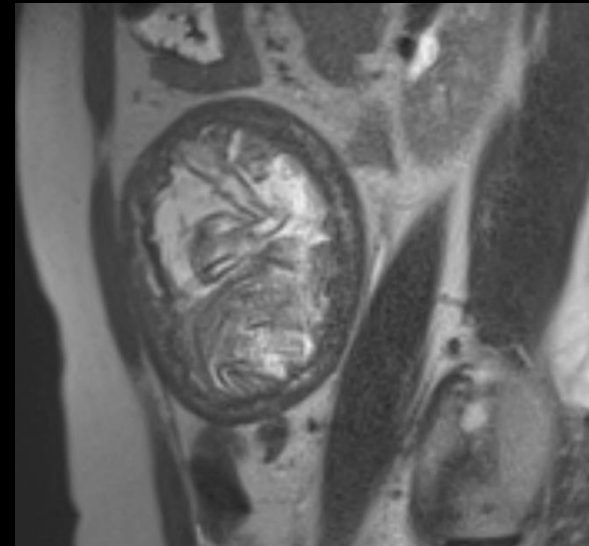
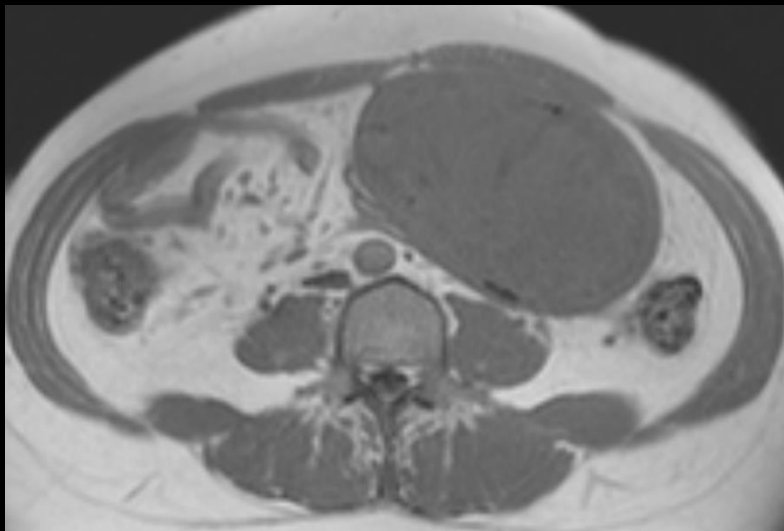
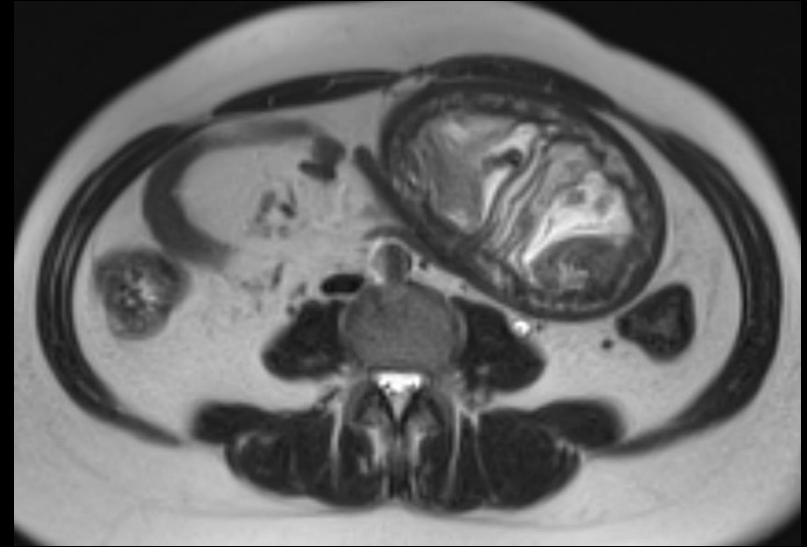
# D/Dx: Peripelvis soft tissue lesions

- **Urothelial cancer**
  - Develop from intimal epithelium
  - Tearing of intima lead to nodular protrusion onto luminal surface
    - Stranding may be seen in surrounding fatty tissue, reflecting tumor infiltration

## CASE 3

- F/38
- C.I.: incidentally found intraabdominal mass
- PMHx: Salpingostomy (18YA)

# 13 cm mass in Lt Abdomen



## 문제 3

- 다음 중 가장 가능성이 높은 진단은?
  - 1) GIST
  - 2) Leiomyosarcoma
  - 3) Leiomyoma
  - 4) Ovary cancer
  - 5) Gossypiboma

# 정답

- 다음 중 가장 가능성이 높은 진단은?
  - 1) GIST
  - 2) Leiomyosarcoma
  - 3) Leiomyoma
  - 4) Ovary cancer
  - 5) Gossypiboma

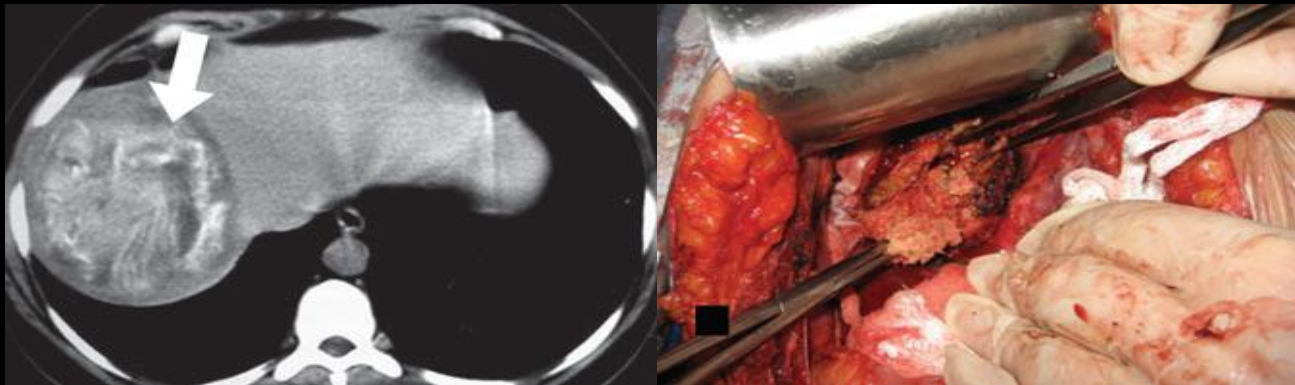
# Gossypiboma

- A mass within the body that is composed of a cotton matrix
- Synonyms : textiloma, cottonoid
- Etiology
  - Cotton matrix of the sponge forms the nidus of the foreign body reaction
  - Around the cotton nidus, there is surrounding fibrosis, retraction  
→ Development of a foreign body granuloma
- Location
  - Abdominal cavity (m/c)
  - Nose, tracheobronchial tree, breast, vagina, femur and spine



# Gossypiboma

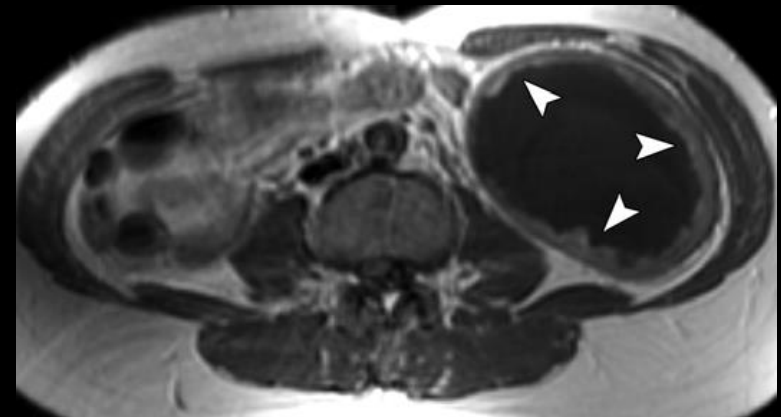
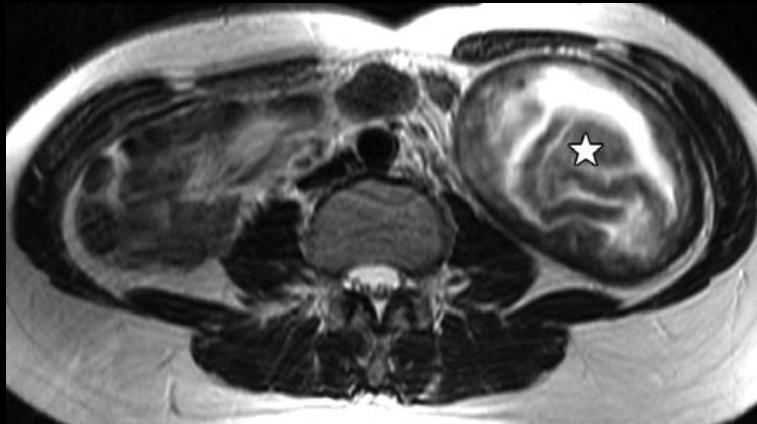
- CT: technique of choice
  - Low-density heterogeneous mass with an external high density wall that is highlighted on contrast-enhanced imaging
  - Spongiform pattern containing air bubbles
  - Radiopaque marker strip is seen as a thin metallic density in the mass
  - Calcification of the mass wall may be seen



# Gossypiboma

- MRI

- Well-defined mass with peripheral wall showing low signal intensity on T1- and T2WI and enhancement at CE T1WI
- Whorled internal configuration on T2WI
- Serrated contour in the inner border of the peripheral wall at CE T1WI

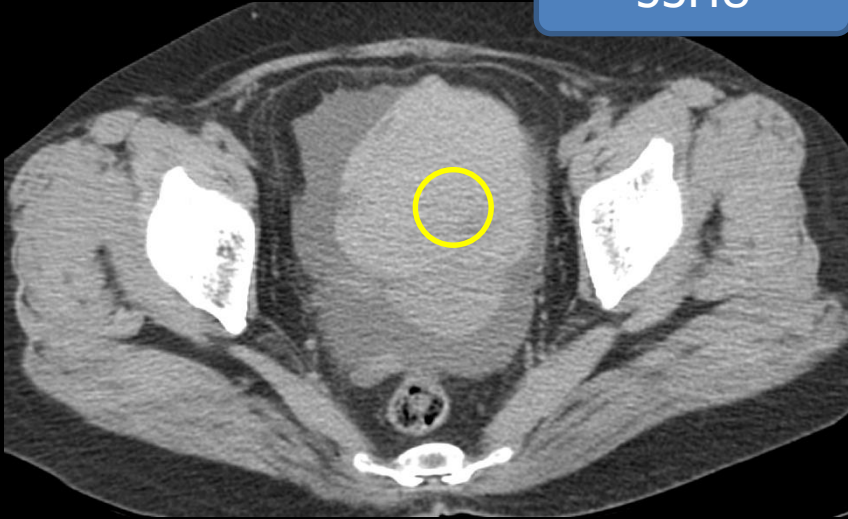


## CASE 4

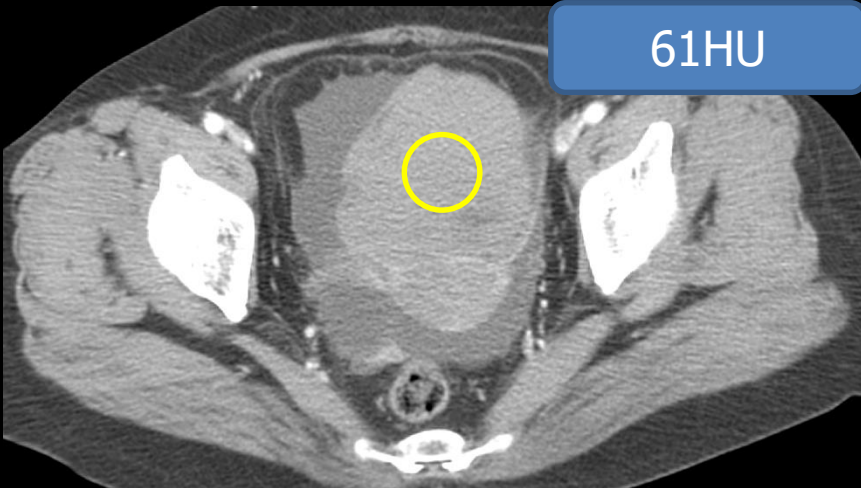
- F/59
- C.I. : lower abdominal pain with hematuria  
(onset: 5DA)
- PHx : HTN

# CT Urography

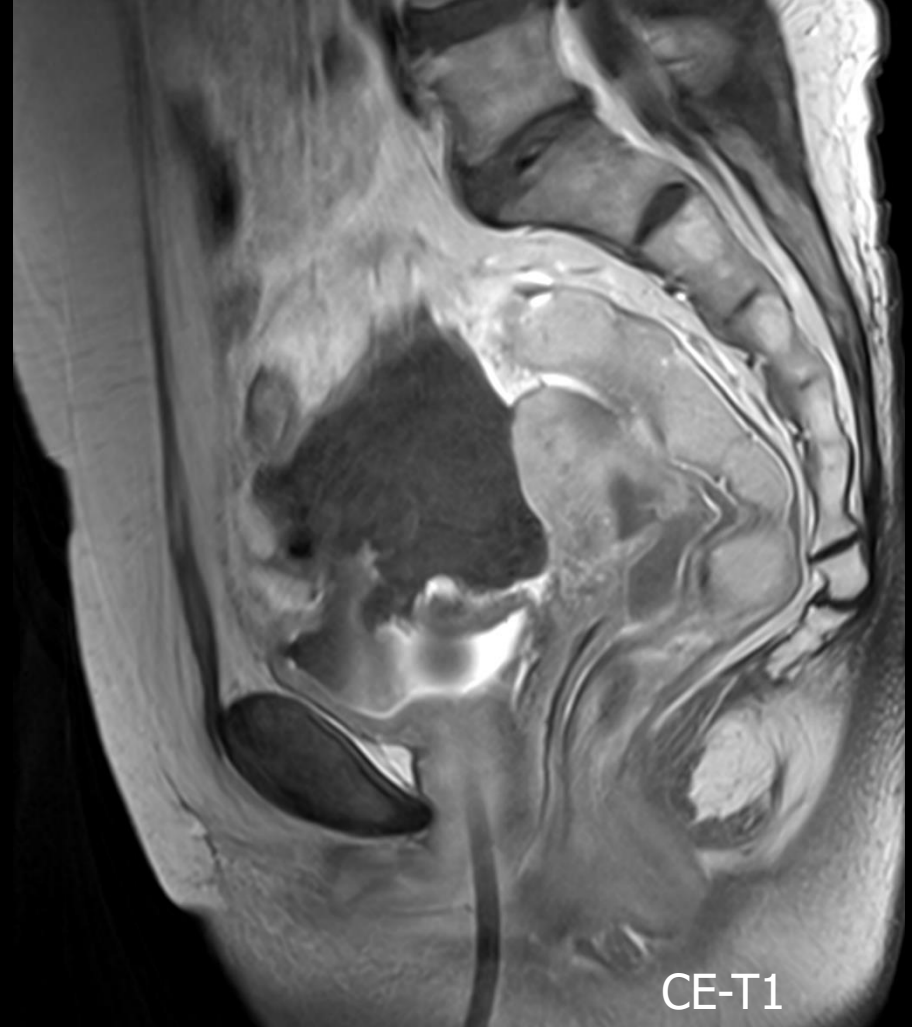
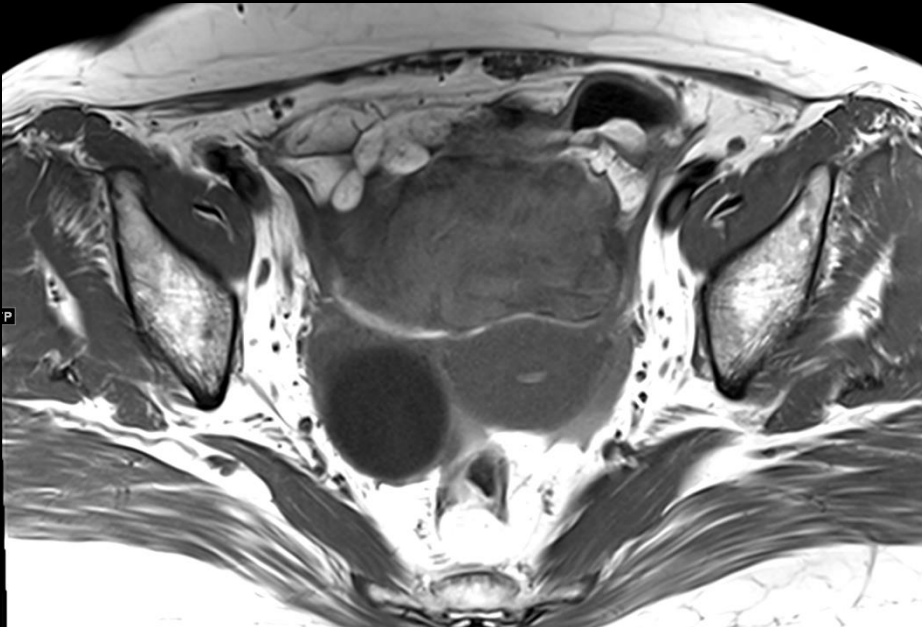
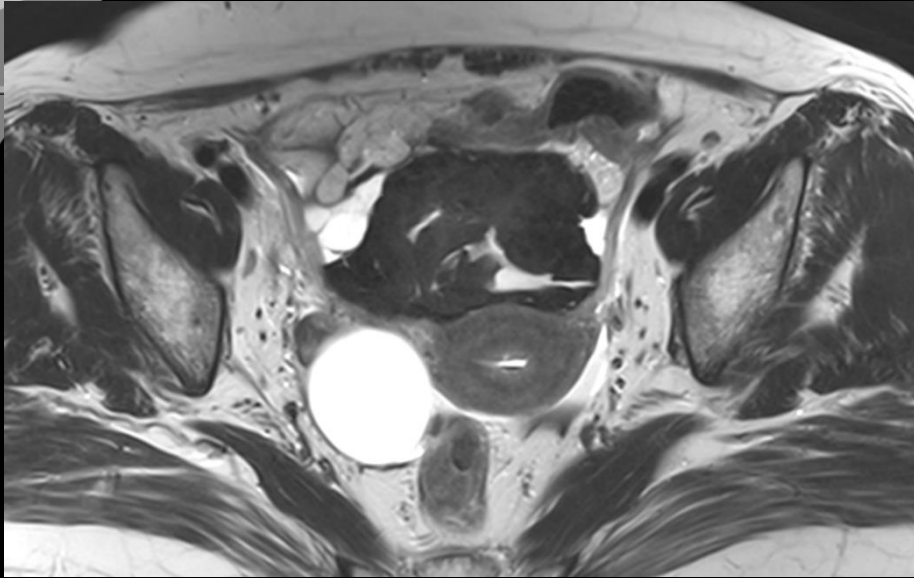
53HU



61HU



# FU MRI



## 문제 4

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Leiomyoma
  - 2) Hematoma
  - 3) Urachal cancer
  - 4) Torsed subserosal myoma
  - 5) Rt ovarian sex-cord stromal tumor

# 정답

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Leiomyoma
  - 2) Hematoma
  - 3) Urachal cancer
  - 4) Torsed subserosal myoma
  - 5) Rt ovarian sex-cord stromal tumor

# Clinical & Op Findings

- 외부 내원시 술에 취해 의식이 없는 상태
- OP findings:
  - Large intra-peritoneal hematoma
  - Bladder dome 쪽에 vertical 하게 4cm 정도 길이의 rupture 소견 관찰됨
  - Rt. ovary에 paratubal cyst 관찰됨



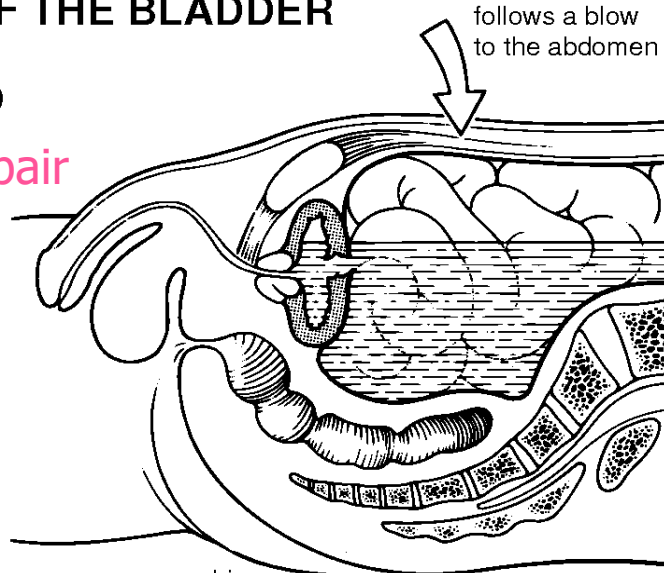
# Bladder Rupture

Type I	Type II	Type III	Type IV (m/c)	Type V
Contusion	Intraperitoneal	Interstitial or bladder wall hematoma	Extraperitoneal	Combined
	Less common Highest mortality		IVa: Simple IVb: Complex 70-80%	

## RUPTURE OF THE BLADDER

Intraperitoneal (A)

Surgical repair

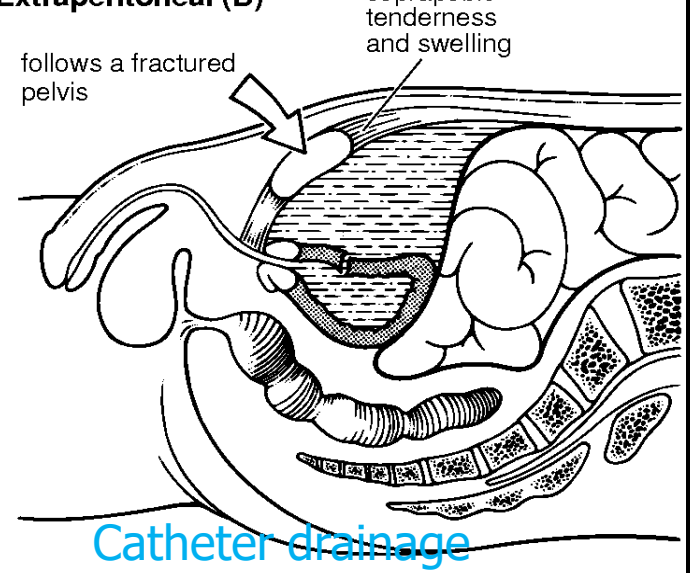


Extraperitoneal (B)

follows a fractured pelvis

suprapubic tenderness and swelling

Catheter drainage



# Intraperitoneal Bladder Rupture

- Diagnosis of bladder injury
  - Conventional cystography
    - Time-consuming, no information regarding other pelvic structures
  - CT
    - Conventional CT protocol
      - May or may not show the presence of bladder trauma
      - Visualization of bladder rupture on CT requires the bladder to be filled with fluid and under pressure

If conventional abdominal CT exam fails to show bladder rupture or bladder rupture is suspected, esp, as **abnormal water-dense fluid** is seen in the peritoneal cavity,

→ **CT cystography**

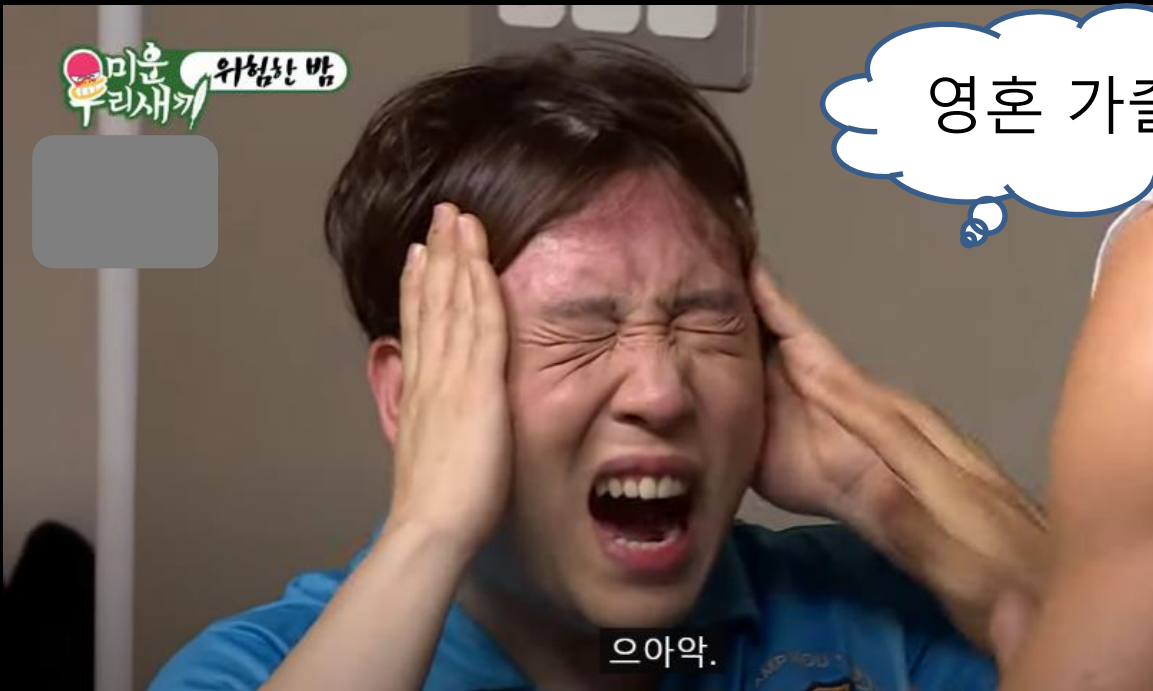
미운  
리새끼  
위험한 밤



이거 많이 아플 텐데...

-괜찮을까 모르겠다  
-괜찮을까 모르겠다

미운  
리새끼  
위험한 밤

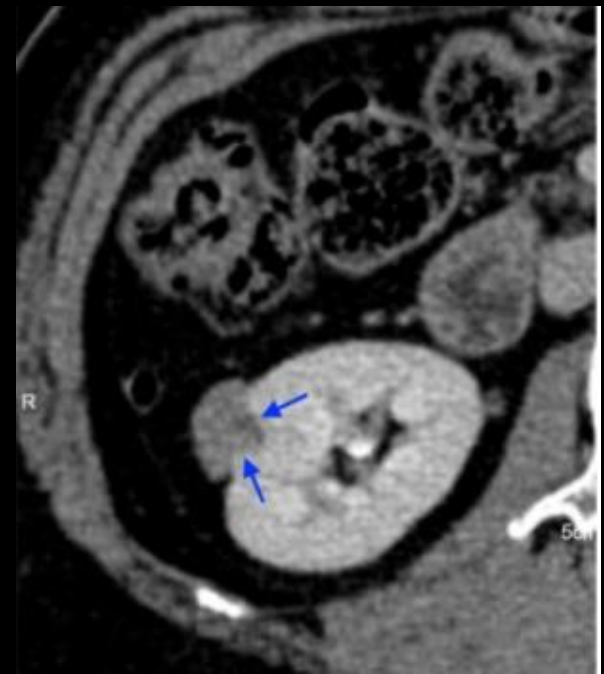


영혼 가출

으아악.

# 돌발 퀴즈

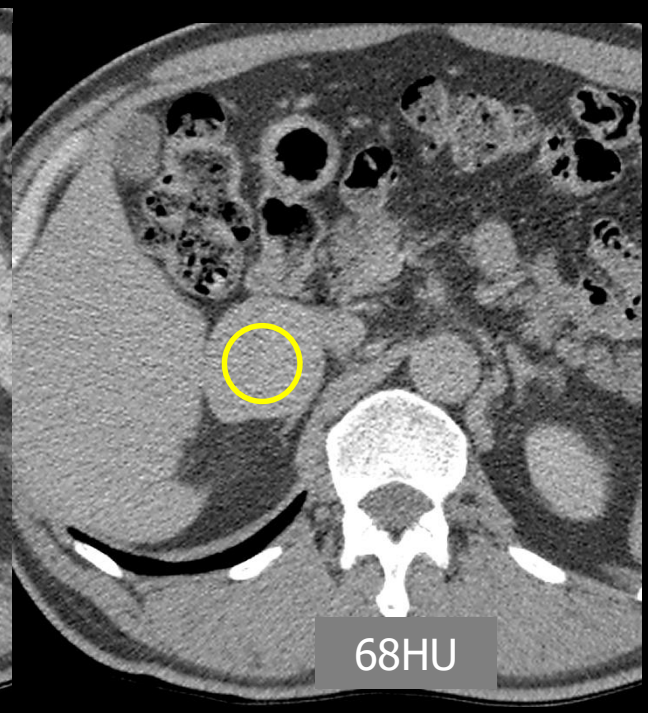
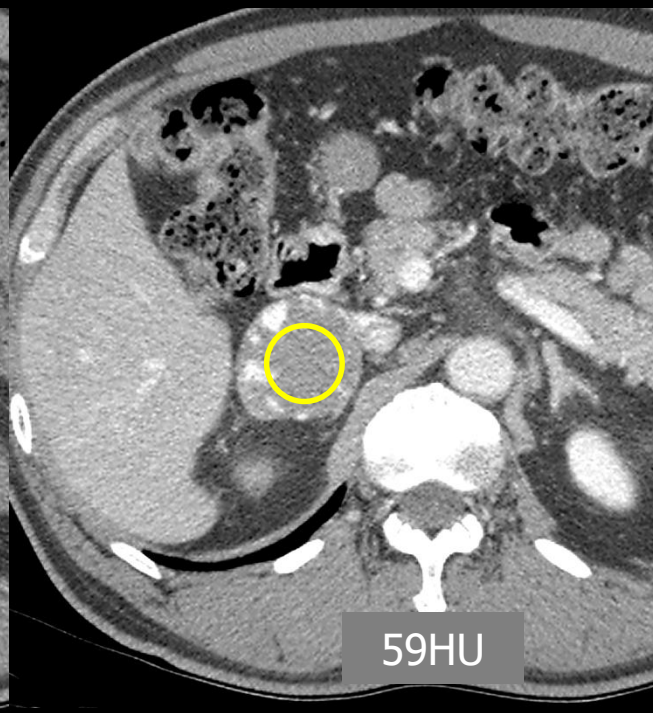
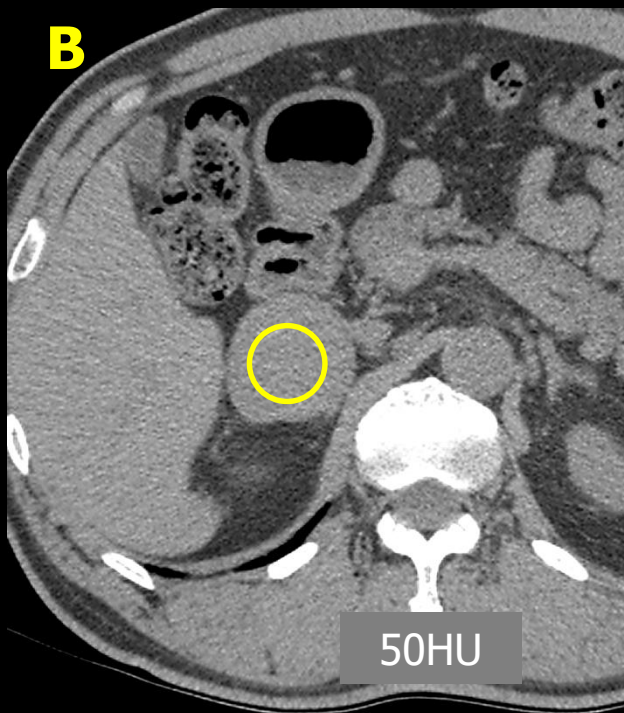
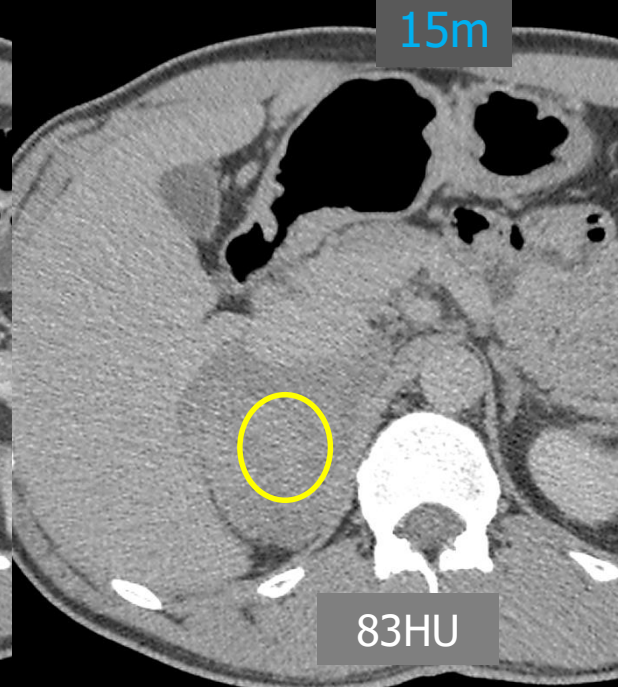
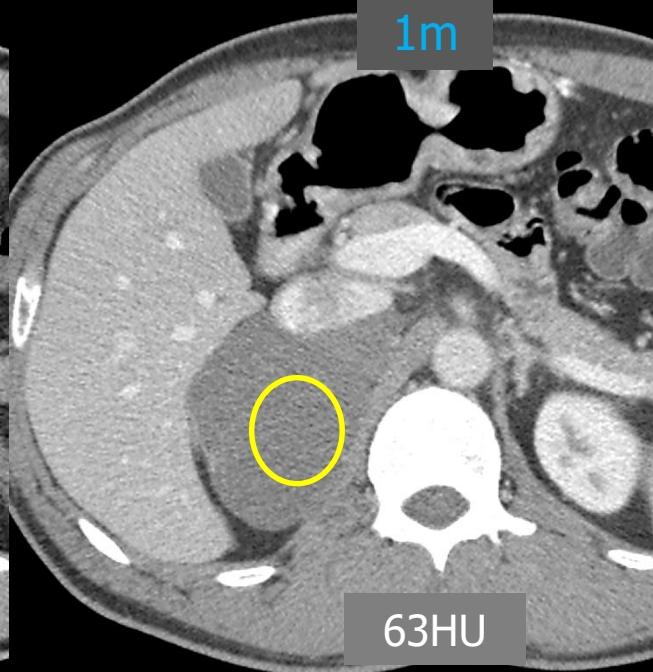
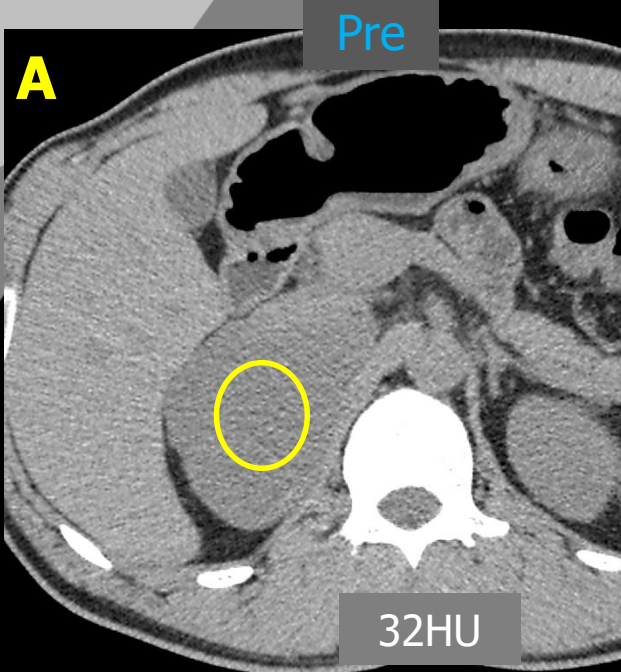
- 진단은?



# CASE 5

C.I. : 우연히 발견된 부신 주변 이상 소견





# 문제 5

- 다음 중 A와 B의 진단으로 옳은 조합은?
  - 1) Adenoma – cortical carcinoma
  - 2) Ganglioneuroma - hemangioma
  - 3) Cortical carcinoma – pheochromocytoma
  - 4) Metastasis – hemangioma
  - 5) Cortical carcinoma - metastasis

# 정답

- 다음 중 A와 B의 진단으로 옳은 조합은?
  - 1) Adenoma – cortical carcinoma
  - 2) Ganglioneuroma - hemangioma
  - 3) Cortical carcinoma – pheochromocytoma
  - 4) Metastasis – hemangioma
  - 5) Cortical carcinoma - metastasis



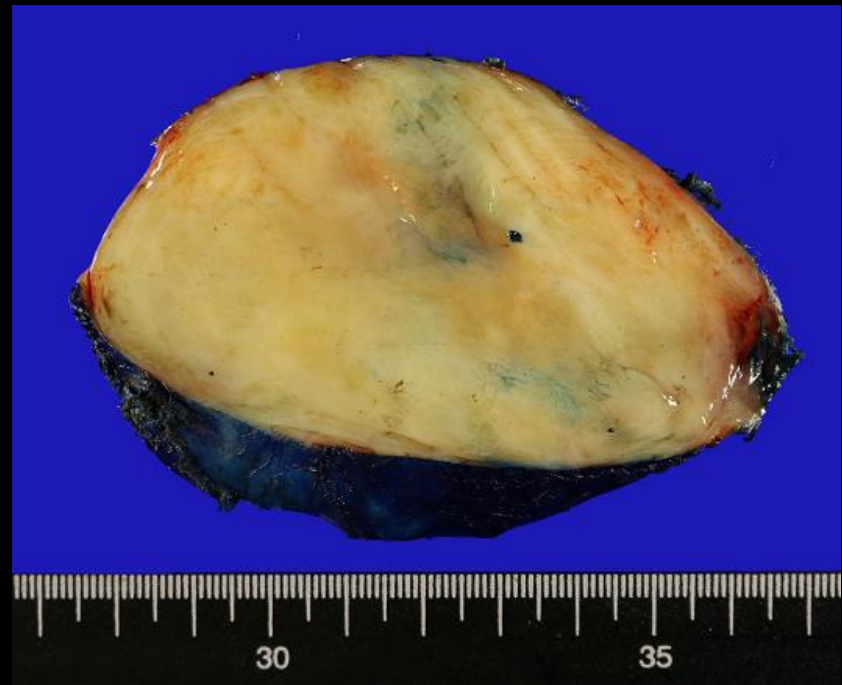
# Case A

(206066)

Retroperitoneum, mass excision and lymphadenectomy:

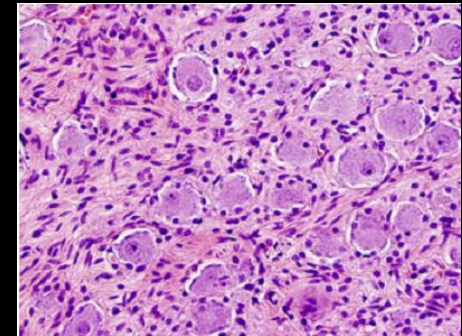
. Ganglioneuroma:

- 1) size: 10.5x10x4 cm
- 2) negative resection margin
- 3) metastasis to 2 out of 7 regional lymph nodes  
(2/7 : "aorta caval LN", 2/7)



# Ganglioneuroma

- Rare, benign, differentiated neurogenic tumor
  - Arise from primordial neural crest cells
  - Composition: mature Schwann cells, ganglion cells, nerve fibers
- Location: *anywhere along paravertebral sympathetic plexus*
  - Posterior mediastinum, retroperitoneum – m/c
  - Adrenal medulla - 20%, common in >40 years of age
- Clinical manifestations: *often asymptomatic*
  - Abdominal pain, palpation of an abdominal mass
  - Hormonally active forms — rare
    - Catecholamines, VIPs, or androgenic hormones
    - Hypertension, diarrhea, and virilization



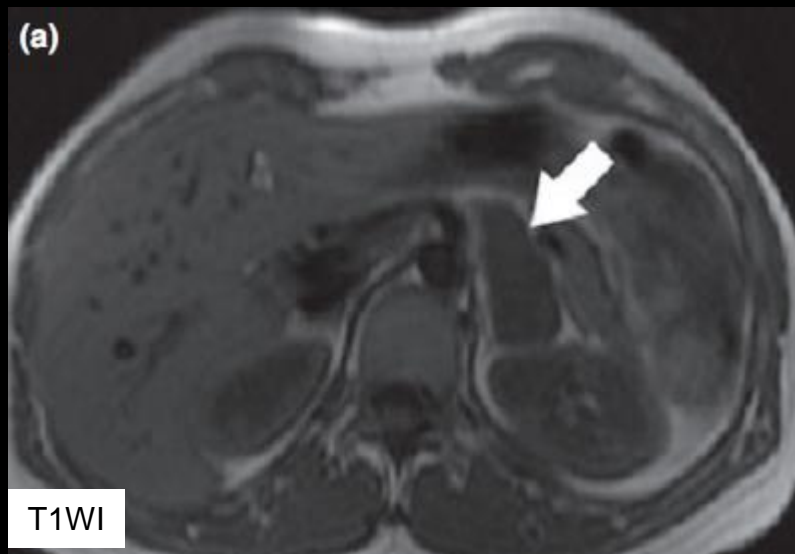
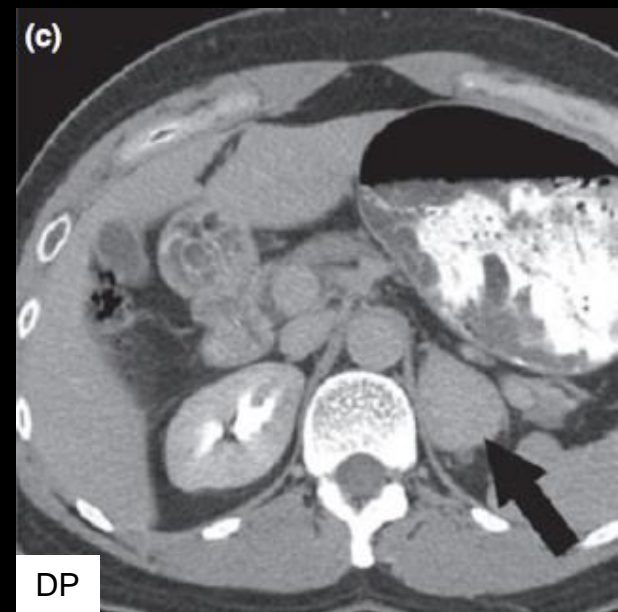
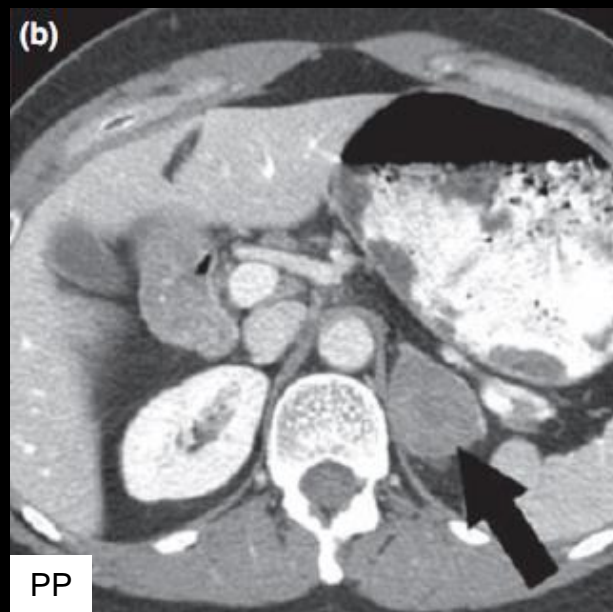
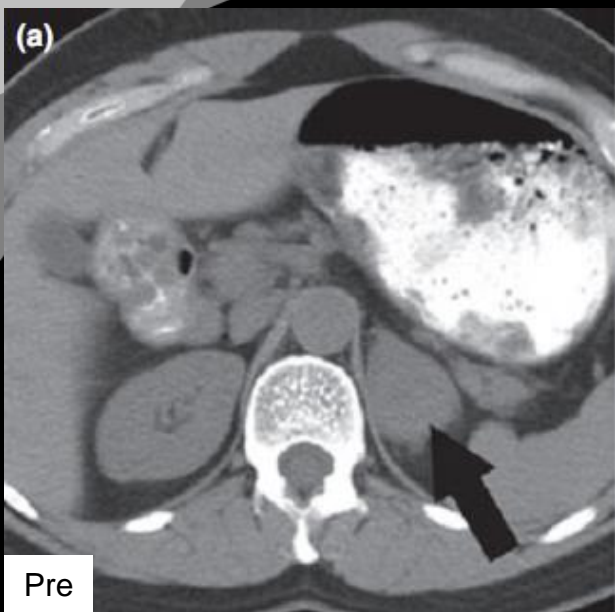
# Imaging Features

- **Enhancement pattern**

- Relatively homogeneous in precontrast scan
- Delayed heterogeneous contrast uptake without centripetal tendency
- Abundant myxoid matrix → contrast accumulation in the extracellular space

- **MRI**

- T1WI: hypointense
- T2WI: heterogeneous markedly hyperintense



- Adrenal adenoma
  - Small (<5 cm), characteristic washout on delayed phase images
- Adrenocortical carcinoma
  - Typically large (>5 cm), heterogeneous appearance
- Pheochromocytoma
  - Catecholamine overproduction –distinct clinical features
  - Heterogeneous appearance
- Hemangioma
  - Heterogeneous enhancement, mainly **peripheral spotty or nodular**
  - **Gradual filling in over time** is sometimes seen, but less frequently than in the liver
  - Central region is often scarred & does not significantly enhance
  - Isodense to the aorta on all phases

Adrenalectomy:

**Cavernous hemangioma;**

- 1) size: 3.8x2.4 cm
- 2) negative resection margins

# Adrenal Hemangioma

- Epidemiology
  - Extremely rare benign vascular tumor composed of angioblastic cells
  - Only 56 cases have been reported until 2011
  - Usually unilateral , 6<sup>th</sup>~7<sup>th</sup> decade of life
  - Female: male = 2:1
- Symptoms
  - Generally asymptomatic
  - If symptoms are present, they are related to the volume of the tumor
  - Spontaneous life-threatening hemorrhage has been reported
- Treatment
  - Determine the surgical indication is based on tumor size
  - Safe to conservatively manage tumors < 3.5 cm in size
  - Usually removed because of the risk of hemorrhage and inability to exclude malignancy

# CT Findings

- Characteristic calcifications reported in 28–87% of cases
  - Phleboliths within the dilated vascular spaces of the lesion
  - Speckled throughout the lesion or centrally located with an irregular, stellate branching pattern
- Calcifications : ACC, hemorrhage, tuberculosis, neuroblastoma



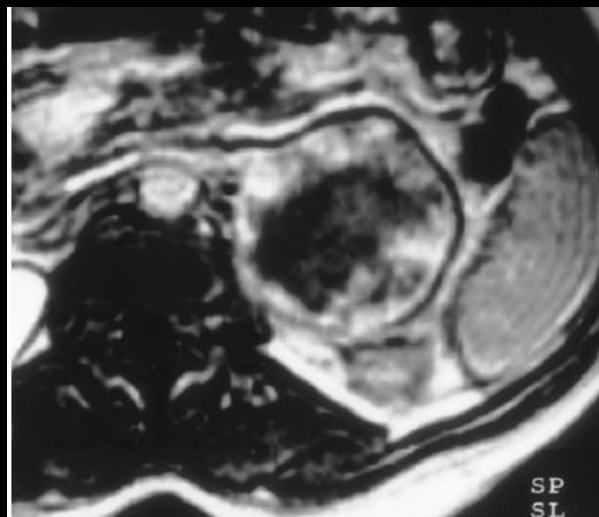


# CT Findings

- Postcontrast
  - Heterogeneous enhancement
  - Mainly peripheral spotty or nodular
  - Gradual filling in over time is sometimes seen, but less frequently than in the liver
  - Central region is often scarred and does not significantly enhance
  - Isodense to the aorta on all phases

# MRI Findings

- **T1**
  - Hypointense relative to liver
  - Central intrinsic hyperintensity may be present due to hemorrhage
- **T2**
  - Very hyperintense peripherally, central scar hypointense
- **T1 C+ (Gad)**
  - Peripheral enhancement which persists, gradual filling in sometimes seen

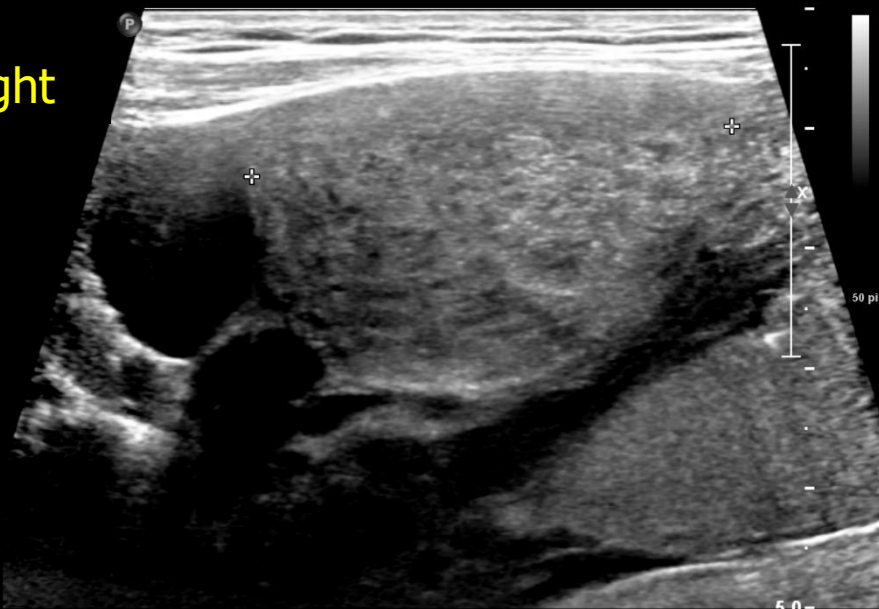


## CASE 6

- F/37
- C.I. : Palpable mass in both groins, gradually increasing since early stage of pregnancy
- Pregnancy state (33wks)

RS  
2D

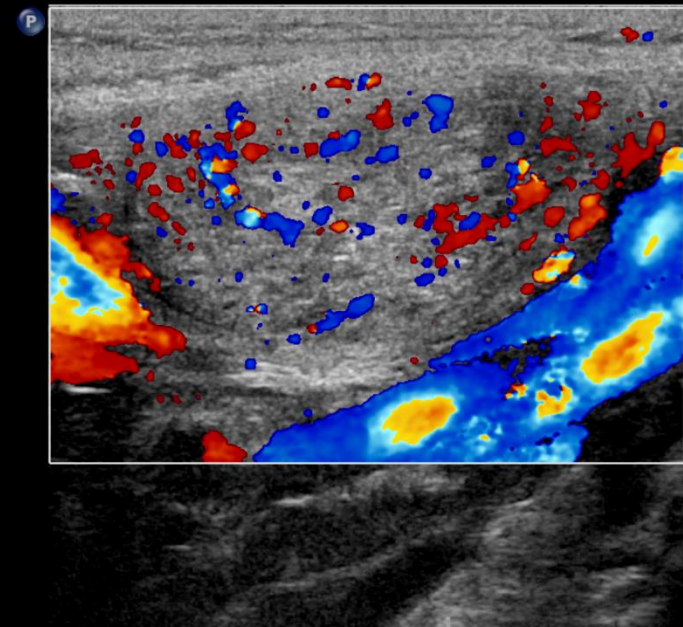
Right



✦ Dist 4.03 cm

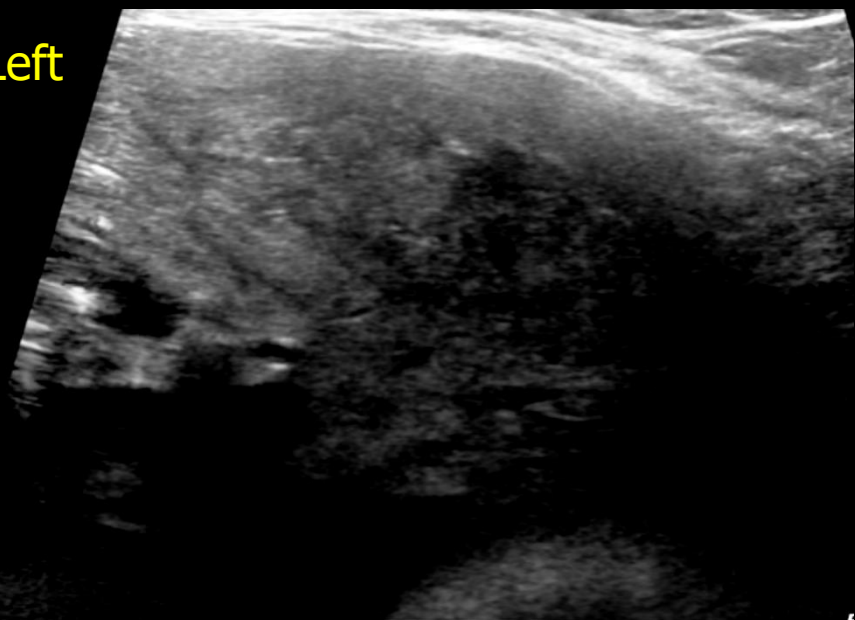
Right

5.0



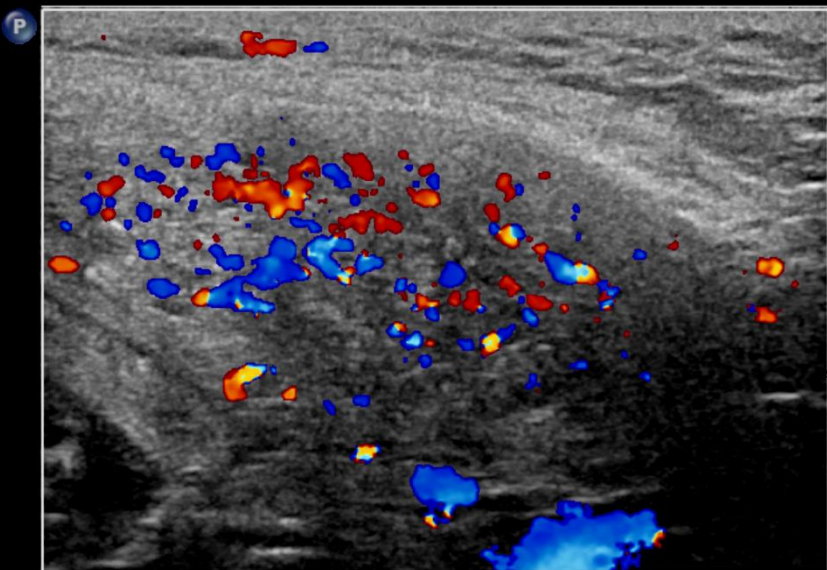
5.0

Left



Left

5.0



50 pixel

# 문제 6

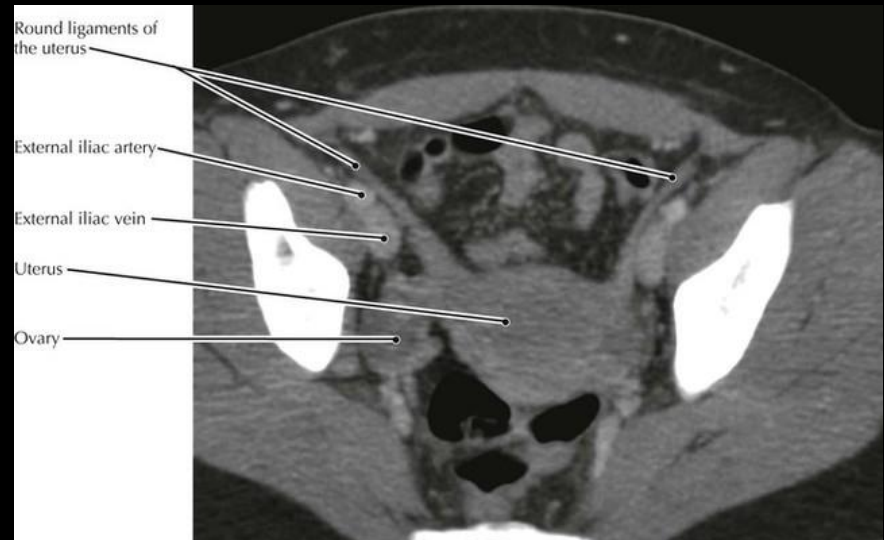
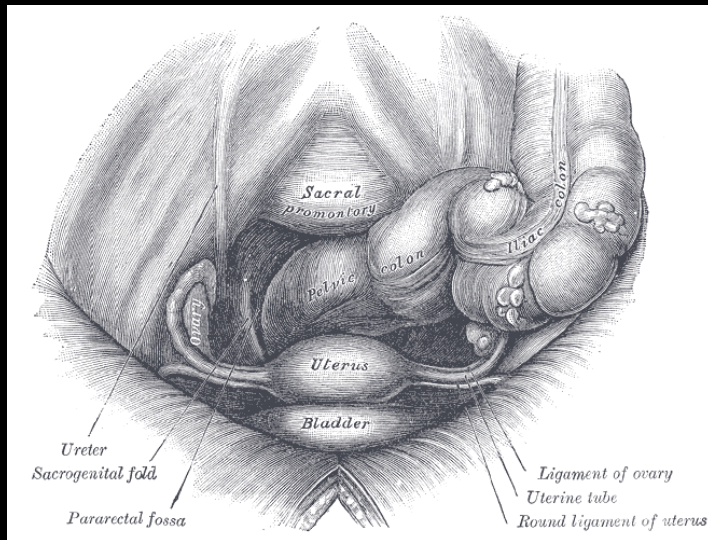
- 다음 중 가장 가능성이 높은 진단은?
  - 1) Endometriosis
  - 2) Varicose veins
  - 3) Lymphadenopathy
  - 4) Liposarcomas
  - 5) Inguinal hernias

# 정답

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Endometriosis
  - 2) Varicose veins
  - 3) Lymphadenopathy
  - 4) Liposarcomas
  - 5) Inguinal hernias

# Round Ligament Varicosities

- Round ligament of the uterus
  - Originated at uterine horns
  - Deep inguinal ring → inguinal canal → labia majora
  - Maintenance of the anteversion of the uterus during pregnancy



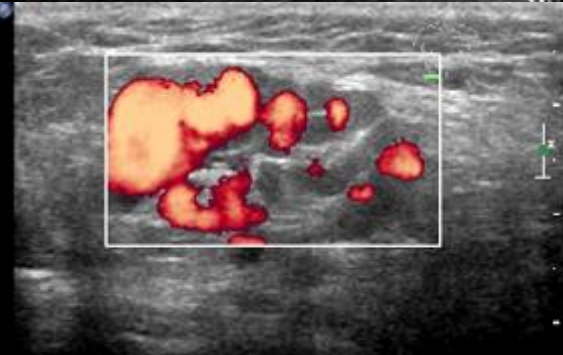
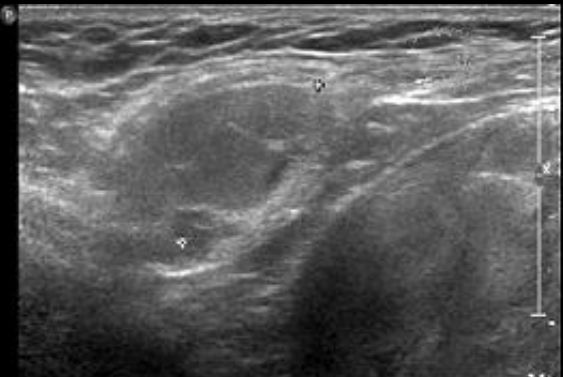
# Round Ligament Varicosities

- From the veins draining the round ligament & inguinal canal into the inferior epigastric vein
- More common in pregnancy, 2<sup>nd</sup> trimester
  - Progesterone-mediated venous smooth muscle relaxation causing dilatation of the round ligament veins
  - Raised cardiac output causing increased venous return
  - Pelvic venous impingement by the gravid uterus
- Disappeared after delivery in most cases
- Sx : swelling and tenderness in the groin region, which can be enlarged by increased abdominal pressure in cases of coughing or Valsalva maneuver
- **Reducible inguinal mass** : mimicking inguinal hernia
  - Femoral hernia, cyst of Nuck
  - Lymphadenopathy, vascular aneurysm
  - Soft tissue malignancies, subcutaneous lipoma
  - Abscess formation
  - Extragenital endometriosis



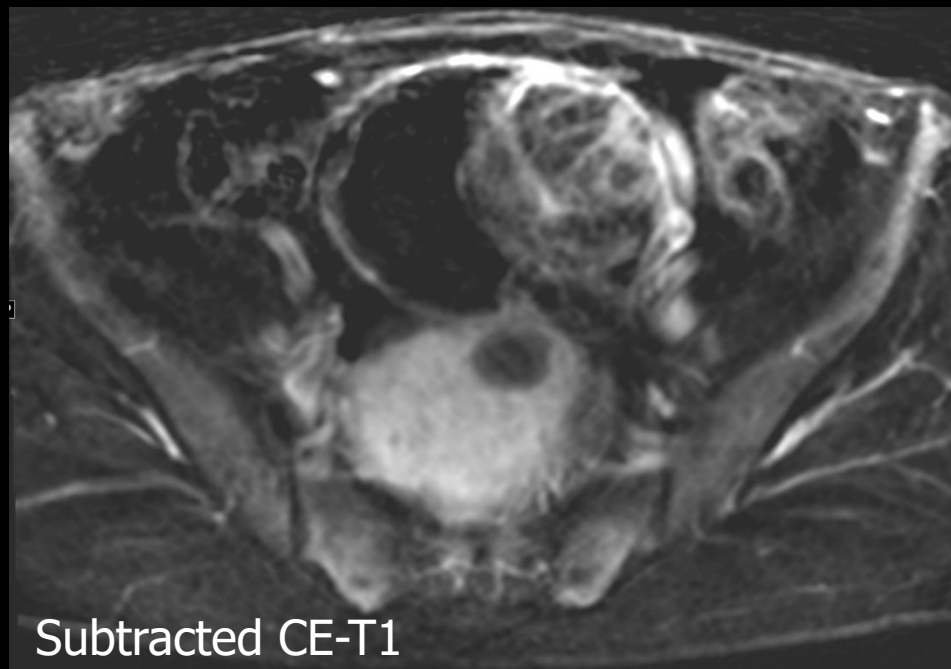
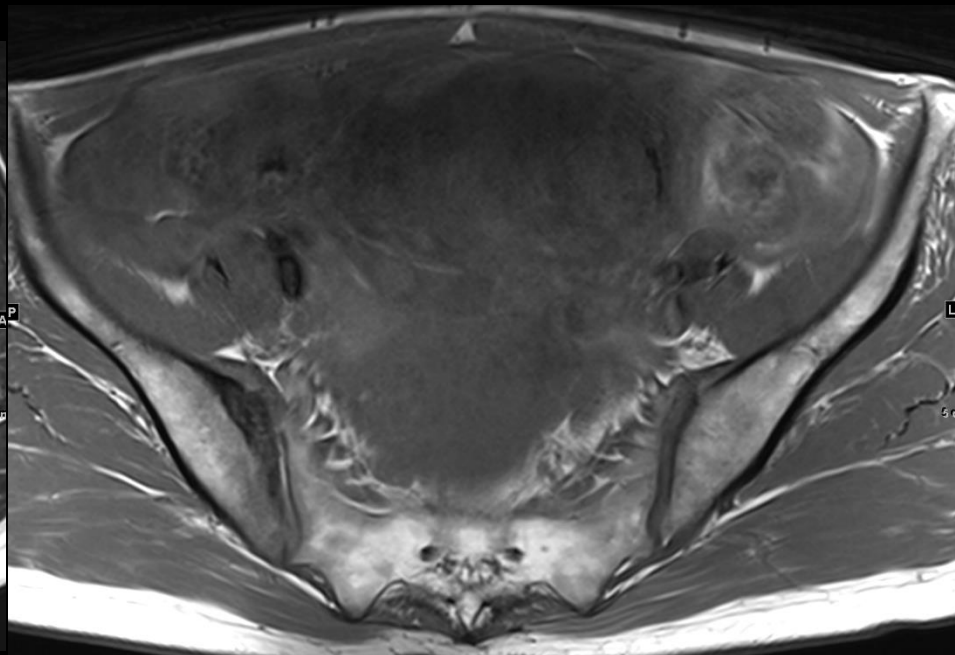
# Round Ligament Varicosities

- Imaging findings – Duplex US
  - Prominent venous plexus with accompanying **dilated draining veins**
  - Typical “**bag of worms**” appearance of smaller veins
  - Color doppler US : venous flow and augmentation with **Valsalva** maneuver



# CASE 7

- F/61
- C.I. : Abnormal vaginal bleeding & abdominal pain



# 문제 7

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Mucinous epithelial tumor
  - 2) Endometrioma
  - 3) Struma ovarii
  - 4) Metastasis
  - 5) Granulosa cell tumor

# 정답

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Mucinous epithelial tumor
  - 2) Endometrioma
  - 3) Struma ovarii
  - 4) Metastasis
  - 5) Granulosa cell tumor

# OP Findings

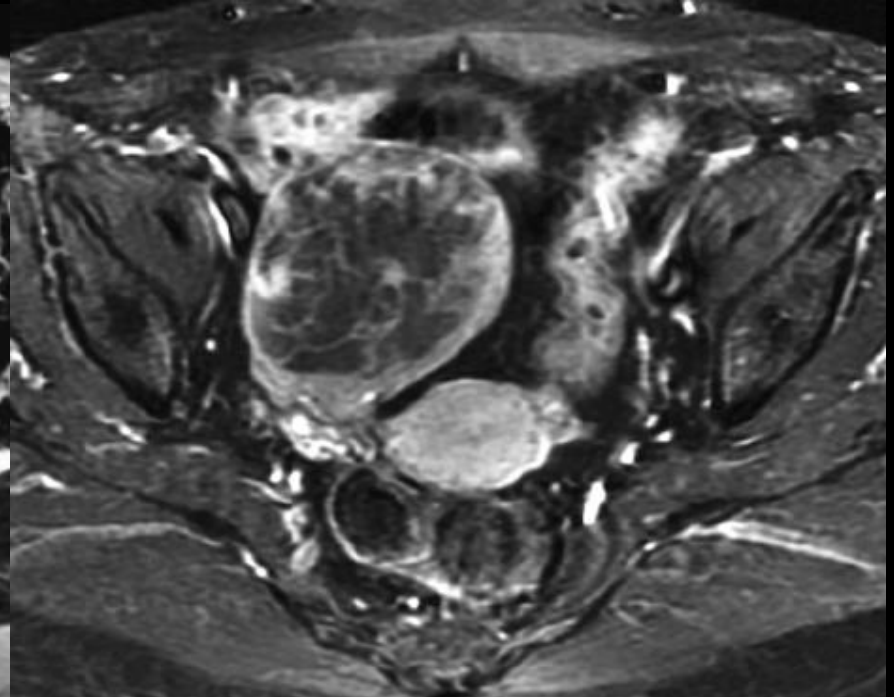
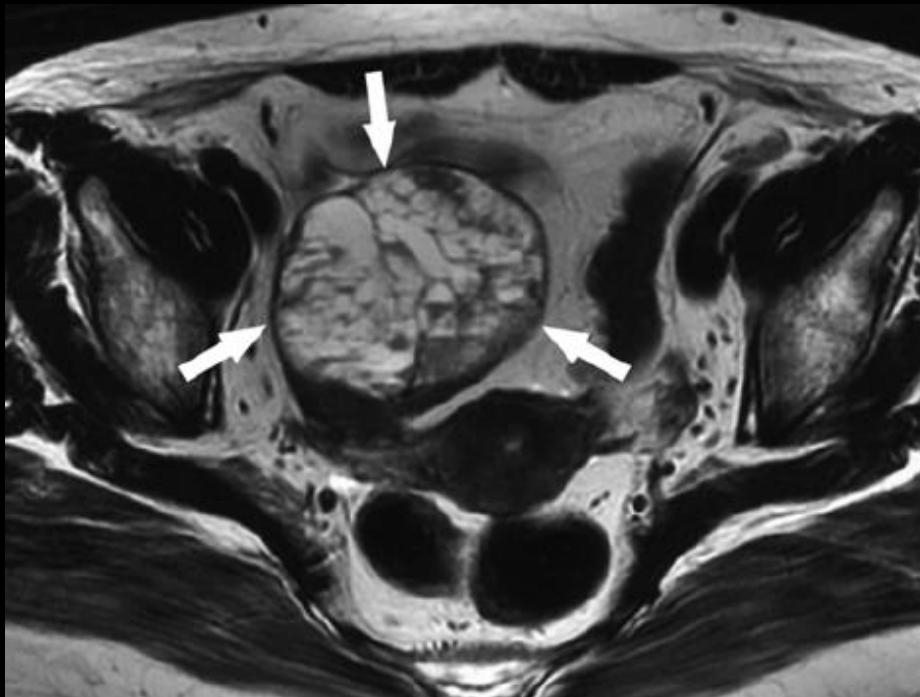
- **Granulosa cell tumor, adult type**
  - Tumor size: 9.5x7.5x5 cm
  - Ovarian surface involvement: present (pT1c)
  - No involvement of left ovary, bilateral salpinges, uterus & omentum
  - Mitotic rate: 17/10 HPFs
  - Lymphovascular invasion without D2-40 immunohistochemistry: Negative
  - No metastasis in all 18 regional lymph nodes (pN0)
  - LN meta (-)
- Endometrium: Proliferative

# Granulosa Cell Tumor

- Granulosa cell tumor: < 5% of all malignant ovarian tumors
  - M/C malignant sex cord–stromal tumor, clinically estrogenic ovarian tumor
  - Occur predominantly in peri- and postmenopausal women
  - Estrogenic effects or virilization due to hyperestrogenemia such as abnormal vaginal bleeding in postmenopausal women
  - Endometrial hyperplasia, polyps, carcinoma (3–25%)
- Most patients have an excellent prognosis
- Tendency of late recurrence, even 10–20 years after diagnosis

# Imaging Features

- Vary widely and range from solid masses to multilocular or completely cystic tumors
- Heterogeneity within a solid tumor is caused by intratumoral bleeding, infarcts, fibrous degeneration, irregularly arranged tumor cells





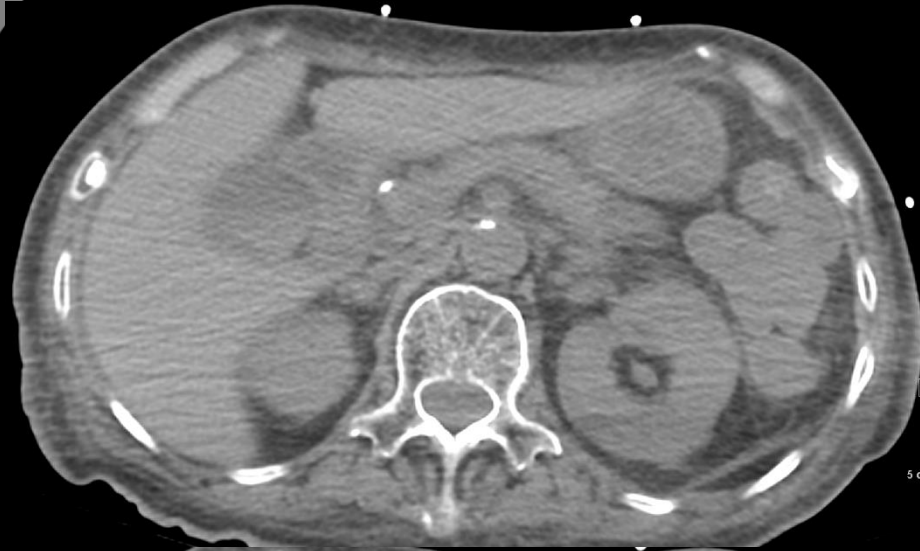
# Imaging Features

- Key imaging findings, DDX point
  - Intratumoral hemorrhage
  - Estrogenic effects on the uterus: uterine enlargement, endometrial thickening or hemorrhage
  - No intracystic papillary projections
  - Less propensity for peritoneal seeding
  - Rarely bilateral
  - Confined to the ovary at the time of diagnosis

## CASE 8

- F/84
- C.I.: Anuria, rapid elevated SCr
- PHx: Rt ICH, lung ca

# CT



# 문제 8

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Renal infarction
  - 2) Lymphoma
  - 3) Cortical necrosis
  - 4) IgG4-RD
  - 5) Xanthogranulomatous nephritis

# 정답

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Renal infarction
  - 2) Lymphoma
  - 3) Cortical necrosis
  - 4) IgG4-RD
  - 5) Xanthogranulomatous nephritis



# Renal Cortical Necrosis

- Rare cause of acute renal failure
  - Secondary to ischemic necrosis of the renal cortex with sparing of the renal medulla
  - Mostly, bilateral process
- Pathophysiology: Not clear yet
  - Significantly diminished renal arterial perfusion secondary to vasospasm of small vessels / glomerular capillary endothelial injury / intravascular coagulation
- Associated with
  - Complications of pregnancy (abruptio placentae, septic abortion)
  - Severe traumatic shock, septic shock, transfusion reaction, severe dehydration, venom toxin, renal transplantation complication, & hemolytic uremic syndrome

# US Imaging Features

- Hypoechoic circumferential band on US
  - Most renal disease cause an increase in the cortical echogenicity
- Contrast-enhanced ultrasound (CEUS) shows peripheral non-enhancement



# CT Imaging Features

- Lack of cortical enhancement while spared enhancement of the medulla
- Subcapsular cortical enhancing rim is also a characteristic
  - d/t collateral flow from the capsular vessels
- Enhancement of the juxtamedullary cortex may be present
- Lack of excretion of contrast into the collecting system
- No perinephric manifestations







아우 즐려....ㅎㅎㅎ



Made with  
VideoShow

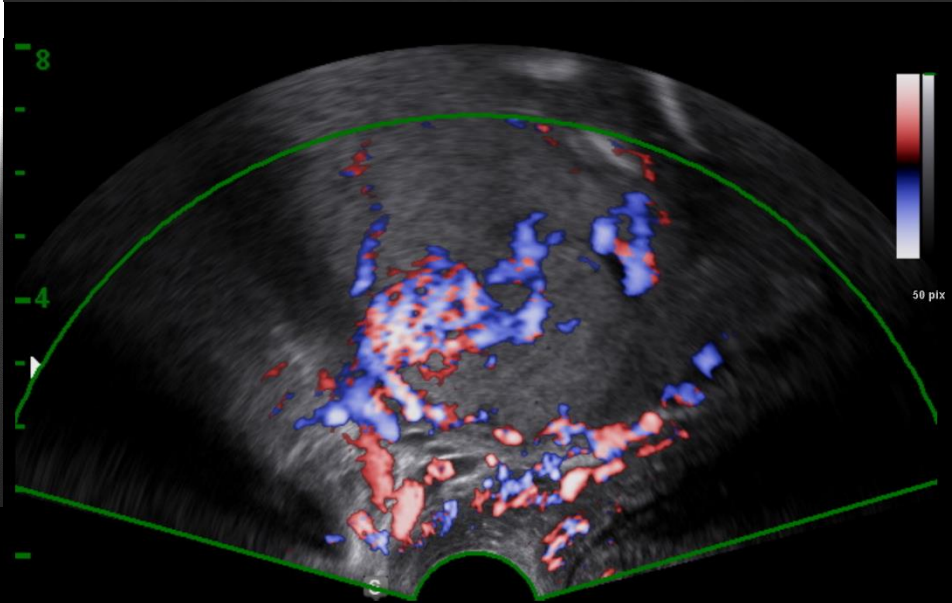
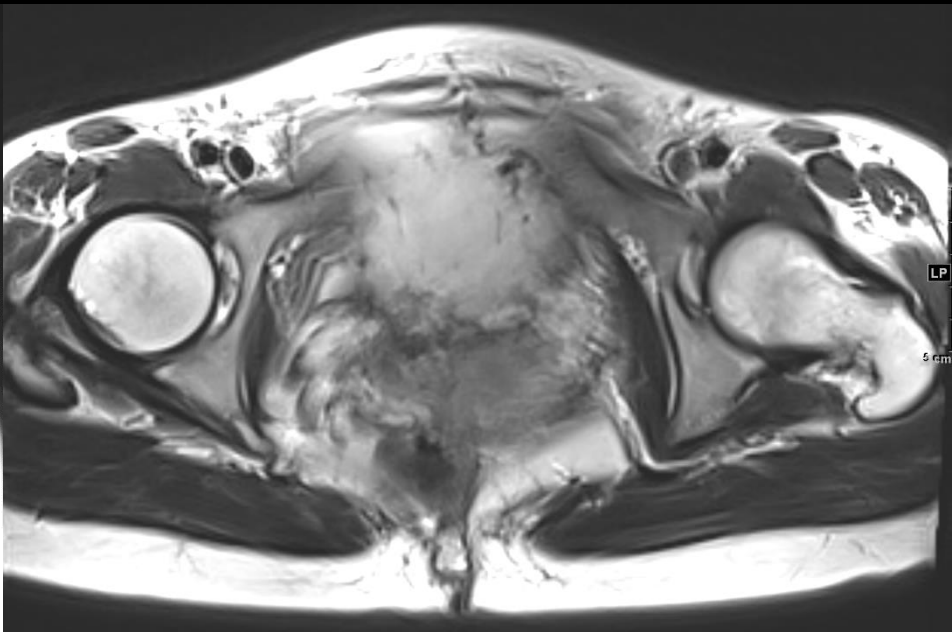
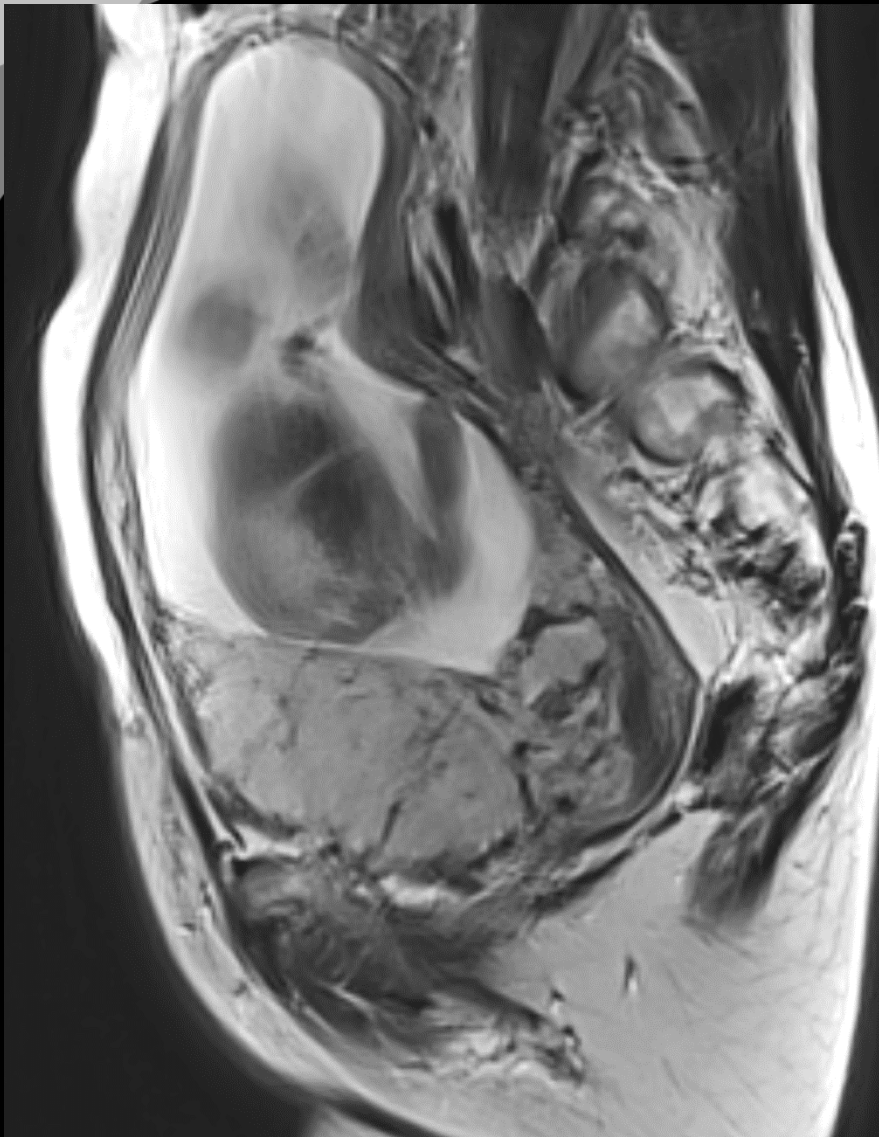
# 돌발 퀴즈

- 비뇨생식기질환에서 가능한 2개의 진단은?



## CASE 9

- F/41
- C.I.: abnormal placentation
- Gestational age: 20 weeks
- Para : (2) - (0) - (1) - (2)
- C/Sec



# 문제 9

- 진단은?
  - 1) Normal placenta
  - 2) Placenta accreta
  - 3) Placenta increta
  - 4) Placenta percreta

# 정답

- 진단은?
  - 1) Normal placenta
  - 2) Placenta accreta
  - 3) Placenta increta
  - 4) Placenta percreta



# OP Findings

- Placental implantation directly to myometrium with extension to bladder serosa, consistent with **placenta percreta**

S1744515



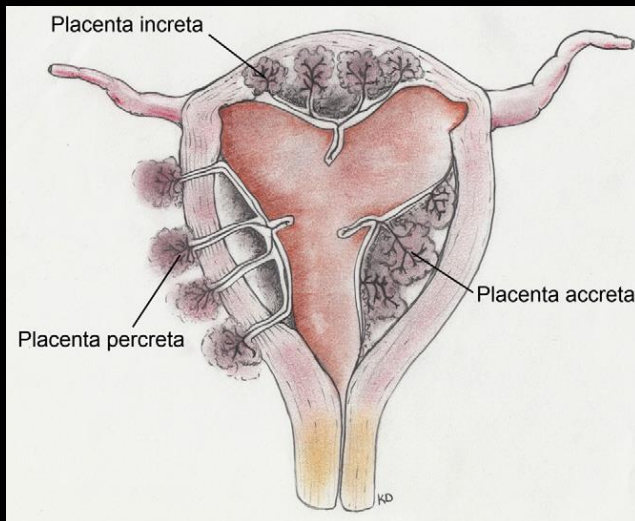
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# Placenta Accreta Spectrum

**Table 2.** Spectral MRI Findings of PAS

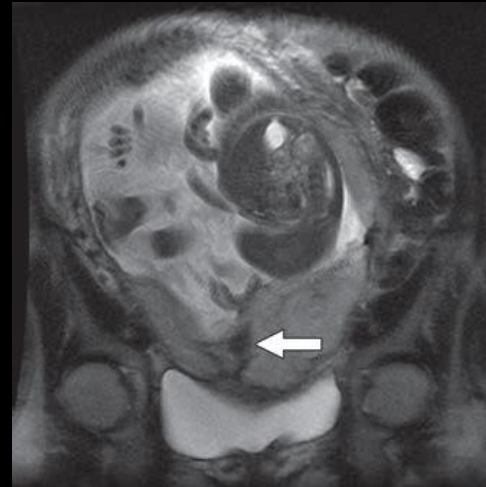
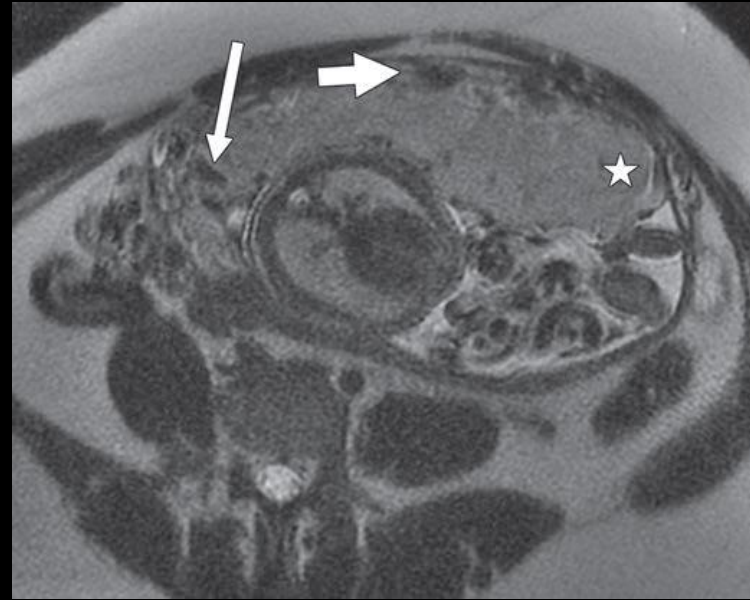
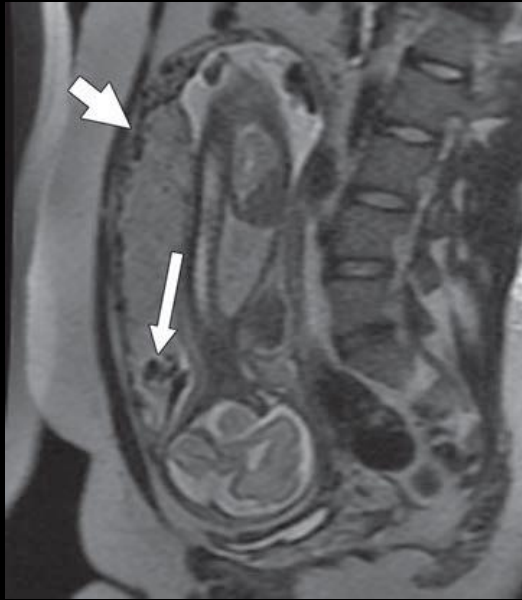
Spectral MRI Findings of PAS (Inside Out Approach)			
Placenta accreta and placenta increta			Placenta percreta
IN			OUT
Placenta	Placenta-myometrial interface	Myometrium	Extrauterine invasion
<ul style="list-style-type: none"> <li>- Dark intraplacental band</li> <li>- Heterogeneous placenta</li> <li>- Placental bulge</li> <li>- Lumpy contour and rounded edge</li> <li>- Abnormal/disorganized placental vascularity</li> </ul>	<ul style="list-style-type: none"> <li>- Thinning or loss of retroplacental T2 dark zone</li> </ul>	<ul style="list-style-type: none"> <li>- Myometrial thinning</li> <li>- Focal disruption of myometrium</li> </ul>	<ul style="list-style-type: none"> <li>- Bladder or adjacent structural invasion</li> <li>- Focal exophytic mass sign</li> </ul>



- Placenta accreta classified according to depth of myometrial invasion
  - Placenta accreta (placenta accreta vera): villi attached to myometrium but do not invade muscle
  - Placenta increta: villi partially invade myometrium
  - Placenta percreta: villi penetrate entire myometrium to involve adjacent organs
- Previous cesarean section & placenta previa are two major risk factors for placenta accreta



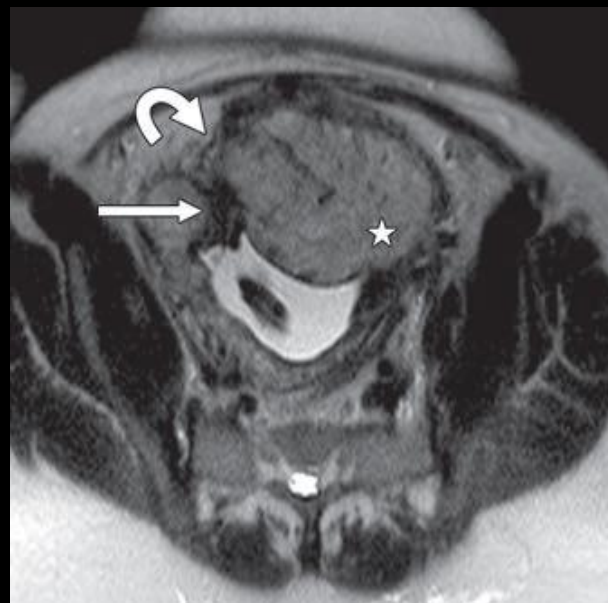
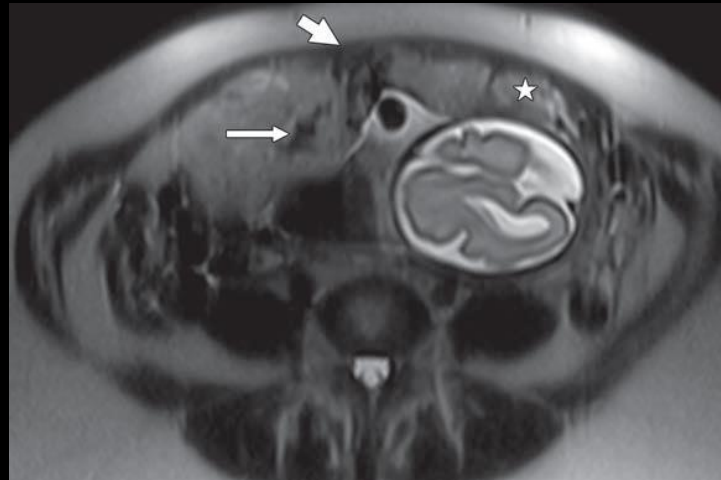
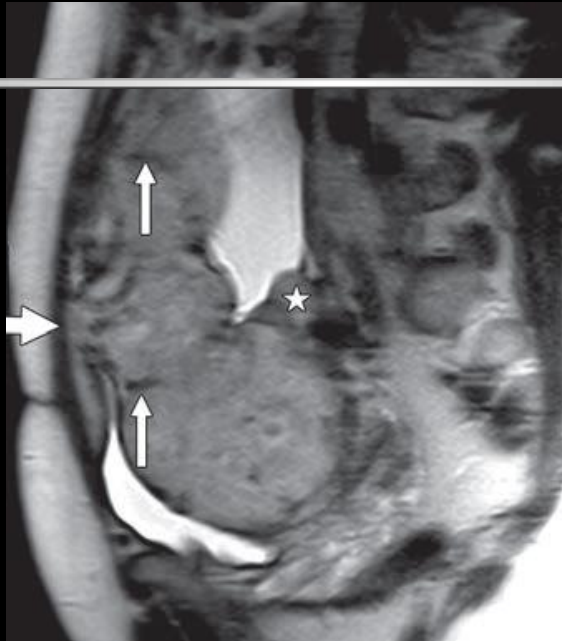
# Placenta Accreta



# Placenta Percreta

- Diagnostic features (uterine bulging with lumpy placental contour, rounded edges, & intraplacental hypointense bands) are more evident in placenta percreta when compared with placenta accreta or increta
- However, definitive diagnosis of placenta percreta requires additional features
  - Full thickness gap of myometrial signal with loss of fat plane between placental tissue and adjacent pelvic organs
  - Intermediate placental signal disrupting hypointense line of bladder, bowel wall, or abdominopelvic wall muscles

# Placenta Percreta



★ Rounded edges  
→ Intraplacental bands

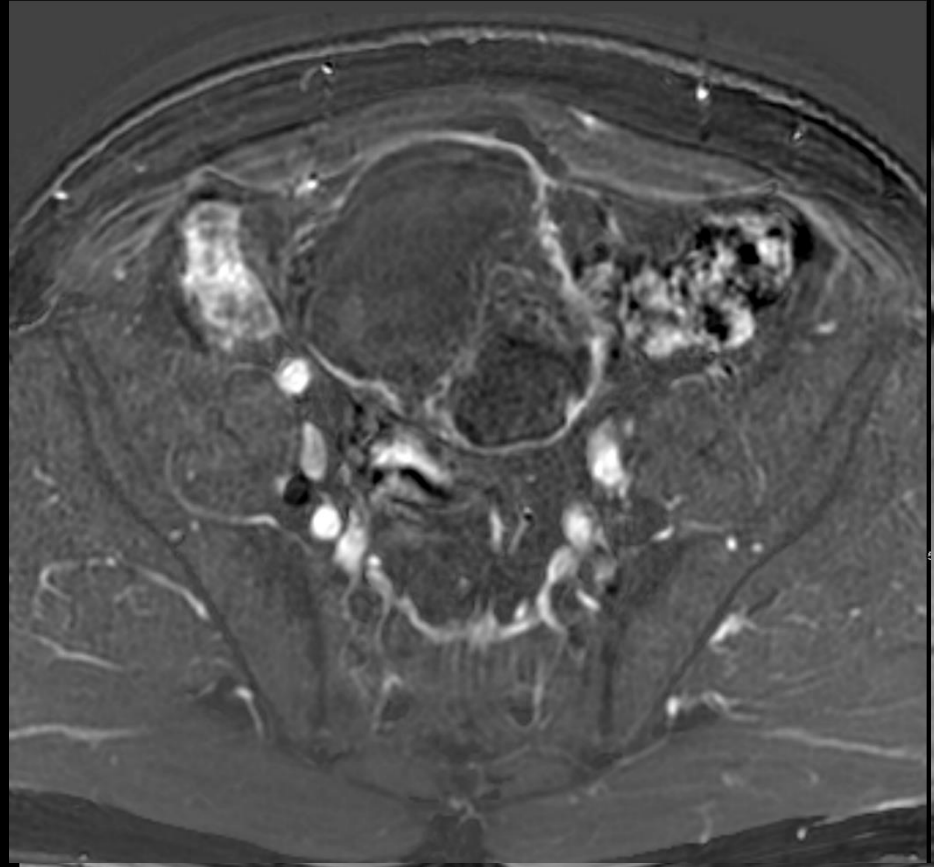
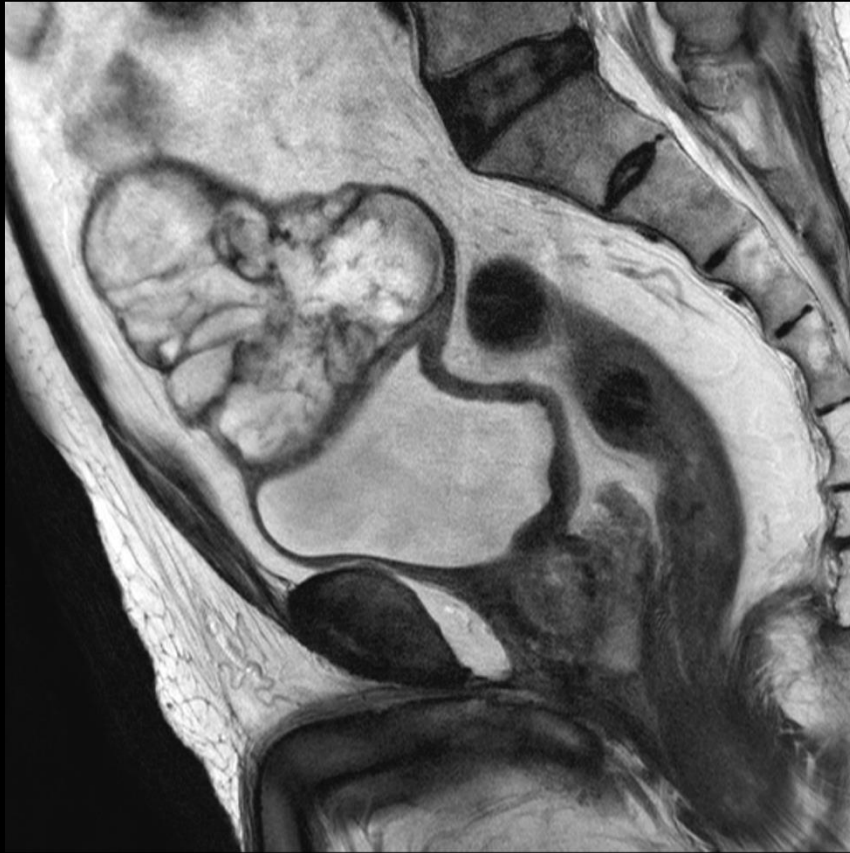
# CASE 10

- M/68
- C.I.: Palpable abdominal mass (3 months ago)

CT



# MRI



# 문제 10

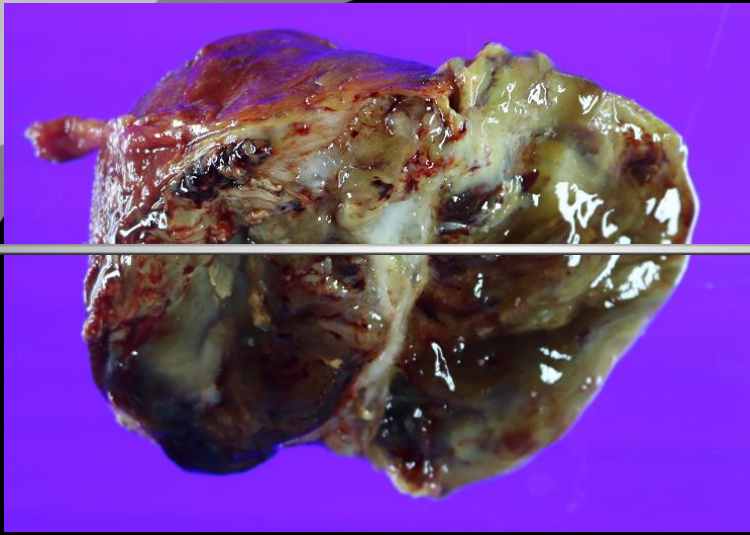
- 진단은?
  - 1) Urachal cyst
  - 2) Urachal abscess
  - 3) Urachal adenocarcinoma
  - 4) Urothelial cancer
  - 5) Hematoma

# 정답

- 진단은?
  - 1) Urachal cyst
  - 2) Urachal abscess
  - 3) Urachal adenocarcinoma
  - 4) Urothelial cancer
  - 5) Hematoma



# OP Findings



***Urinary bladder, "urachal tumor", partial cystectomy :***

***. Adenocarcinoma, consistent with urachal adenocarcinoma, colloid type;***

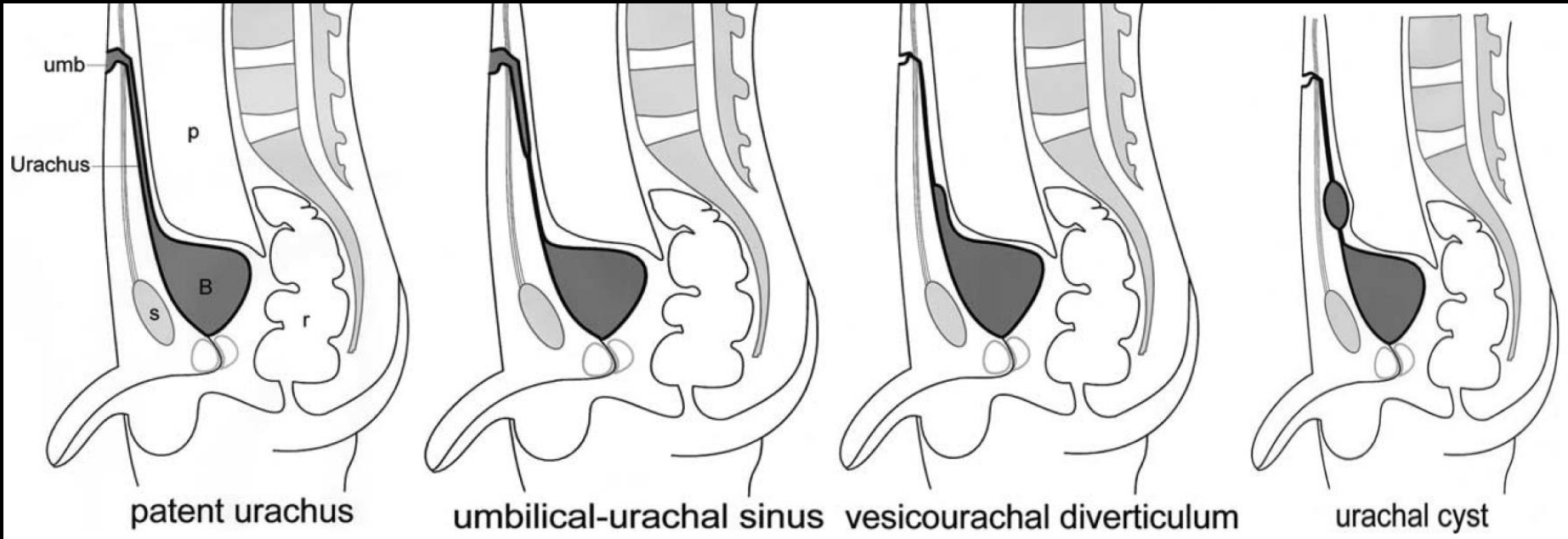
***1) tumor size: 10.1x8.5x7.5 cm***

***2) extension to bladder wall, muscularis propria***

***3) negative resection margins***

***4) Sheldon staging: pT3***

# Urachal Remnant



Failure to close	Both ends	Umbilical end	Vesical end	Btw both ends
	50%	15%	3-5%	30%

# Tumor in Urachal Remnant

- Malignant : < 0.5% of bladder cancer
  - Metaplasia into columnar epithelium → malignant transformation
    - 90% : adenocarcinoma
    - 75% : mucinous → typical psammomatous calcification (highly specific)
  - Extraperitoneal location
    - Typically silent, generally poor prognosis because the tumor arises in a clinically silent area
- Benign
  - Adenoma, fibroma, fibroadenoma, fibromyoma, hamartoma
  - Mimic urachal malignancy

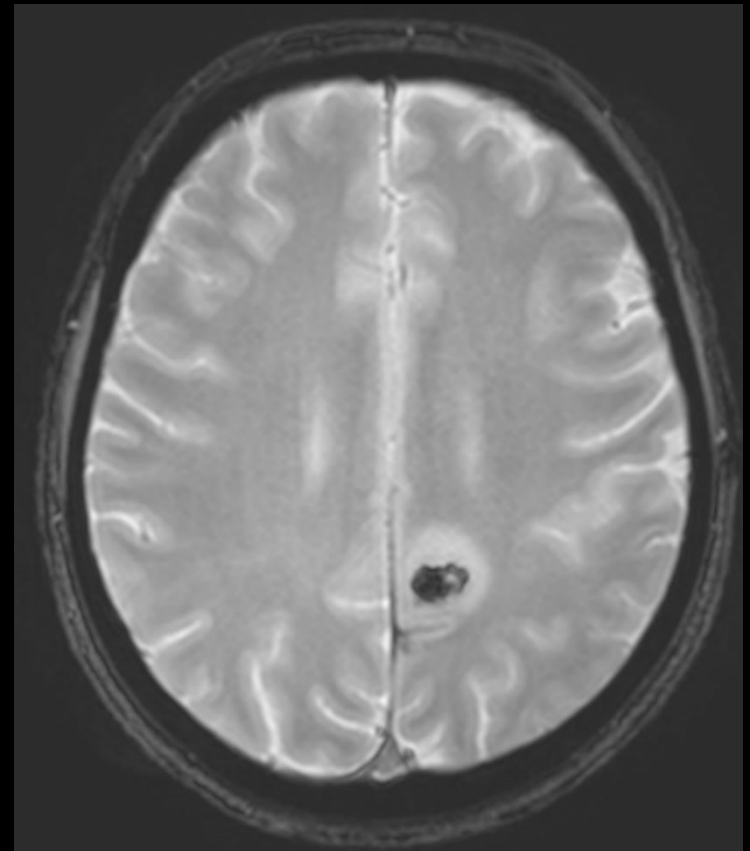
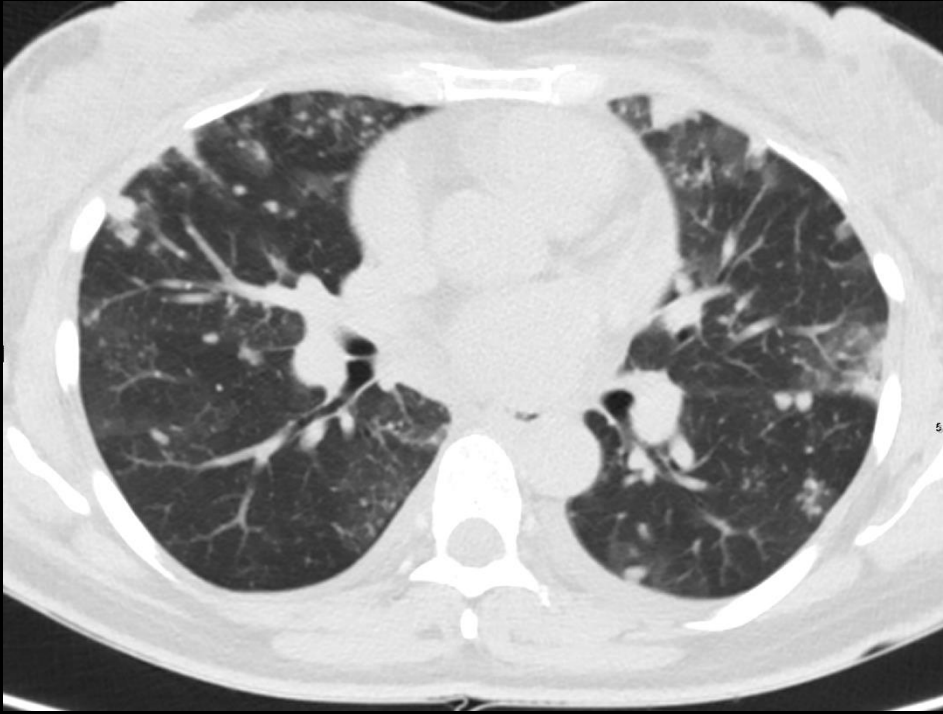
# CASE 11

- F/45
- C.I.: Chronic cough
- PHx: Abortion & D&C (1YA)

# CT



# Chest, Brain



# 문제 11

- 가장 가능성이 높은 진단은?
  - 1) Leiomyosarcoma
  - 2) AV malformation
  - 3) Endometrial adenocarcinoma
  - 4) Metastasis
  - 5) GTT

# 정답

- 가장 가능성이 높은 진단은?
  - 1) Leiomyosarcoma
  - 2) AV malformation
  - 3) Endometrial adenocarcinoma
  - 4) Metastasis
  - 5) GTT



# Lab Findings

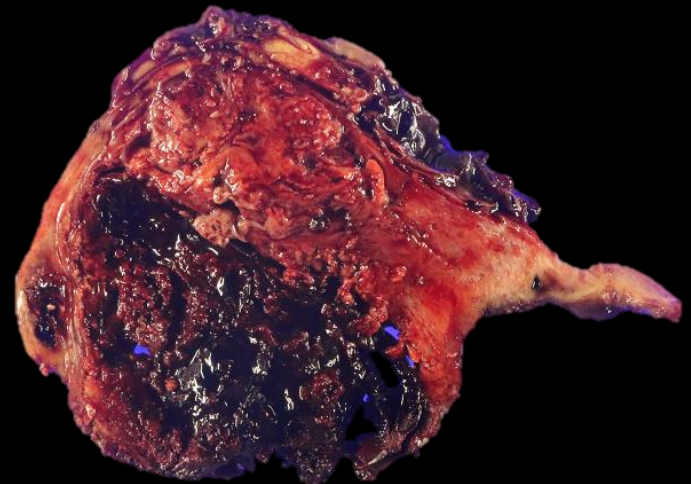
검사명	단위	2019-05-08 07:54	2019-05-10 10:41	2019-05-15 07:55	2019-05-15 15:11
CEA	ng/mL			4.4	
CA-125	U/mL			▲117.3	
HCG-beta	mIU/mL	▲1000000.0	▲717880.0		▲559300.0

# OP Findings

- **Choriocarcinoma,  
uterine body**

- Greatest dimension: 9.5 cm
- Invasion depth/myometrial thickness: 1.8 cm/1.9 cm (more than half of the myometrium)
- Cellularity: moderate
- Pleomorphism: marked
- Mitotic rate: 26/10 HPFs
- Tumor necrosis: present
- Cervical stromal extension: Absent
- Serosal extension: Absent
- Parametrial extension: Absent
- Parametrial resection margin

- involvement: Absent
- Vaginal extension: Absent
- Lymphovascular invasion: Present (+++)
- Perineural invasion: Absent



- GTD
  - Hydatidiform moles, invasive moles, and choriocarcinoma
- Clinical presentation
  - 1st-trimester bleeding (M/C)
  - Rapid uterine enlargement, excessive uterine size for gestational age, hyperemesis gravidarum or preeclampsia
- The common feature for this group of disorders is the abnormal proliferation of trophoblastic tissue with **excessive production of  $\beta$ -hCG**

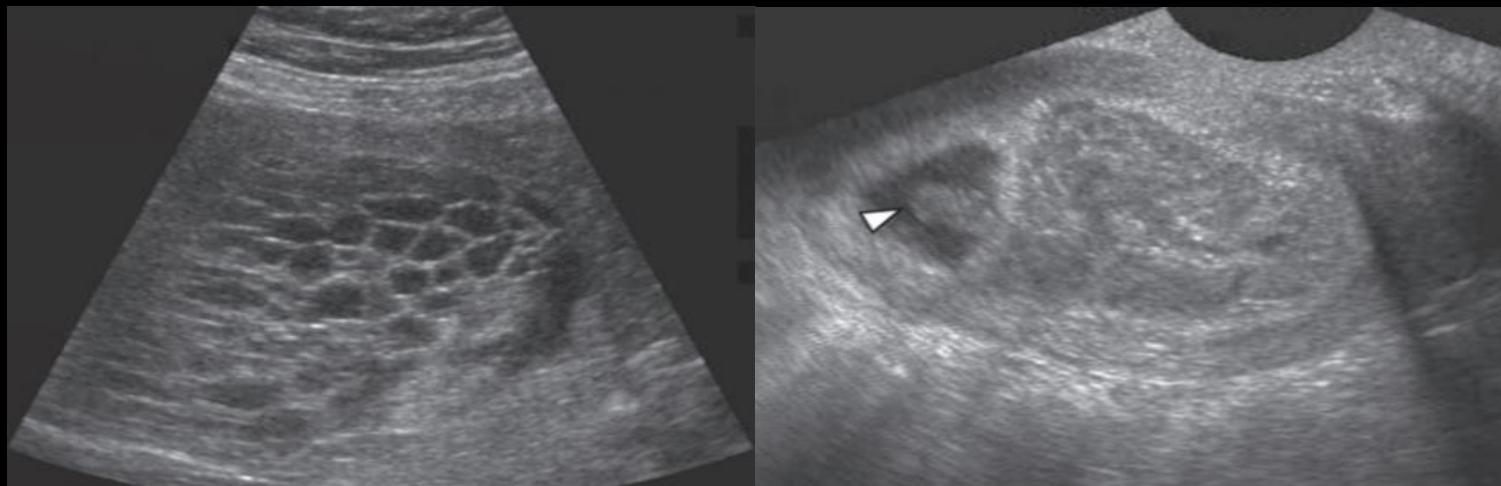
## 1. Hydatidiform moles : complete & partial

- Occur in 1 of every 1000~2000 pregnancies
- **Complete hydatidiform mole**
  - M/C form of gestational trophoblastic disease
- **Theca lutein cysts** are present in < 50% of complete moles

## GTT

2. Invasive moles : deep growth of the abnormal tissue into and beyond the myometrium.
3. Choriocarcinomas : similar to invasive moles but are capable of metastasizing, frequently manifesting with lung and pelvic metastases.

- **Heterogeneous echogenic endometrial mass** with multiple variable-sized small anechoic cysts, giving the appearance of a "snowstorm"
- Complete mole : No identifiable fetal tissue
- Partial moles : Presence of fetal tissue
- Areas of intralesion necrosis and hemorrhage can be seen within choriocarcinoma



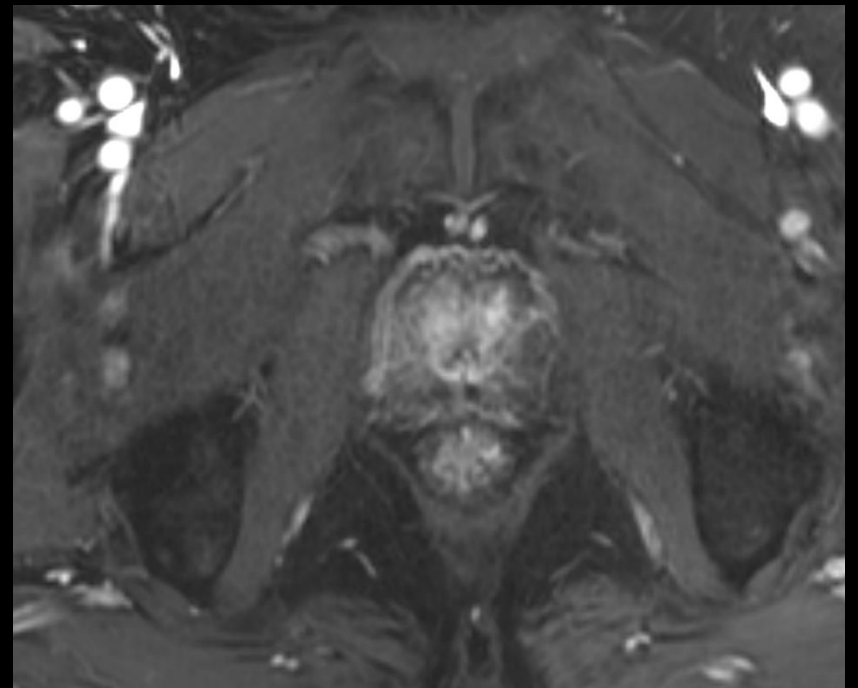
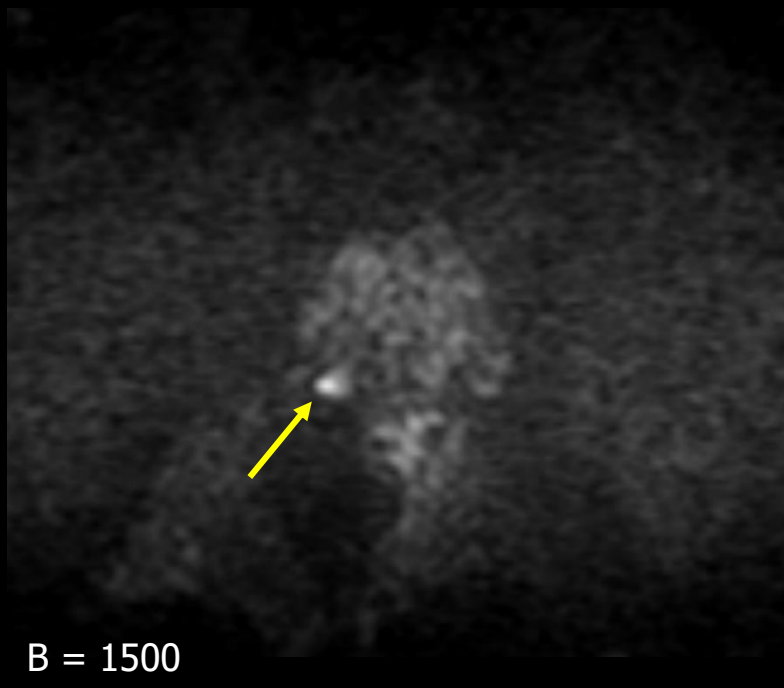
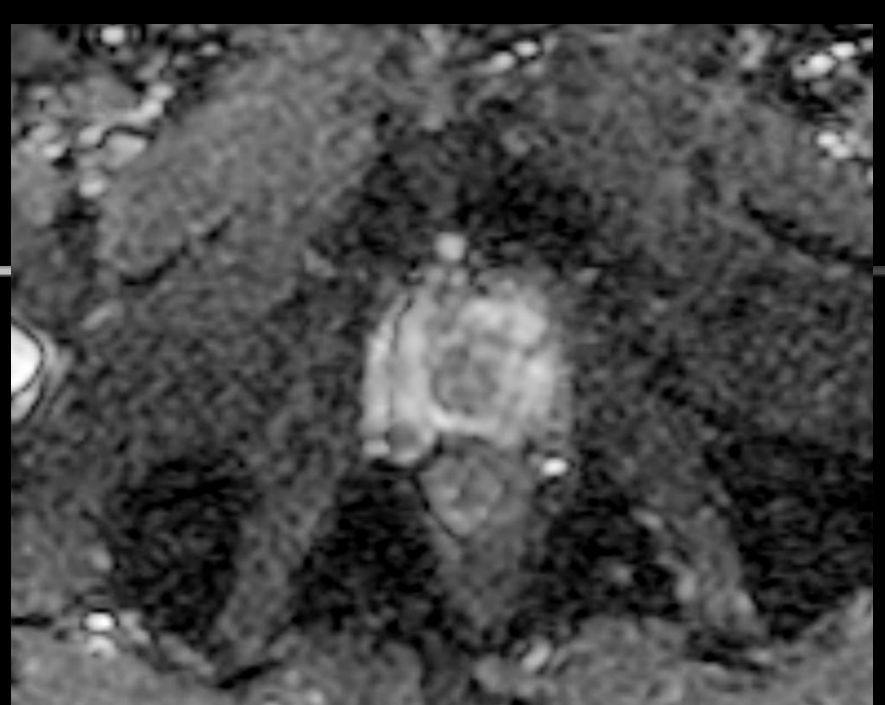
- Heterogeneous tissue distending the uterine cavity
  - T1WI : Low SI
  - T2WI : High SI
  - T1CE : Avid enhancement
- Focal areas of hemorrhage and cystic spaces may also be seen
- Normal myometrium : hypointense layer surrounding the molar tissue
  - Aids in differentiation from invasive disease

	Invasive mole	Choriocarcinoma
<b>Histology</b>	Excessive proliferation of trophoblastic tissue	Malignant chorionic epithelium, vascular invasion
<b>Villi morphology</b>	Invasive villi	Absent villous pattern
<b>Invasion / metastasis</b>	Infiltration of adjacent tissue	Early hematogenous metastasis
<b>MR findings</b>	<p>Indistinct margin</p> <p>Scattered T1 high-SI portion</p> <p>Deep myometrial invasion</p> <p>Enhancement throughout lesion</p> <p>Intralesional cystic lesion (mole)</p> <p>Severe increase of parametrial vascularity</p>	<p>Distinct margin</p> <p>Nodular T1 high-SI portion</p> <p>Invasion through venous sinus</p> <p>Peripheral solid enhancement</p> <p>No intralesional mole</p> <p>Mild or moderate increase</p>

# CASE 12

- M/59
- PSA = 3.12





# 문제 12

- 화살표에 해당되는 소견은?
  - 1) PI-RADS 2
  - 2) PI-RADS 3
  - 3) PI-RADS 4
  - 4) PI-RADS 5
  - 5) Normal structure

# 정답

- 화살표에 해당되는 소견은?
  - 1) PI-RADS 2
  - 2) PI-RADS 3
  - 3) PI-RADS 4
  - 4) PI-RADS 5
  - 5) Normal structure

# Pitfalls

Insights Imaging (2018) 9:87–101

Pitfall	Pitfall vs Pitfall
Anatomic	I. PCa in moustache sign
1. Hypertrophic anterior fibromuscular stroma	II. PCa in median posterior change (compressed central zone and BPH proliferation) in reversed teardrop
Benign conditions	III. Ectopic BPH nodule vs abscess
1. <i>Moustache sign</i> (small bilateral BPH nodules against the PZ)	
2. <i>Moustache-like sign</i> (larger adenoma against the PZ)	
3. <i>Teardrop sign</i> (median posterior compressed central zone)	
4. <i>Teardrop-like sign</i> (Protruding BPH above the verumontanum)	
5. Ectopic BPH nodule	
6. Haemorrhage	
7. Calcifications	
Overestimation	
1. Periprostatic venous plexus	
2. Neurovascular bundle	
3. Prostatitis	
Mispositioned endorectal coil	

BPH = benign prostatic hyperplasia; PZ = peripheral zone; PCa = prostate cancer

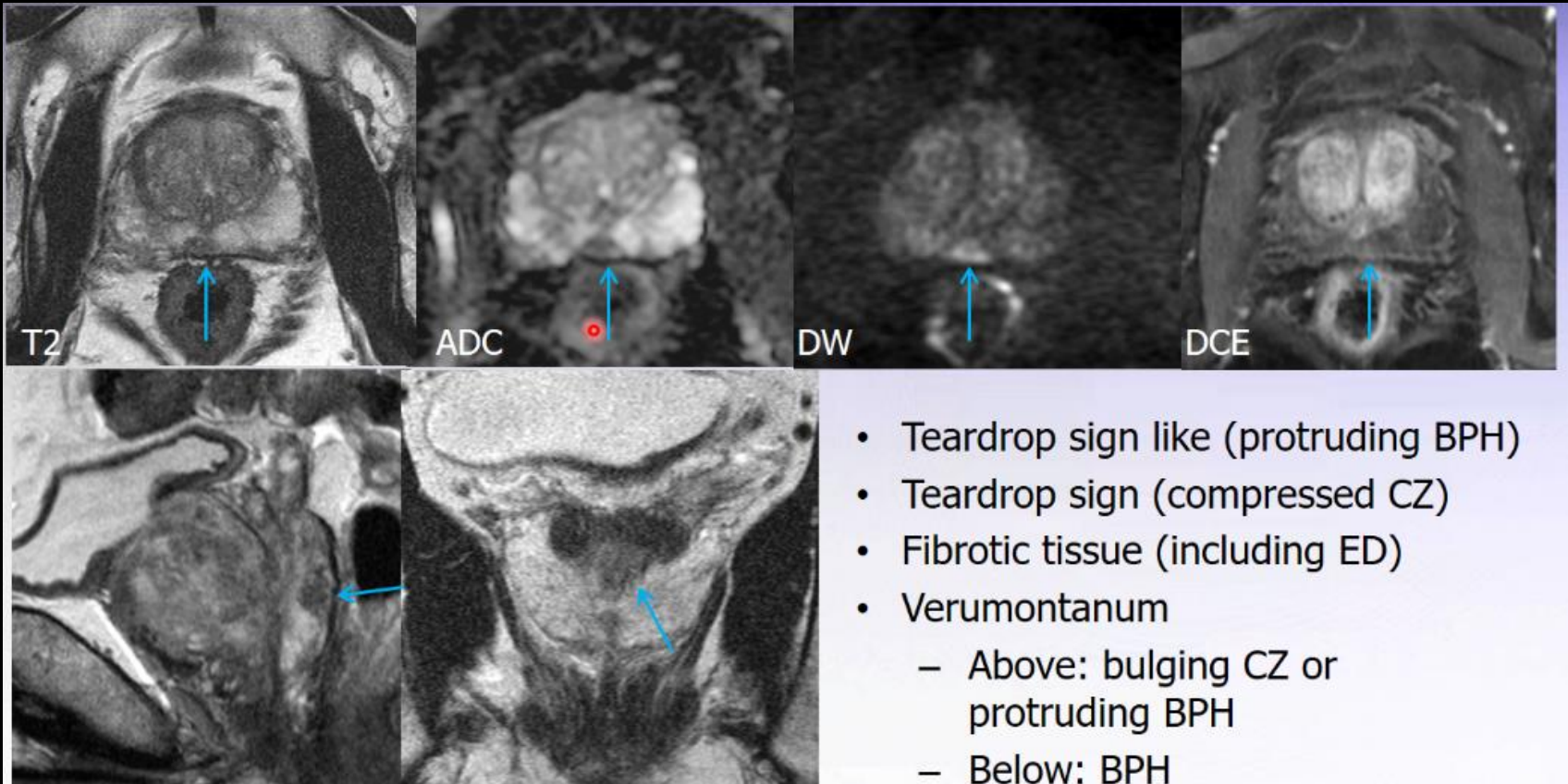
# Periprostate Venous Plexus



- DWI: diffusion restriction, but, PI-RADS 4
- DCE-MRI may be useful...



# Median Posterior Changes



- Teardrop sign like (protruding BPH)
- Teardrop sign (compressed CZ)
- Fibrotic tissue (including ED)
- Verumontanum
  - Above: bulging CZ or protruding BPH
  - Below: BPH
- Coronal/sagittal plane is very crucial to differentiate a pitfall from PCa

# 돌발 퀴즈

- 진단은?

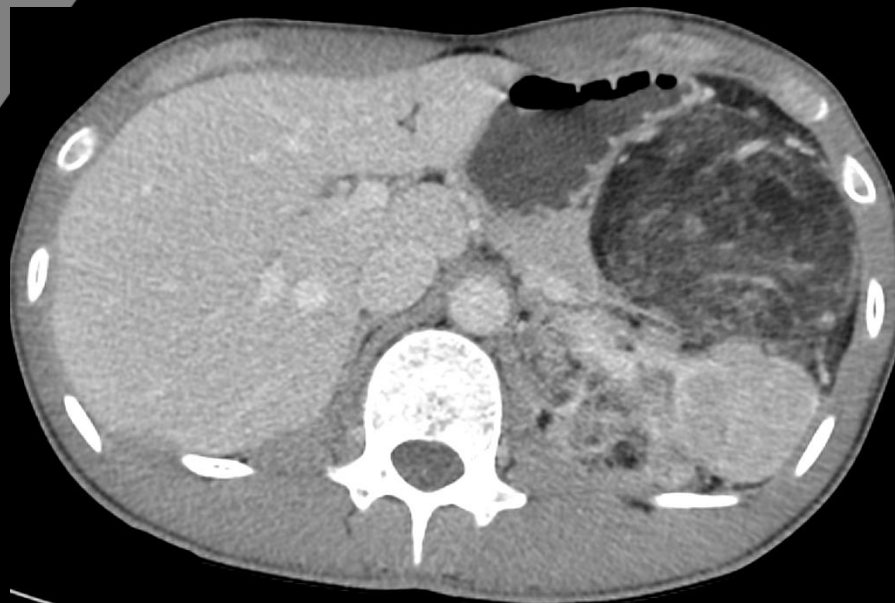


# CASE 13

- M/22
- C.I.: Brain & renal tumors



Initial CT



FU CT 6 mo later



Decreased size



# 문제 13

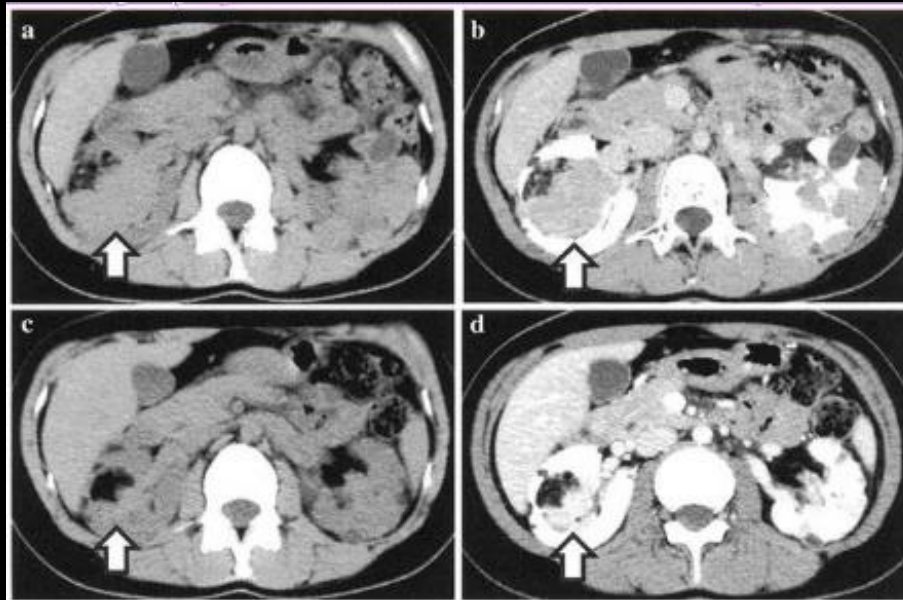
- 신장 병변의 변화의 원인은 ?
  - 1) Spontaneous regression
  - 2) 호르몬 치료
  - 3) 표적치료
  - 4) 방사선치료

# 정답

- 신장 병변의 변화의 원인은 ?
  - 1) Spontaneous regression
  - 2) 호르몬 치료
  - 3) 표적치료
  - 4) 방사선치료

# Everolimus Tx in TSC

- TSC: multisystem disorder (AD) caused by defects or mutations in TSC1 or TSC2 gene.
- Immunosuppressant to prevent rejection of organ transplants
- Target therapy for RCC, TSC, SEGA, pancreatic NET, TSC-associated seizure
- Inhibitor of mammalian target of rapamycin (mTOR)

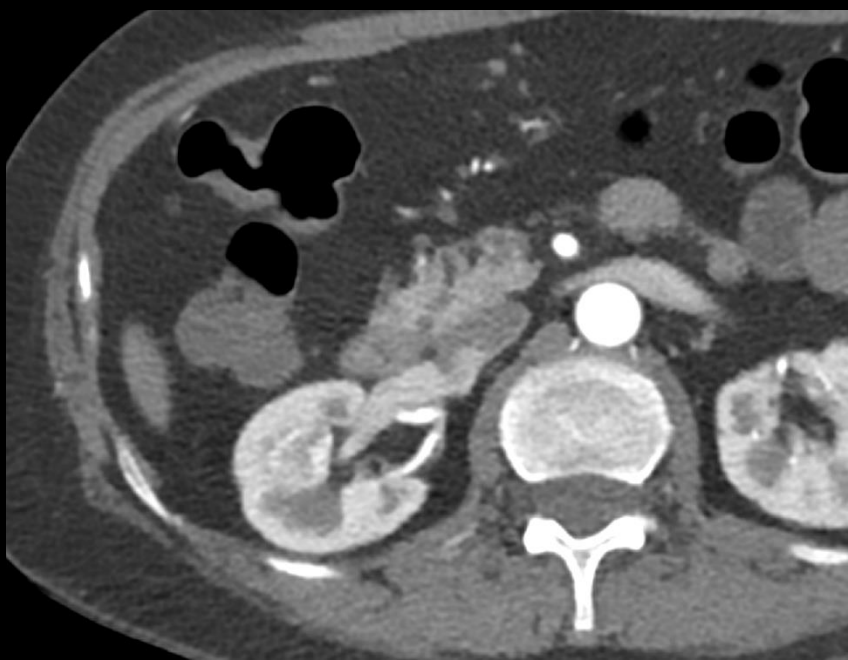


# CASE 14

- F/60



1.8cm lesion in RK



# 문제 14

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Focal APN
  - 2) RCC
  - 3) Fat-poor AML
  - 4) Oncocytoma
  - 5) Hemangioma

# 정답

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Focal APN
  - 2) RCC
  - 3) Fat-poor AML
  - 4) Oncocytoma
  - 5) Hemangioma

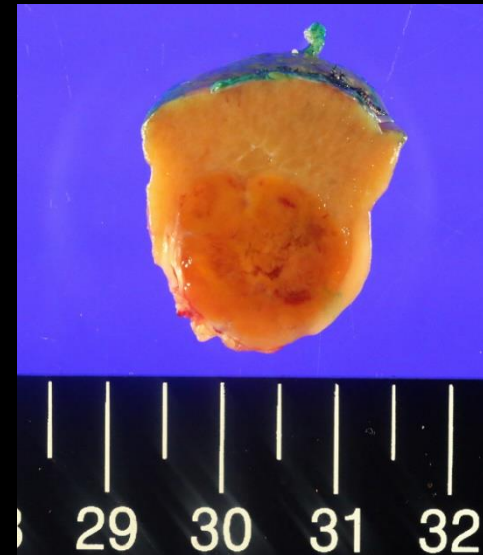


# OP Findings

- Kidney, right, partial nephrectomy:

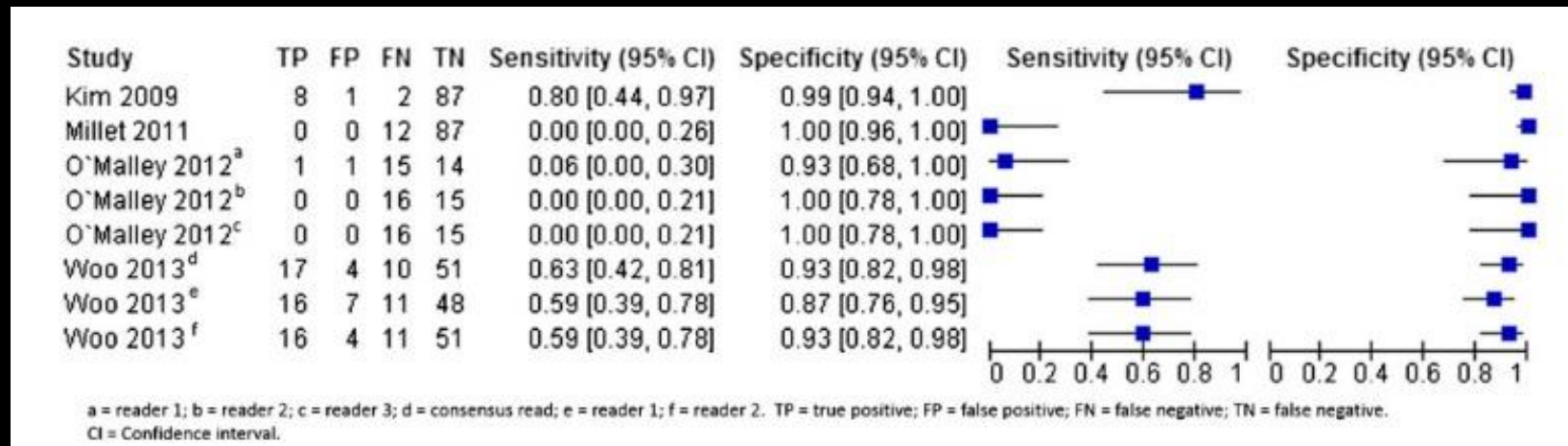
- **Oncocytoma**

- tumor size: 1.6x1.6 cm
- no invasion to perirenal fat
- no invasion to renal sinus
- necrosis : not identified
- negative resection margin (safety margin: 0.7 cm ~ 1 cm)



# Oncocytoma

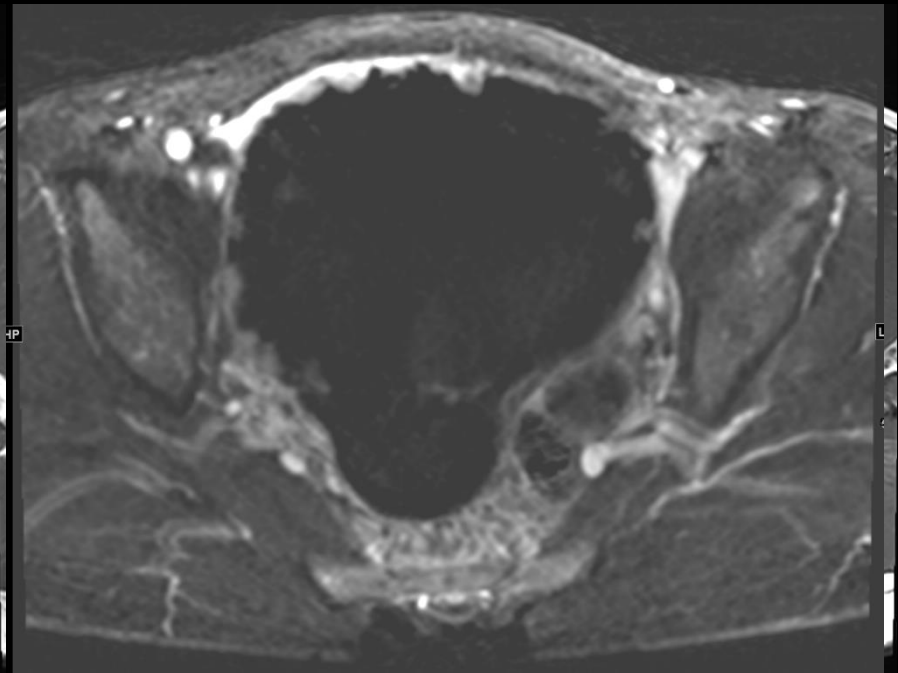
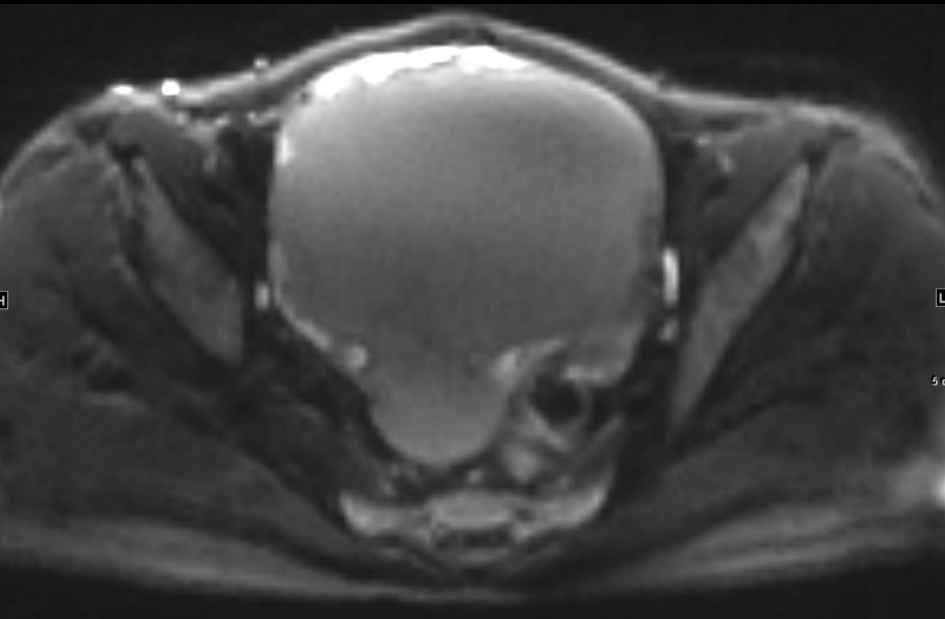
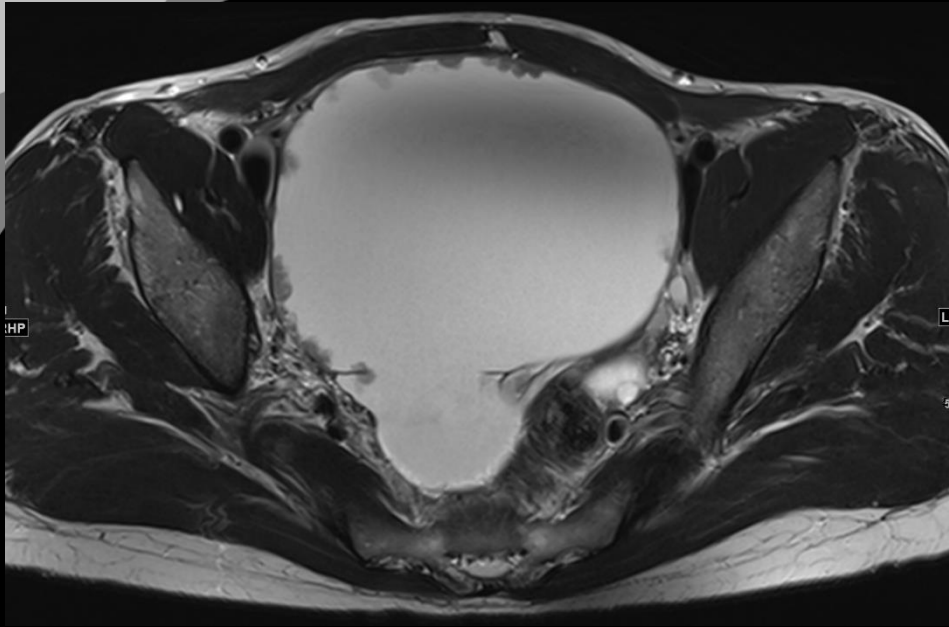
- SRN: 20% benign
- 2<sup>nd</sup> common after AML
- Segmental enhancement inversion (SEI)



- Specific (87-100%)
- Variable sensitivity (0-80%)

# CASE 15

- F/57
- C.I. : Abdominal discomfort



# 문제 15

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Endometrioid adenocarcinoma
  - 2) Serous carcinoma
  - 3) Mucinous carcinoma
  - 4) Fibroma
  - 5) Malignant teratoma

# 정답

- 다음 중 가장 가능성이 높은 진단은?
  - 1) Endometrioid carcinoma
  - 2) Serous carcinoma
  - 3) Mucinous carcinoma
  - 4) Fibroma
  - 5) Malignant teratoma

# OP Findings

- Ovary, right:

## Clear cell carcinoma

- Tumor size: 12x10x5cm
- Ovarian surface involvement: present
- No involvement of left ovary, bilateral salpinges, omentum, uterus
- Lymphovascular invasion without D2-40 immunohistochemistry: Positive
- No metastasis in all 18 regional lymph nodes (pN0)

- Histologic composition of EAOOCs is different from that of other ovarian cancers
  - Endometrioid carcinoma(m/c, 67%) > Clear cell carcinoma(15%)
- Younger age (10–20 years younger than patients with other subtypes of epithelial ovarian cancer)
- Earlier stage and lower grade of disease, and hence have a significantly better overall survival rate



- MR imaging feature of malignancy in an endometrioma
  - Enhancing mural nodule
  - Loss of T2 shading in the endometriotic cyst
  - Interval increase in the size of the cyst

선생님들  
장시간 수고 많으셨습니다^-^