Nephrolithiasis Masquerading as Renal Thrombus in a Hypercoaguable Patient

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Introduction

- Nephrolithiasis (NT) and Renal Vein Thrombosis (RVT) can both present with sudden onset severe flank pain, hypertension (HTN), and hematuria
- Likewise, both conditions have similar risk factors including obesity, Type 2 diabetes mellitus (T2DM), and inadequate hydration.
- As a result, the pathology can be misdiagnosed.
- While NT is the presence of crystalline stones (calculi) within the renal pelvis and tubular lumens that precipitates into the urine, RVT describes a condition in which a thrombus forms in the renal veins or its branches.
- In fact, acute RVT most often presents from trauma, severe dehydration, and a generalized hypercoagulable state.
- A pulmonary embolus (PE) may be the only clinical clue indicating the presence of RVT or deep vein thrombosis (DVT)[1].
- We present a case of an adult male patient with these risk factors and clinical presentation.

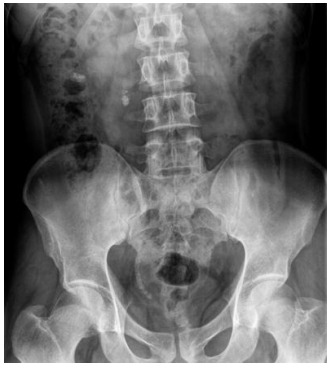

Figure 1. Ureteral Calculi found at Right Kidney

Case Presentation

- A 61-year-old male with a history of DVT of bilateral lower extremities and PE presents to the clinic with right-sided low back pain that awakened him at night.
- The patient describes the pain as sharp and shooting, radiating to his abdomen and down his right testicle.
- The patient denies any fever or dysuria but does experience some nausea and vomiting. He noted 2-3 days of dark-colored urine.
- Patient also mentioned in the hospital 3 months ago he had a right kidney stone.
- PMH: HTN, T2DM, hypercholesterolemia, history of phlebitis and thrombophlebitis, and left renal atrophy. The patient has no history of kidney stones.
- FH: Significant for coronary artery disease
- SH: 12-pack year smoking history, drinks alcohol (8.3 standard drinks every other day), diet which consists mainly of fast and processed food, and little to no physical activity.
- INR level was 1.0 (2.0-3.0).
- Given the patient's history of hypercoagulability, the patient is taking Coumadin 7.5mg daily which he discontinued one week prior to this episode due to not refilling his prescription
- The patient was sent to the emergency room (ER) immediately for further evaluation. Imaging studies did not demonstrate a RVT but revealed a right prox-mid 5mm ureteral stone.
- The patient was then referred to urology and underwent conservative treatment.

Discussion

- On initial evaluation, there was a strong suspicion of RVT.
- This diagnosis was supported by the patient's history of DVT's, family and social history (i.e. smoking, alcohol, diet/exercise), and a known hypercoagulable state with subtherapeutic INR.
- This clinical picture instigated an immediate transfer to the ER for a prompt diagnosis. Despite all these clinical clues pointing to an RVT, the patient's final diagnosis was an NT.
- When examining the case from an outside perspective, flank pain that radiates to the groin is a big indication for NT[2]. Having one kidney also increases the risk of kidney stones.
- This case highlights the challenges of differentiating between two clinical diagnoses that have similar clinical presentations.
- It emphasizes the importance of developing thorough differentials regardless of PMH and not be tunneled vision on one particular diagnosis without the process of exclusion.

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References

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