

AMSER Case of the Month: June 2018

60 Year Old Female With Left Flank Pain

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Patient Presentation

- 60 year old female with three day history of left flank pain
 - Radiates from left periumbilical region to left flank
 - Waxing and waning sharp pain up to 6/10 in severity
 - No hematuria
- Past medical history
 - Hypertension + Hyperlipidemia
- Physical exam
 - Left CVA tenderness, LLQ and LUQ tenderness to palpation.
 - VS: BP 169/83 P 90 R 16, T 98.6°F, O2 99%

Pertinent Labs

- BUN 29, Cr 1.92 (unknown baseline)
- **WBC 7.8**, Hemoglobin 12, Platelets 189
- Urinalysis positive for moderate blood and trace leukocytes and negative for bilirubin and nitrites

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

American College of Radiology ACR Appropriateness Criteria®

Clinical Condition: Acute Onset Flank Pain—Suspicion of Stone Disease (Urolithiasis)

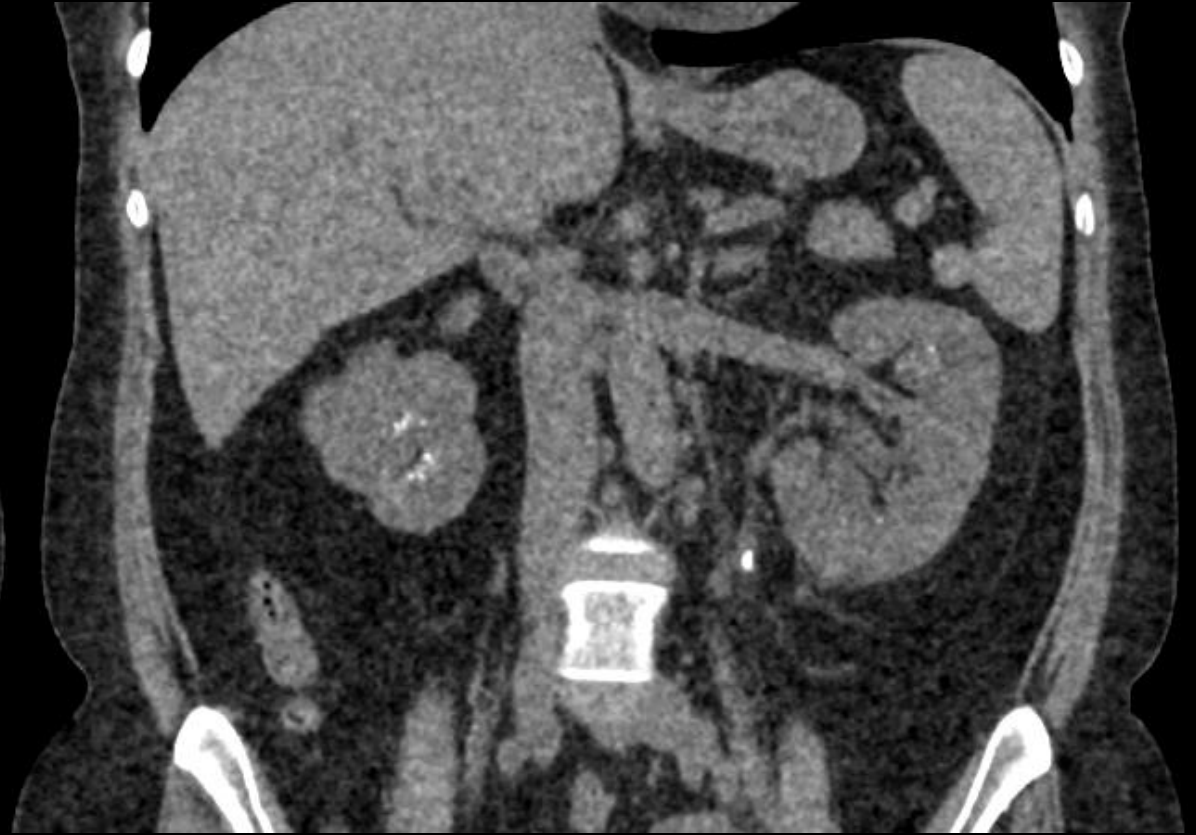
Variant 1: Suspicion of stone disease.

Radiologic Procedure	Rating	Comments	RRL*
CT abdomen and pelvis without IV contrast	8	Reduced-dose techniques are preferred.	⊕⊕⊕⊕
CT abdomen and pelvis without and with IV contrast	6	This procedure is indicated if CT without contrast does not explain pain or reveals an abnormality that should be further assessed with contrast (eg, stone versus phleboliths).	⊕⊕⊕⊕
US color Doppler kidneys and bladder retroperitoneal	6		0
X-ray intravenous urography	4		⊕⊕⊕
MRI abdomen and pelvis without IV contrast	4	MR urography.	0
MRI abdomen and pelvis without and with IV contrast	4	MR urography.	0
X-ray abdomen and pelvis (KUB)	3	This procedure can be performed with US as an alternative to NCCT.	⊕⊕
CT abdomen and pelvis with IV contrast	2		⊕⊕⊕⊕
Rating Scale: 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate			*Relative Radiation Level

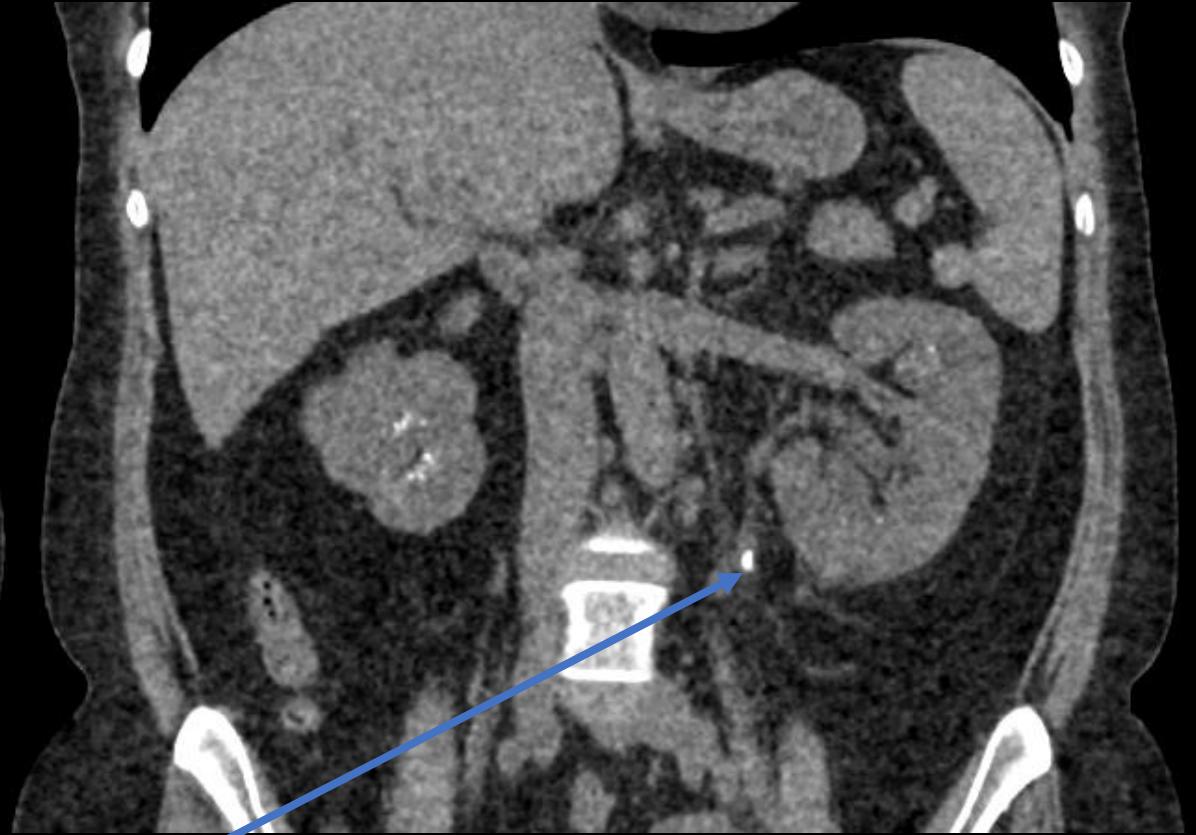
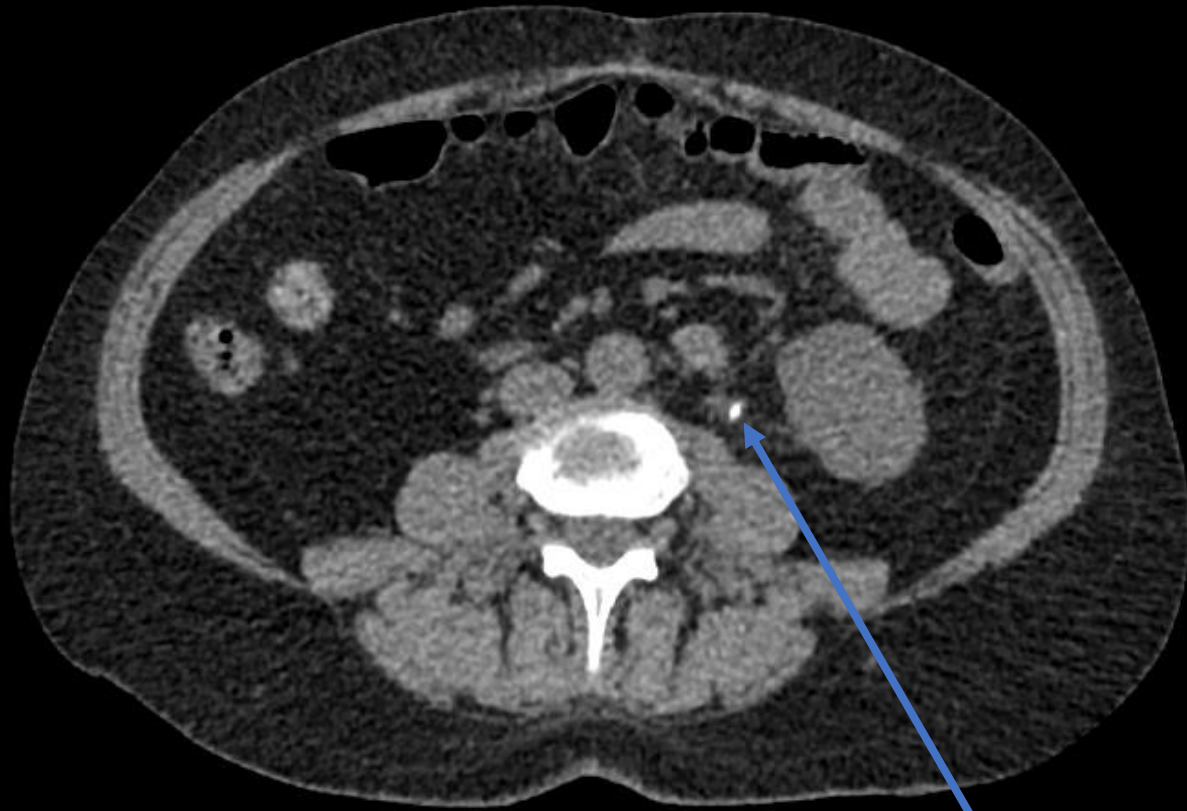
This imaging modality was ordered by the ER physician



Findings



Findings: Urolith (Kidney Stone)



Urolith in proximal left ureter

Findings: Left Hydronephrosis



Final Dx:

Urolith in proximal left ureter with hydronephrosis

Urolithiasis

- Risk factors:
 - Personal or family history of kidney stones
 - Diabetes, obesity, gout and hypertension
 - Low fluid intake
- Complications: Hydronephrosis
 - Dilated calyces and pelvis
 - Persistent obstruction can lead to infection or permanent kidney damage (cortical thinning)
- Management:
 - Conservative management for stones less than 10mm
 - Pain control
 - Alpha blockade
 - Consider urology consult:
 - Stone larger than 10 mm
 - Lack of resolution with conservative management
 - Infection/sepsis
 - No signs of infection (fever, leukocytosis, inflammatory stranding) in this case

References:

<https://acsearch.acr.org/docs/69362/Narrative/>

<https://www.uptodate.com/contents/diagnosis-and-acute-management-of-suspected-nephrolithiasis-in-adults>