

Case Report

Recurrent renal Infarction Associated with Protein S Deficiency: a Case Study

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ABSTRACT

Acute renal infarction is a rare condition that can cause irreversible kidney damage. The clinical presentation is nonspecific and the diagnosis is frequently miss doe delayed. We report a 55 year-old man who presented with a 5 hours history of acute right lower abdominal pain. His past medical history is significant for protein s deficiency and recurrent thromboembolic events. Computerized topography of the abdomen confirmed diagnosis of acute renal infarction.

Key words: Renal infarction, protein s deficiency, recurrent Thromboembolism.

CASE PRESENTATION

We report the case of a 55 year-old man who presented to the emergency department complaining of acute severe right lower abdominal pain that started 5 hours prior to his presentation. There was no fever, nausea or vomiting, or change in his bowel habits. He did not complain dysuria or hematuria and had no previous history renal stones. He was previously diagnosed with protein s deficiency and his past medical history is significant for left renal infarction, splenic infarction, bowel ischemia, acute myocardial infarction for which he underwent PCI, and stroke, with no residual neurological deficit. He was placed on life-long anticoagulation with warfarin, however, he is not taking his medication regularly.

Physical examination revealed normal vital signs and right lower quadrant abdominal and flank tenderness. Laboratory investigations revealed mild leukocytosis with white cell count $12.0 (4.0-11.0) \times 10^9/L$, International Normalized Ratio 1.1 (0.9-1.2), serum creatinine $118 (62-106) \mu\text{mol/L}$.

Urine microscopy and culture revealed 10 RBCs high power field, 18 WBCs high power field, and negative culture. 12-lead Electrocardiography showed no evidence of a trial fibrillation. Contrast enhanced computerized topography of abdomen and pelvis revealed multiple, peripheral right renal wedge-shaped infarcts, evidence of old ischemic insults to the spleen and left kidney.



Fig. 1 Contrast enhanced computerized topography of abdomen showing right renal infarction.

The patient was started initially on intravenous heparin infusion with target Activated Partial Thromboplastin Time 60 to 90 seconds, then, war far in with a target INR 2.0-3.0. His pain gradually subsided and serum creatinine increased slightly but, remained stable at 134 $\mu\text{mol/L}$ during hospital admission, however, at 3 month follow up serum creatinine decreased to 109 $\mu\text{mol/L}$.

DISCUSSION

Acute renal infarction is an uncommon disease that is frequently missed. It is caused by the disruption of arterial blood flow to the kidneys. The estimated incidence in the emergency department is 0.004 %. [1] It is most frequently caused by a trial fibrillation, other etiologies include renal artery dissection, hypercoagulable states, autoimmune diseases and idiopathic. [2-4] The clinical presentation is non-specific, with acute abdominal/flank pain being the most common (96.8 %), other presenting features include hypertension (48.0 %), nausea (27.6 %), vomiting (20.2 %), fever (22.2 %), and hematuria (5.9%). [3] It is frequently associated with leukocytosis and elevated Lactate Dehydrogenase and serum transaminases. [4] Elevated serum creatinine is only seen in 40 % of patients. [3] Diagnosis requires high index of suspicion and it is made based on radiological studies. Renal artery angiography is considered gold-standard imaging study; however, it is not always performed. Contrast enhanced computerized topography is frequently employed to make the diagnosis and it typically shows wedged shaped areas of hypoattenuation within renal parenchyma and occasionally, perinephric fat standing, [2,6] Treatment is dependent on the cause of

renal infarction and treatment options include anticoagulation, endovascular and open surgery. [5]

Our patient presented with acute abdominal pain and a significant history of protein s deficiency and recurrent thromboembolic events on oral anticoagulation but poorly compliant to medication. Initial impression in the emergency department was bowel ischemia and contrast enhanced CT scan of abdomen and pelvis was performed. It did not show any signs of bowel ischemia; however it confirmed the diagnosis of renal infarction. The patient started on intravenous Heparin infusion followed by Warfarin. In conclusion, renal infarction is a rare condition that is easily missed and a high index of suspicion is required for accurate diagnosis.

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