SPONTANEOUS RENAL ARTERY DISSECTION:
A CASE REPORT

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Background

- Spontaneous renal artery dissection, SRAD, is a rare entity, making up only 0.05 % of arteriographic dissections.

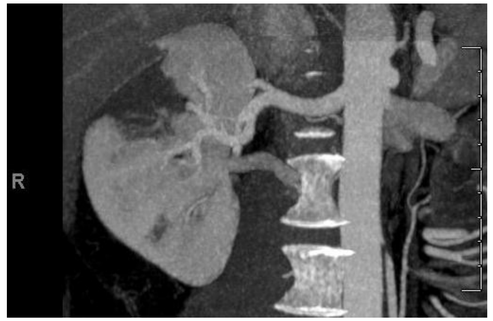
Case Presentation

- 42 year old man with no significant past medical history, presented following acute onset right flank pain radiating to his right inguinal region starting at 6 PM the previous evening
  - Afebrile, 156/96 mmHg
  - White blood cell 10.8 K per microliter
  - Serum creatinine 1 mg/dL
- CT to evaluate for acute appendicitis
  - Normal appendix
  - Infarct of the right kidney
  - Admit to General Medicine
  - Vascular Surgery Consult
- Initial work up focused on an embolic cause of infarction
  - Heparin drip started as recommended by Vascular Surgery
  - TTE and TEE were normal
- Day following admission the patient developed SIRS
  - Temperature 38.2 C with increasing leukocytosis, 16.2 K per microliter
  - Infectious work up was non-diagnostic, SIRS attributed to embolism of the right kidney

Case Continued

- Vascular Surgery recommended CT angiogram of the chest, abdomen, and pelvis
  - Segmental dissection of the renal artery to the superior pole was found (see figure)
  - Heparin drip was stopped and the patient was discharged on daily aspirin and statin
- At one month follow the patient was normotensive and asymptomatic with normal renal function.
- He was then lost to follow up

Figure



CT angiogram showing dissection of the superior segmental branch of the right renal artery with embolization of the superior pole of the right kidney

Discussion

- Spontaneous renal artery dissection is rare and was first described in 1944
- Acute onset of severe unilateral flank pain with radiation to the right inguinal region
- Associated with: atherosclerosis, intimal fibrodysplasia, malignant hypertension, Ehlers-Danlos Syndrome, Marfans Syndrome, and severe exertion
- Most often right sided in newly hypertensive young and middle aged men
- Differential Diagnosis: thromboembolism, renal vein thrombosis, renal abscess, renal or uretral stones
- Postulated to be caused by intramural hemorrhage from the vaso vasorum or penetration of blood through an intimal tear
- Optimal treatment is unclear, but probably favors medical management
  - Anti-platelet agents
  - Anti-coagulation for 3 to 6 months
- Surgical treatment reserved for severe untreatable renovascular hypertension and to preserve renal function
  - Endovascular repair, stenting, and nephrectomy

Conclusions

- Spontaneous renal artery dissection is rare
- Normally affects young and middle aged men
- Can often be treated with expectant medical management with anti-platelet agents or anticoagulation
- Surgical intervention is only necessary to treat severe refractory hypertension or to preserve renal function
- Should be kept as part of the differential diagnosis for acute onset of flank pain.